

# Agenda 21 and Governance

*PEDRO ROBERTO JACOBI, WANDA MARIA RISSO  
GÜNTHER and LEANDRO LUIZ GIATTI*

## **Introduction**

**C**URRENTLY, PROGRESS toward a sustainable society is riddled with obstacles, in that there is limited awareness in society about the implications of the existing development model. The proliferation of risks, especially environmental and technological risks of serious consequences, has been a key element in understanding the characteristics, limitations and transformations of our modernity. Contemporary risks expose the limits and consequences of social practices, bringing with them a new element - “reflectiveness”. Society, which is a producer of risks, becomes increasingly more reflective, meaning that it represents both a topic and a problem to itself.

The complexity of this transformation process of a society that is increasingly not only threatened, but also directly affected by environmental risks and hazards, is becoming more and more evident.

In the context of post-Rio-92, it is observed that the academic production of the University of São Paulo (USP) fits within this scope, in which the concept of sustainability plays a central role in reflecting on the dimensions of both development and possible alternatives to ensure equity and articulate relations between the global and the local, the individual and society, awareness and action.

The topic Agenda 21 and Governance features a total of 575 dissertations and theses at USP, and in 1992 seven dissertations were defended. Since 1997, the annual average has been approximately 35 dissertations and theses on the topic (Chart 1), evincing its growing importance in the production of academic knowledge. Despite the sudden leap observed between 2006 and 2007, production on the topic was soon resumed. It is noteworthy that the studies surveyed encompass aspects associated with environmental education, participatory management and management processes more specifically associated with water, waste, health and environmental issues.

## **Trend analysis of structural topics**

However, among the units of the University of São Paulo with the largest production on the topic, the increase in the number of dissertations and theses shows different behaviors. This can be seen in Chart 2, in which the size of the bubbles represents the annual production per Graduate Unit/Program, ranging from 1 (smaller bubbles) to 16 (larger bubbles).

In this regard, it can be seen that:

- A growing trend of the topic was observed between 1998 and 2005 in most units, followed by a decrease (between 2006 and 2007) and then by a resumption of growth which, however, no longer included the same units;
- PROCAM has shown a steady production on the topic since 1998;
- The FSP showed a significant and regular production between 1998 and 2005, followed by a decrease in 2006, and then by a significant increase and continuity until 2011;
- No relevant theses on the topic were found at the IB after the period 1998-2005; there was only one in 2011;
- In Engineering (EESC and EP), after an intense production period between 1998 and 2005 there was a decrease in 2006, followed by a new peak from 2009 to 2010, when these Units stood out among the others;
- At the FD the topic seems to be fairly recent, with a steady production since 2007, although there was a previous isolated study in 2002.

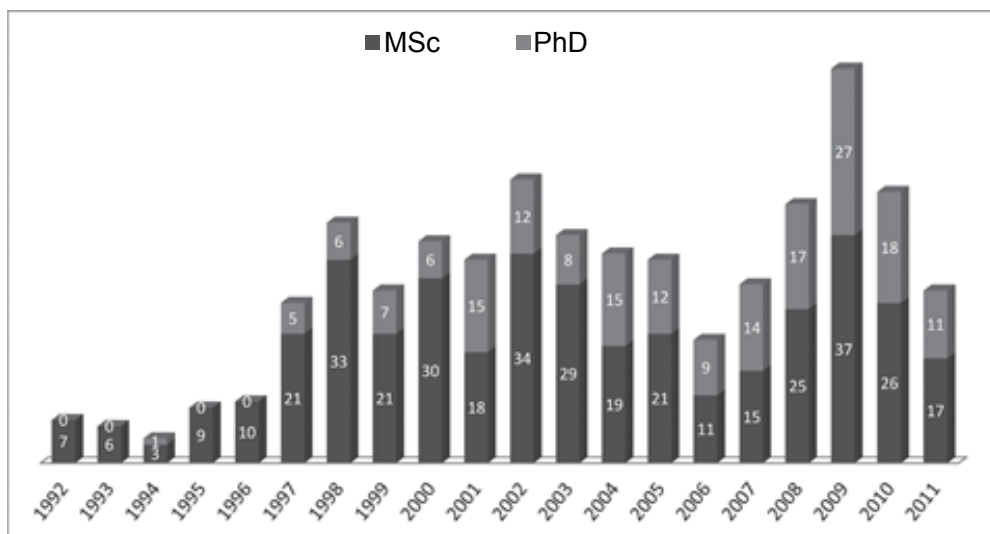
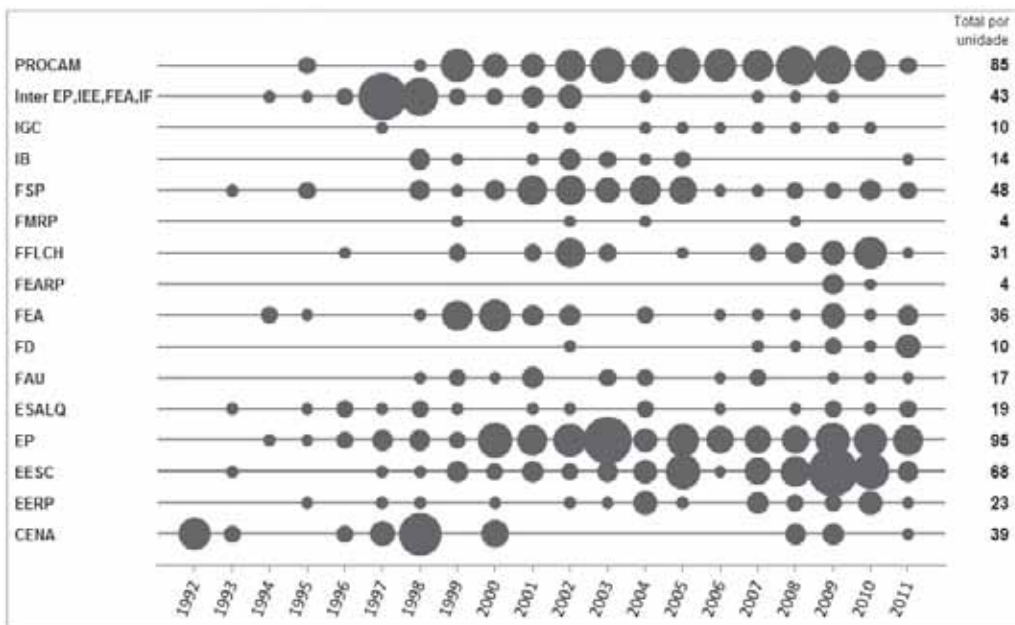


Chart 1– Evolution in the number of MSc and PhD dissertations/theses defended in Graduate Programs at the University of São Paulo, between June 1992 and September 2011.

In a more specific analysis of the topic Agenda 21 - the main document that came out of Rio-92 – from an educational perspective, a secondary search was conducted using the keyword “environmental education” through consultation in the Bibliographic Database of USP ([www.dedalus.usp.br](http://www.dedalus.usp.br), access on 9 December 2011), which led initially to the identification of 321 dissertations and theses, of which 147 were selected individually, based on aspects such as an

agreed perspective for addressing socio-environmental problems in search of a new development model, with social justice and environmental preservation.



*Note:* Prepared from the survey of 575 dissertations and theses on the topic Governance and Agenda 21, including the following graduate units/programs: CENA (Center for Nuclear Energy in Agriculture); EERP (Nursing School of Ribeirão Preto); EESC (School of Engineering of São Carlos); EP (Polytechnic School); Esalq (School of Agriculture “Luiz de Queiroz”); FAU (School of Architecture and Urbanism); FD (Law School); FEA (School of Economics, Business and Accounting); FEARP (School of Economics, Business and Accounting of Ribeirão Preto); FFLCH (School of Philosophy, Letters and Humanities); FMRP (Medicine School of Ribeirão Preto); FSP (School of Public Health); IB (Institute of Biosciences); IGC (Institute of Geosciences); Inter EP (Polytechnic School); IEE (Institute of Electrotechnics and Energy); FEA (School of Economics, Administration and Accounting) and IF (Physics Institute); and PROCAM (Graduate Program in Environmental Science inter-units).

Chart 2 – Production of dissertations and theses on the topic Agenda 21 and Governance among USP units with production greater than or equal to four, from 1992 to 2011.

In the search using the keyword “environmental education”, not all dissertations and theses came up in the initial survey. This, on the one hand, can be seen as a problem in the identification of production on the topic, but on the other suggests that certain search paths to locate relevant dissertations and theses can bring several possibilities for surveying the university’s production on the topic Agenda 21 and Governance.

Most of these 147 theses and dissertations included studies focusing on social participation, environmental education practices and education for sustainability, in their different conceptual, analytical and epistemological aspects. This reveals the importance that the topic has gained, to the extent that reflec-

tion on “risk society” enables establishing and addressing the complex topic of the relationship between environment and education. A more detailed analysis of the studies shows that these are distributed among the following subjects: teacher training; knowledge integration; environmental education practices in the school environment and spaces of civil society; concepts of environmental education; construction process of the Agenda 21 in the School; environmental education policies at the different government levels; environmental education; biodiversity and water; environmental education; and alternative views of society.

In this direction, interdisciplinary work is an important contribution to establishing better conditions for more cooperative production logic. The emphasis on practices that encourage interdisciplinarity and mainstreaming shows the existing potential for developing research on topics that stimulate changes in behavior, socio-environmental responsibility and environmental ethics, thus encouraging a different view. The studies contribute to show that the way to a sustainable society is strengthened through the development of educational practices which, guided by the paradigm of complexity will lead to learning environments and an attitude of reflectiveness on environmental issues. The studies are guided by the perceived need to multiply social practices guided by a vision that seeks to gradually change the prevailing logic of unsustainability and translate the concept of environment and the thought of complexity into the development of new mindsets, knowledge and behaviors.

In a context marked by the permanent degradation of the environment and its ecosystems, research is developed around different actors of the educational universe at all levels, thus maximizing the involvement of various knowledge systems, professional capacity-building and the university community from an interdisciplinary perspective.

Most of the research focused on Agenda 21 address topics that stimulate reflection on the conditions for environmentally sustainable educational practices, pointing to pedagogical proposals aimed at promoting change in behavior and attitudes, the development of social organization and collective participation. Thus, they create conviviality spaces that trigger reciprocally congruent structural changes, in a relationship of mutual interdependence, adaptation and organization of the ecosystems. This paradigm shift implies changing perception and values, therefore generating knowledge based on solidarity and complex thinking, open to indeterminacies, change and diversity.

What the increased number of studies show is the potential for consolidating pedagogical practices that stimulate interdisciplinarity with regard for its diversity.

The issue of governance with an emphasis on water, solid waste and environment/health relationship gained momentum early in the 2000s, though the term “governance” associated with “water” or “water resources”, or the term

“waste” only began to appear in titles and abstracts of the dissertations and theses surveyed after 2004.

The notion of Governance is supported by the concept of social power that mediates State-Civil Society relations as a space for building alliances and cooperation, but also permeated by conflicts arising from both the impact of social asymmetries and their effects on the environment and the forms of resistance, organization and participation of the various actors involved. This notion is included in the sphere of power relations and promotion of social control practices as well as the establishment of participatory publics, with a range of possible approaches within the academic production of the University.

The concept of Governance is understood as being related to the socially acceptable implementation of public policy, a term that is more inclusive than government, as it comprises the relationship between society, State, market, law, institutions, policies and government actions. Governance implies the establishment of a system of rules, standards and behaviors that reflect the values and worldviews of those individuals subject to this regulatory framework.

In the case of Water Governance, the contribution of deliberative forums is critical to strengthen integrated and shared democratic management. The expansion of these forums of citizen participation favors qualitatively the representation ability of interests and the quality and equity of public response to social demands. The experience of watershed organizations in Brazil shows the importance of civil participation in these forums as spaces for questioning not only the form of the State’s decision-making process, but also the relationship between State and Civil Society in the field of public policy. Since 2002, approximately 55 papers have been produced on the topic of Governance or similar designations.

Currently, in the water management as a conceptual framework the term “*Governance*” represents a conceptual approach that proposes alternative theoretical and practical paths capable of establishing a real connection between social demands and their discussion at government level. Generally, the concept includes laws, regulations and institutions, but also refers to government policies and actions, local initiatives and networks of influence, including international markets, the private sector and civil society, which are influenced by the political systems in which they operate. The most recurrent themes are: shared management of water resources; management of watershed organizations; conflict mediation and negotiation; water uses; public policy; civil society participation; users’ perceptions; justice and equity in access; environmental education and water Governance; use of economic instruments; institutional performance; social capital; and collective action.

The approach to Water Governance implies a set of political, social, economic and administrative factors that enable developing and managing water resources and distributing services in different segments of society. Thus, Water

Governance entails a broader approach, which includes the issue of how resources can be managed in a rational way beyond the watershed scale.

Based on the conflicts inherent in the multiple uses of water resources, it is noteworthy that the noblest use for water, i.e., public supply in sufficient quantity and quality to meet human needs, is a very popular topic in the production of dissertations and theses. This issue relates to human health through various fronts such as the conservation of water resources; flood control; surveys of demands and scarcity; water quality; management of water resources; environmental education; urbanization; public policy; and environmental risks. Moreover, it is in the field of social participation that an important dialogue between health and the evolution of participatory processes within the scope of production on the topic Agenda 21 and Governance can be considered. In the Health sector specifically, participation as a democratic process is at the root of the Health Reform movement, which culminated in 1990 with Federal Law 8080 establishing the Unified Health System (SUS).

In the period, there are several studies dedicated to understanding the regulation of access to and conservation of natural resources on the interstate scale. They are concentrated in two programs - Graduate Program in Environmental Science (PROCAM) linked to the Institute of Energy and Environment and the Graduate Program in Human Geography of the FFLCH, although found also in other specific programs.

The recognition that environmental problems and solutions transcend national scales has been widespread since the second half of the twentieth century, but gained relevance in the last two decades of that century. Therefore, several international treaties have been established, resulting in the international environmental order (Ribeiro, 2005), which involves many actors such as countries, transnational corporations, nongovernmental organizations (NGOs) and multilateral agencies in the regulation of human action in its relationship with nature.

Each topic deserved its own agreement, which resulted in a complex set of legal instruments on issues such as access to and conservation of biodiversity and the knowledge associated therewith; greenhouse gas emissions; transport of hazardous waste; and governance of transboundary waters, whether surface or underground water. These theses and dissertations surveyed confirm the complexity of the international environmental order and address international treaties such as the Convention on Biological Diversity; the Convention on Climate Change; the Basel Convention on the Transport of Hazardous Waste; the governance of transboundary rivers in the Amazon; the governance of the Guarani Aquifer, as well as situations involving access to water resources in Europe and the Middle East.

In general, the studies indicate that the number of international treaties related to the environment creates new opportunities for cooperation between countries, in addition to increasing the political weight of secondary countries in

the international system. These countries, when acting in a coordinated manner are capable of taking their interests to conventions (Ribeiro, 2010). However, there is a lack of analysis on the role of other social actors such as NGOs and internationally organized segments such as workers.

In the context of research and academic production on health, the result of a new search in the Bibliographic Database of USP ([www.dedalus.usp.br](http://www.dedalus.usp.br), access on 9 December 2011) using the theses option, showed 93 dissertations and theses jointly using the keywords “health”, “participation” and “environment”. Again, not all the selected studies came up in the initial survey of 575 dissertations and theses, thus reinforcing another chance of locating academic research at the University, which interacts with topics on Agenda 21 and Governance.

Concerning the issue of solid waste and its most visible effect represented by degraded and/or contaminated areas, the survey showed an academic production initially focused on the management of urban solid and the impacts of the environmentally unsafe disposal of waste on the ground. Public management directed to the traditional management of solid waste that favors collection and removal from the generating site regardless of the effects of improper disposal on the environment, was brought up as a one-sided, operational and non-participatory view of public policies in the sector. From the perspective of sustainability offered by Agenda 21, especially with regard to the three R principles – Reduce, Reuse, Recycle - and the polluter-pays principle establishing the issue of responsibility for waste generation and its environmental impacts, several dissertations and theses have begun to address this topic. Social participation in the public management of waste was questioned, especially in studies about municipal selective collection programs in partnership with waste pickers’ organizations – either associations or cooperatives - and from a new logic based on integrated and shared management that advocates commitments to sustainability. Several case studies on the implementation of selective collection were carried out and programs were evaluated and indicated as a model for similar realities. Social inclusion through employment and income in cooperatives of recyclable materials can be verified and recommended as a model of public policy for the sector. Poor working conditions and situations of occupational hazard in cooperatives, the poor quality of the material coming from municipal collection systems and the non-integration of the work of waste pickers in the solid waste management system were the main obstacles encountered.

In the last decade, the focus of the waste issue has broadened to include special and hazardous waste, involving other types of waste such as: construction waste, healthcare waste, port waste, industrial and mining waste, as well as various forms of recovering and minimizing environmental impacts and effects on health. At this stage, issues of soil degradation and contaminated areas also gained focus. Several dissertations and Thesis addressed the issues of environmental degradation from mining activities and areas contaminated by industrial

waste, with a special focus on environmental impacts, recovery, rehabilitation and remediation of areas, and considering the future scenario of new sustainable use for degraded/contaminated areas.

In this context, the first aspect observed was the number of exploratory studies and situational diagnoses that mapped the problem and highlighted socioeconomic, environmental, political, and health issues involved. At a more recent stage, the studies have focused on the evaluation of public policies for the sector, the proposition of management models that address integrated and shared management, and the search for performance and sustainability indicators. They have also emphasized the proposed sustainable waste hierarchy, which provides for an emphasis on prevention – non-generation and maximum recovery through reuse and recycling mechanisms -, its valuation and the minimization of disposal on the ground, besides drawing attention to associated risk-related issues. These approaches have enabled questioning the production-consumption-disposal model in effect and gearing the generation of academic knowledge to support public policies that are not only more socially just and environmentally less critical but also more inclusive and participatory.

In this sense, the analysis of the focus of public policies on the quality of life of the population takes us back to the intersection between health, participation and environment that also contributes to one of the opening arguments in this text, that is, that contemporary risks explain the limits and consequences of social practices. Thus, the resolution considering uncertainties of health and environmental issues has not been tangible through actions directed to a linear causality, requiring advancing towards explanatory models and actions in systemic processes, in which interdisciplinarity, mainstreaming and the inclusion of social actors are being pointed out as mandatory in view of the emerging complexity. Certainly, it is within the scope of these current demands that we find the challenges for the continued graduate production of the University of São Paulo, which is aimed at producing and disseminating knowledge and preparing professionals that can contribute to sustainability.

#### References

- RIBEIRO, W. C. *A ordem ambiental internacional*. 2.ed. São Paulo: Contexto, 2005.
- \_\_\_\_\_. Geografia política e gestão internacional dos recursos naturais. *Estud. Av.[online]*. 2010, v.24, n.68, p.69-80. Available at: <[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-40142010000100008&lng=pt&nrm=iso](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-40142010000100008&lng=pt&nrm=iso)>.



*Pedro Roberto Jacobi* is a Full Professor at the School of Education and at the Graduate Program in Environmental Science, University of São Paulo. @ - prjacobi@usp.br

*Wanda Maria Riso Günther* is a Associate Professor at the School of Public Health and at the Graduate Program in Environmental Science,, University of São Paulo. @ - wgunther@usp.br

*Leandro Luiz Giatti* is a Professor at the School of Public Health, University of São Paulo. @ - lgiatti@usp.br

Received on 19 Dec.2011 and accepted on 22 Dec. 2011.