

Conference proceedings

**Promoting Traditional Knowledge
Systems. Are current international
policies on Intellectual Property
Rights consistent with socially
sustainable economic degrowth?**

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Abstract

Although the Intellectual Property Rights issue is assuming a growing importance in national and transnational policy agendas and is frequently considered as a crucial element for development, the Intellectual Property Rights international regime seems to favor almost exclusively (some) producers from (some) developed countries. Thus, it is crucial to analyze the Intellectual Property Rights model implications and to re-think governance and innovation management strategies, so they can effectively contribute to support the diverse actors' interests.

The current article intends to analyze the role of international governance institutions on promoting the balance between innovation and knowledge and rights' public and collective dimensions. In this sense, it would be relevant to explore whether and/or how Intellectual Property Rights public policies are/could be attuned with socially sustainable economic degrowth.

Considering that the Intellectual Property Rights governance global system does not give an adequate response to the current needs of promoting innovation respecting the different stages of development of diverse countries, several experts are underlying the need to revert the geographical disequilibrium of influence of the Intellectual Property Rights international governance agendas. In which concerns the Intellectual Property Rights implementation in the Global South, Traditional Knowledge is been particularly controversial: the Intellectual Property Rights regime is apparently based in a bias which tends to protect the intangible assets of companies through a predatory protection of inventions derived from Traditional Knowledge, in detriment of the indigenous communities' interests. By enlarging the scope of Intellectual Property Rights and by not clarifying the limitations in sensitive questions such as biotechnology and Traditional Knowledge, the Trade-Related aspects of Intellectual Property Rights agreement (TRIPS) is contributing to intensify and legitimate this situation at a global scale.

It is commonly accepted that Traditional Knowledge systems have played (and still play) a crucial role in noteworthy areas such as food security and the development of agriculture, particularly in the Global South. In this sense, efforts to preserve the biodiversity and knowledge associated to traditional agro-ecosystems should be investigated, particularly the inherent challenges, in which concerns governance and regulation, having in mind the crucial relevance of grassroots interventions and participatory mechanisms to achieve a socially and economically sustainable development.

Key-words

Intellectual property rights; traditional knowledge systems; regulation mechanisms; development.

1 Introduction

The United Nations General Assembly has declared this year, 2010, as the International Year of Biodiversity. Thus, it is timely and imperative to explore mechanisms which protect biodiversity and the related knowledge systems. We intend to discuss in this article whether the international Intellectual Property Rights mechanisms are adequate to protect and promote Traditional Knowledge systems and if and/or how can these mechanisms be compatible or consistent with socially sustainable economic degrowth.

Since national and international policy agendas are increasingly including Intellectual Property Rights issue, this discussion is absolutely critical, moreover since Intellectual Property Rights governance institutions (including its creation and evolution mechanisms) undoubtedly influence the legitimacy and hierarchy of different knowledge systems.

Considering that the international regime of Intellectual Property Rights protection does not contemplate in a coordinated manner the multiplicity of (often collective) knowledge systems, particularly in which concerns Traditional Knowledge systems protection, this article will discuss whether the Intellectual Property Rights concept is adequate to deal with Traditional Knowledge systems or whether should the protection / promotion mechanisms be closer to traditional intellectual rights, substantially reducing the magnitude of the 'property' element.

With this purpose, the current article intends to analyze three main points: i) the arguments to protect and promote Traditional Knowledge systems; ii) the adequacy of existing Intellectual Property Rights international mechanism; iii) the adjustment of Intellectual Property Rights mechanisms versus the proposal of other tools to promote Traditional Knowledge systems.

This analysis will take place having as a background the proposal of sustainable degrowth, defined by Schneider, Kallis and Martinez-Alier (2010: 512) as "an equitable down-scaling of production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term". This definition is in line with the purposes of Traditional Knowledge systems promotion, underlying the importance of being environmental, ecological and socially beneficial and sustainable. After all, "Sustainable degrowth is about constructing an alternative sustainable future" (Schneider, Kallis and Martinez-Alier, 2010: 512), we would add, alternative sustainable futures and plural strategies.

2 Inappropriate universal answers to diverse and polychromatic worlds

Since knowledge processes and mechanisms are contextualized and localized, they are incomplete and consequently partial. Thus, it is not possible to elect 'one' only and correct way to describe the world. As Boaventura de Sousa Santos (2006) underlines, the occidental rationality tends to convert hegemonic interests in exhaustive truth, when, in fact, this is only one of the several existing rationality logics and, thus, cannot be seen as unique or absolute. Although, as a consequence of unequal and frequently unfair power relationships, conflicts emerge between several knowledge systems, which legitimacy and hierarchy are consequence of the respective governance institutions' historical paths.

As Santos, Meneses and Arriscado Nunes (2004) exemplify in a sublime introduction to "Seeding other solutions: biodiversity and rival knowledges' paths", the Intellectual Property Rights regime constitutes a new conflict arena for diverse knowledge systems. If the occidental logic, based in a clear separation of society, culture and nature, gives centrality to the intensive resources exploration, traditional societies in most cases have genuine and colossal difficulties to define the frontier between society and nature. In this sense, traditional societies' logics and demands are hardly contemplated by a system which is based in the

occidental methodological logic. It is illustrative the deficiency of the multilateral system of Intellectual Property Rights' protection for Traditional Knowledge systems proposed by TRIPS agreement, which is based in a codified and individualized innovation concept, and ignores traditional knowledge, traditional capabilities and traditional innovation processes, in which the collective and communitarian characteristics are, frequently, vital.

Thus, it is not absurd to question whether the current system is adequate to perceptions and knowledge systems others than the scientific one. Following Santos (2006), the question is not to attribute an equal validity to all kinds of knowledge systems, but to promote a discussion on alternative validity criteria and to hamper the disqualification of what cannot be framed in the modern science canon.

If we recognize the existence of knowledge constellations and alternative validity criteria, and the consequent need of an institutional framework adequate to this diversity, the occidental system of juridical harmonization will be absolutely insufficient and in most cases incongruent (Dias, 2010). Also, it is important to emphasize that this juridical harmonization is consequence of a specific path: in fact, the incorporation of the TRIPS in the (today) World Trade Organization agenda was a response of hegemonic countries (particularly USA) against the G77 intend to reform the international system of Intellectual Property at the World Intellectual Property Organization, during the 1970s and 1980s. On the other side, the decrease of the North-American industrial competitiveness demanded vehemently an international protection, reinforced on its Intellectual Property Rights. This context, based in the technical evolution and in northern countries institutional reforms, tends to favor the harmonization of Intellectual Property Rights systems and the valorization of the individual innovators protection.

Although, the strengthening and harmonization of the Intellectual Property Rights mechanisms were followed by strong discussion and critique, even in northern countries which were at different initial stages of growing and development processes. Ha-Joon Chang reminds that several European countries (such as Switzerland, Holland, Germany) and even USA had recurrently violate other countries' Intellectual Property Rights, attesting that, definitely, a rigorous and strong Intellectual Property Rights regime was not an essential or sine qua non condition for the economic development of these countries; on the contrary. As the author summarizes, there are no theoretical neither empirical data which corroborate the argument of the need of strong private Intellectual Property Rights for the technological progress and economic development, specifically in developing countries (Chang, 2001). In this sense, it is questionable the need to adopt and harmonize multilateral mechanisms of regulation of Intellectual Property Rights associated with Traditional Knowledge by developing countries; in other words, the insufficiency of universal responses is absolutely clear. A matrix of alternatives is needed, as Latouche (2009) underlines, in order to include the plurality of possible destinies: in this sense, also degrowth is not the alternative to growth, but rather, a matrix of alternatives which would open up the space for human creativity. This will be possible only if the imaginary is decolonized (the expression "Decolonize the imaginary" is part of the title of a Serge Latouche 2003 book, denouncing the domination of the collective imaginary by the idea of growth, and demanding a new kind of development). This is evident when we analyze traditional knowledge promotion discourse: if in former times Traditional Knowledge systems were considered as a natural and cultural heritage, a patrimony of free access, since they are collective, tacit, public, non appropriable, the recent discourse tends to capture the market values of biodiversity to ensure its conservation, transforming genetic resources in basic inputs and thus facilitating their privatization, their appropriation and their commoditization¹. This discourse must be, then, critically analyzed and western minds must be decolonized (Sud, 2010), avoiding the mere transfer of occidental perspectives and categories to different contexts and realities.

¹ Giorgio Mosangini (2010) includes Biopiracy (in which northern transnational companies appropriate southern cultural and biological diversity through Intellectual Property Rights' mechanisms) as one of the crucial elements to be considered as part of the Growth Debt, with clear impacts in southern countries by its occidental growth model.

3 Are the current international mechanisms adequate to promote Traditional Knowledge systems?

Although a unique definition of Traditional Knowledge systems can be considered abusive (since there are at least many traditional knowledge systems' regimes as many traditional communities, with the respective particularities and idiosyncrasies), we propose to use the term in the plural (Traditional Knowledge systems - TKs), underlying its diversity and plurality, and the following inherent characteristics: i) TKs concern the knowledge socially, collectively and cumulatively built, generated and adapted in a dynamic approach, by believes, communitarian practices and cultural identity; ii) TKs tend to answer to frequent challenges and needs; iii) TKs are frequently tacit and tend to be transmitted orally, trans-generationally, reflecting collective heritage and socio-economic and cultural relationships of a specific community; iv) although used and transmitted generationally, TKs are neither static nor old – on the contrary, they evolve and are embedded in the TKs each community develops, adapts and maintains, thus generating new information.

More relevant than finding “the” most adequate definition of TKs is to identify and analyze the priority arguments to protect and to promote them and, consequently, to propose public policies compatible with these arguments (equity, conservation, prevention of non-authorized appropriation, fair and equitable benefit sharing, promotion of local innovation, etc.).

In the International Year of Biodiversity, several important arguments for promoting and protecting biological diversity and associated knowledge systems have been mentioned and sometimes discussed, highlighting their crucial contribution to ensure sustainable management of agro-ecosystems, to promote local innovation and improve agriculture development and to preserve and improve food and agricultural diversity (with concrete correspondent impacts on food security and food sovereignty of these communities): today's international breeds are based on a narrow genetic base, with severe impacts on the diversity of food systems and food-related genetic resources (which is threatened when these breeds are affected by pests and diseases, and by climate and environmental changes). Thus, it is more than ever important to give attention to the vast knowledge of traditional and local communities, concerning their mitigation and adaptation strategies for ensuring food security. In fact, nowadays, 720 million people (more than a half, 400 million, are indigenous people) directly depend on agriculture and related activities (FAO, 2009). Almost 40% of the global economy and 80% of people needs depend on biological resources and associated knowledge. As pointed out by Fergel Anderson (2010), the promotion of local and traditional knowledge in agriculture is a crucial element and part of a strategy to ensure agro-ecology, food sovereignty and degrowth. Finally, it is important to underline the equity argument, emphasizing the significance of ensuring a fair and equitable benefit sharing, spurning non authorized appropriation.

Thus, is it important to preserve, to protect, to promote Traditional Knowledge systems? Yes, definitely! Although, as Carlos Correa (2009) emphasizes, Intellectual Property Rights' mechanisms are one option among several others to do it, and sometimes (very often, indeed) other tools can be much more adequate. The selection of appropriate mechanisms will depend on the nature of the objectives to be achieved. For example, equity can be ensured not through Intellectual Property Rights tools but through the implementation of benefit sharing requirements of the Convention on Biological Diversity, through national legislation. Thus, although Intellectual Property Rights are considered by some authors as important legal tools to ensure Traditional Knowledge systems' protection, they are neither the only nor the most adequate or sufficient mechanism.

Although the impressive debate concerning the adequacy of global regulation mechanisms, Traditional Knowledge systems are being discussed (in a higher or lower degree) in several international spheres, such as the Convention on Biological Diversity, the Trade-Related Aspects of Intellectual Property agreement, the World Intellectual Property Organization, the United Nations Food and Agriculture

Organization, among others:

- CBD – Convention on Biological Diversity: international treaty which considers specifically the vital role of Traditional Knowledge systems, innovations and biodiversity conservation. Although, it does not have a mandatory character, several signatory countries didn't incorporate it in their national legislations and some countries (such as USA) never ratified it. The CBD establishes the responsibility of respecting, preserving and maintaining knowledge, innovations and traditional practices, and underlines the significance of: i) the state sovereignty through their territories and natural resources; ii) the prior informed consent and; iii) the fair and equitable benefit-sharing of Traditional Knowledge systems eventual commercial use.
- TRIPS – Trade Related Aspects of Intellectual Property: agreement signed in the scope of the (nowadays) WTO (World Trade Organization), obliging signatory countries to adopt specific national legislations which protect Intellectual Property Rights recognized at international level. It is obviously not adequate to treat Traditional Knowledge systems issues, since it is based in too different concepts and values: the individual replaces the collective and diffuse characteristics of Traditional Knowledge systems; the price replaces the value; the temporal and alienable mechanism replaces the trans-generational and non-alienable characteristics; and, finally, the property replaces the patrimony, the heritage. It is unquestionable the precarious dialogue between different instances concerning Traditional Knowledge systems (e.g. CBD and TRIPS), often revealing different visions concerning the importance of Traditional Knowledge systems.
- WIPO – World Intellectual Property Organization: it does not exist yet an international instrument to protect Traditional Knowledge systems in the scope of the WIPO, however this issue is being discussed in the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.
- FAO – International Treaty on Genetic Resources for Food and Agriculture: underlines the importance of local farmers for conservation and development of genetic resources and its right to participate in the decision making process and benefit sharing. Although, it only concerns fitogenetic resources and agriculture varieties, thus, only a specific (although substantive) component of Traditional Knowledge systems.

Thus... should we adapt existing Intellectual Property Rights tools (such as Geographical Indication, for example; which can be seen as relevant since it establishes crucial links with territory, but cannot be analyzed but as part of an holistic approach and in merely some specific cases²) or, due to the limitations of existing regulatory tools and the essential incompatibility between the concepts of occidental Intellectual Property Rights and traditional communities practices and cultures, which could be destroyed with its incorporation in the market economy, would it be more adequate to develop sui generis models of protection, outside of the Intellectual Property Rights system, always having in mind the customary laws and proposing communitarian rights regimes?

Giving concrete answers to this question, several national laws have been incorporating sections concerning communitarian rights (such as in Filipinas or Venezuela). The recent constitutional experiences in Ecuador and Bolivia give one step further and recognize the traditional people and citizens' rights to a healthy and equilibrated environment and confer alienable rights to Nature (the article 71 of the Ecuadorian Constitution establishes that: "Nature or Pacha Mama, where life happens and reproduces itself, has the right to be integrally respected as well as the maintenance and regeneration of its vital cycles, structure, functions and evolving processes"³), promoting a cosmovision of harmony between humans and nature. The Andean 'buen vivir' proposal / cosmovision is playing a central role in the Latin-

² See further discussion at Dias (2008).

³ Author free translation.

American nowadays political changes, based in a harmonious and balanced relationship between Nature and Human Being, in which the latter is part of Nature, underlying the balance between the rights of humans and the rights of Nature, using, thus, resources and territories having in mind the human basic needs and the environmental limits (Sud, 2010).

Other suggestions of alternative regulation systems include: i) Funds: since traditional knowledge systems are often shared by several communities, funds of benefit sharing (by etno-regions, for example) are being proposed; ii) Registrations and Database (e.g. India's Traditional Knowledge Digital Library): implies important challenges, since, through the registration, rights of Traditional Knowledge systems' holders must not be put in risk; iii) Creative Commons: based in the collective construction of knowledge and in the social control of diffuse knowledge, it calls for sharing more than excluding and has to have in mind local norms and institutions that regulate access and circulation of genetic resources and associated knowledge. As Preston Hardison (2007) underlines, it is crucial to distinguish commons of free access from socially regulated commons, by local norms and institutions (not a public domain regime in which everything is freely available to everyone, but to respect the local norms and institutions which regulate individual and collective rights and sharing mechanisms, protecting socially regulated commons; iv) GIHAS - Globally Important Ingenious Heritage Agriculture Systems: as a partnership between FAO, UNESCO, UNDP, CGIAR, Governments, NGOs and indigenous organizations, this proposal aims to strengthen the linkages between agriculture and cultural heritage, promoting a dynamic conservation (opposed to the static preservation, in time and space). Although traditional in intrinsic values terms, Traditional Knowledge systems must be understood as an evolving and dynamic process. Through this initiative, innovative agricultural systems at the landscape level are supported, as well as the traditional knowledge and practices and the biocultural dynamics that maintain unique agro-ecological systems.

Some of these proposals underline the importance of valorizing the role of social technologies and frugal innovations, important concepts for ensuring a sustainable degrowth. As Neder and Thomas underline, "the study of Social Technology is a priority in order to plan strategies for democratization, socio-economic development and social inclusion in Latin America." (2010: 1). Social Technology, which extends to low tech, low scale and low cost innovations (in areas such as food, social housing, energy, drinkable water, transports, communications, etc) can open a new dimension in democratic relationships, since it tends to incorporate users and beneficiaries to process of decisions over technological change: the "socio-technological citizenship" (Neder and Thomas, 2010: 4).

In a context of distinct approaches, not always coordinated, of discussion of Traditional Knowledge systems' protection alternatives in several international forae, there are (at least) two opposed trends: those who stand for the protection of Traditional Knowledge systems through the adjustment of the occidental Intellectual Property Rights system (author's rights, geographical indications, UPOV Convention, patents, collective trademarks, etc); those who demand a regime which contemplates the cultural particularities of indigenous, local and traditional communities.

In both cases, although imperative, the regulation system needs a substantive reform. As pointed out during the discussions in the scope of the Working-Group 4 (Property Rights) at the second conference on Economic Degrowth for Ecological Sustainability and Social Equity (March 26-29 2010, Barcelona), regulation is a decisive factor to prevent inappropriate appropriation.

The global rules to prevent unauthorized appropriation must be based in three main points: i) participation of all relevant actors (including and mainly traditional communities representatives) in the definition and application of Traditional Knowledge systems protection systems; ii) development of global norms to prevent inappropriate appropriation of Traditional Knowledge systems, including prior informed consent and certificate of origin; iii) adaptation of national laws to protect Traditional Knowledge systems, considering central questions such as the importance of local innovation for development, access and control over natural resources, access and benefit sharing, respect for the customary laws and practices concerning Traditional Knowledge systems, when existent. Regulation

systems must have in mind the equilibrium between promotion and protection, between “promoting the reconciliation of the public interest in access to knowledge with the public interest of stimulating invention and creation which produces new knowledge” (Dias, 2010).

4 Some remarks: are Intellectual Property Rights public policies attuned with socially sustainable economic degrowth?

The Intellectual Property Rights global governance system does not give an adequate and balanced answer to the current requests to promote innovation and knowledge, particularly in which concerns the Traditional Knowledge systems holders’ needs. Thus, academia and civil society must network demanding the reform of the international governance regime of Traditional Knowledge systems, by improving the collaboration and coordination of inter-institutional efforts to re-think unconventional models. It urges an analysis which has in mind possible alternative and effective answers to promote Traditional Knowledge systems through public policies attuned with socially sustainable economic degrowth, not imposing a “one size fits all” solution, absolutely not adjusted to a diverse world. It is important to question the pertinence and adequacy of a proposal written and thought by the Global North to the Global North to the real demands of different institutional environments, with its own dynamics and structures.

A too strong emphasis in Intellectual Property Rights to protect Traditional Knowledge systems can, inclusively, swerve the attention from real factors which influence the preservation of Traditional Knowledge systems, including access and control over natural resources (more specifically, access and control over land) and the pertinence of traditional culture and possession rights.

This final point is deeply discussed in Rolf Steppacher’s stirring paper for the working-group 4 (Property Rights) of the Barcelona Conference, underlying the distinction between possession (different levels of use rights) and property⁴ (includes the notion of collateral – the possibility of this property serving as a security in credit relations and, thus, correspond to a founding element of capitalism, since it allows growth; it pushes for growth; it imposes growth as a result of the conditions of credit). The author explores also the peculiarities of the corresponding regulation regimes of property or possession; i) private; ii) public; iii) commons; iv) open-access. Following Steppacher’s words, “The differentiation between common, private and state possession/property and open-access is also important because it shows a map of possible reorientations with respect to growth/degrowth (...) The shift to private or state property is more than a shift in authority, it is also a shift in the procedure of evaluation from a kind of ecological-social reasoning to economic rationality” (Steppacher, 2010: 2).

Thus, it is urgent a holistic approach which includes and ensures the dialogue among ethical, environmental and socioeconomical questions, reinforcing whenever possible, the commons. As Schneider, Kallis and Martinez-Alier (2010) point out, the reinforcement of the commons is one of the key premises of degrowth.

Having in mind that “Degrowth is a multi-dimensional concept and a diversity of interpretations and proposals for practical implementation open for public debate” (Schneider, Kallis and Martinez-Alier, 2010: 513), a universal and unique answer to protect and promote Traditional Knowledge systems in different contexts and with respective idiosyncrasies will not be appropriate. As per the 2008 Paris Conference Declaration, Sustainable Degrowth requires a transformation of the policies promoted at national level (# 4) and to observe simultaneously the principles of equity, participatory democracy, respect for human rights, and respect for cultural differences (#6). Promoting and valorizing Traditional

⁴ As Schneider, Kallis and Martinez-Alier (2010) underline, “The institution of property, and the growth in property, overrides any factor that limits the exploitation of humans and natural resources. Property sets forth a dynamics of growth for growth’s sake (or rather for repaying credit), that is not easy to escape with idealistic calls for degrowth or steady-state economics”.

Knowledge systems concern these requirements too. As well as sustainable degrowth, also Traditional Knowledge promotion is, above all, about people rather than technology. And the respective regulation frameworks must be thought and designed having at the core these fundamental premises.

5 References

- Alexander, Samuel (2010), Examining the 'property rights' objection in De-growth. "Stirring" Paper for the Working-Group 4 (Property Rights) at the second conference on Economic Degrowth for Ecological Sustainability and Social Equity (March 26-29 2010, Barcelona).
- Anderson, Fergal (2010), Via Campesina "Stirring" Paper for the Working-Group 16 (Agro-ecology, Food Sovereignty and Degrowth) at the second conference on Economic Degrowth for Ecological Sustainability and Social Equity (March 26-29 2010, Barcelona).
- Boyle, James (2005), "Las ideas cercadas: el confinamiento y la desaparición del dominio público" in Jorge Villareal; Silke Helfrich; Alejandro Calvillo (ed) *Un Mundo Patentado? La privatización de la vida y del conocimiento*. Fundación Heinrich Böll.
- Boyle, James (2008), *The Public Domain: Enclosing the Commons of the Mind*. Yale University Press.
- Chang, Ha-Joon (2001), "Intellectual Property Rights and Economic Development – Historical Lessons and Emerging Issues" in *Journal of Human Development*, July 2001.
- Correa, Carlos (2001), *Traditional Knowledge and Intellectual Property. Issues and options surrounding the protection of traditional knowledge*. The Quaker United Nations Office (QUNO). Geneva: Discussion Paper supported by Rockefeller Foundation.
- Declaration of the Paris 2008 Conference - First international conference on Economic De-growth for Ecological Sustainability and Social Equity, Paris, April 18-19th 2008.
- Dias, Joana (2008), "Indicações Geográficas: Direitos de Propriedade Intelectual em Países em Desenvolvimento" in Maria Veronica Secreto; Maria José Carneiro; Regina Bruno (org) *O Campo em Debate*. Edur / Mauad X. Brazil.
- Dias, Joana (2010), "Insuficiências e incongruências de mecanismos de governação de direitos de propriedade intelectual para a promoção de conhecimentos tradicionais" in *CES Cabo dos Trabalhos. Revista Electrónica dos Programas de Mestrado e Doutoramento do CES/ FEUC/ FLUC*. # 5.
- Drahos, Peter; Mayne, Ruth (2002), *Global Intellectual Property Rights: Knowledge, Access and Development*. Basingstoke: Palgrave Macmillan.
- Food and Agriculture Organization of the United Nations (2009), *FAO and Traditional Knowledge: the linkages with Sustainability, Food Security and Climate Change Impacts*. Gender, Equity and Rural Employment Division. Economic and Social Development Department. Rome, Italy.
- Latouche, Serge. We must abandon the religion of Growth (interview with Serge Latouche). From *DegrowthPedia.org*, published at August 26, 2009, *Entropia*, French review of theoretical and political study about debrowth. Originally published: August 4, 2009, *IPS News*.
- Mosangini, Giorgio (2010), *Decrecimiento y justicia Norte-Sur*. "Stirring" Paper for the Working-Group 23 (Environmental Justice, the environmentalism of the poor and degrowth) at the second conference on Economic Degrowth for Ecological Sustainability and Social Equity (March 26-29 2010, Barcelona).
- Neder, Ricardo; Thomas, Hernan (2010), *The movement for social technology in Latin-America (its meaning for the research about degrowth and ecological sustainability)*. Brasilia. Universidade de Brasília. Observatório do Movimento pela Tecnologia Social na América Latina. CDS and

Universidad de Quilmes – Buenos Aires, Argentina.

Santos, Boaventura de Sousa; Meneses, Maria Paula; Nunes, João Arriscado (2004), “Introdução: para ampliar o cânone da ciência: a diversidade epistemológica do mundo” in Boaventura de Sousa Santos (org) Semear outras soluções: os caminhos da biodiversidade e dos conhecimentos rivais. Porto: Edições Afrontamento, 19-101.

Santos, Boaventura de Sousa (org.) (2006), A gramática do tempo. Para uma nova cultura política. Porto: Edições Afrontamento.

Schneider, François; Kallis, Giorgos; Martinez-Alier, Joan (2010), Crisis or opportunity? Economic degrowth for social equity and ecological sustainability. Introduction to this special issue. In Journal of Cleaner Production 18 (pages 511-518). Elsevier Ltd.

Steppacher, Rolf (2010), “Stirring” Paper for the Working-Group 4 (Property Rights) at the second conference on Economic Degrowth for Ecological Sustainability and Social Equity (March 26-29 2010, Barcelona). With the collaboration of Julien-François Gerber.

Sud, A (2010), How to build a common path between ‘buen vivir’ and degrowth’s concepts, proposals and perspectives. “Stirring” Paper for the Working-Group 23 (Environmental Justice, the environmentalism of the poor and degrowth) at the second conference on Economic Degrowth for Ecological Sustainability and Social Equity (March 26-29 2010, Barcelona).

Wilkinson, John; German Castelli, Pierina (2002), “Conhecimento Tradicional, Inovação e Direitos de Proteção”, Estudos Sociedade e Agricultura, número 19. Rio de Janeiro, Brasil.



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