

The Portuguese Press Portrait of "Environmental Refugees"

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Abstract—The migration-environment nexus has gained increased interest from the social research field over the last years. While straightly connected to human security issues, this theme has pervaded through the media to the public sphere. Therefore, it is important to observe how did the discussions over environmentally induced migrations develop from the scientific basis to the media attention, passing through some political voices, and in which ways might these messages be interpreted within the broader public discourses. To achieve this purpose, the analysis of the press entries between 2004 and 2010 in three of the main Portuguese newspapers shall be presented, specially reflecting upon the events, protagonists, topics, geographical attributions and terms/expressions used to define those who migrate due to environmental degradation or disasters.

Keywords—"Climate refugees"; "environmental refugees"; environmentally induced migrations; Portuguese written press

I. INTRODUCTION

THIS article aims to contribute to the understanding of the global issue of environmental migrants, while deepening the construction of the discourses that frame it, under the interdisciplinary perspective of human ecology. This proposal comes as a deepening of the problem under study in the PhD research project being developed, which focuses on the environmental immigrants within the southern European Portuguese and Italian contexts, through their life stories that highlight human vulnerability and adaptive capacity to environmental changes. This article constitutes the first publication of original research within the doctoral project, starting from the analysis of the Portuguese written press in what regards to the construction of the "environmental refugee" figure. The empirical exploration is still at the beginning, and will be complemented with other methodological approaches, instruments and techniques for data gathering and analysis during the PhD project. The article shall begin with the methodological approach and the general framework of the problem within the human ecology field. Then the focus will be on the construction of the "environmental refugee" figure on the Portuguese press, through the analysis of newspaper articles from three of the core Portuguese newspapers (between 2004 and 2010) that were subject to content analysis, namely attending to events, protagonists, topics (and their associations), geographical attributions and terms/expressions used to define those who migrate due to environmental degradation/disasters. Then we will try to contextualize our findings while proposing new directions of research and scientific reflection.

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II. METHODOLOGICAL APPROACH AND GENERAL FRAMEWORK

In the following chapter, the results of the research on newspaper articles related to the environmental migration within the Portuguese press will be presented. In order to achieve this purpose, three national newspapers have been analyzed in the time extent between 2004 and 2010, with a total of 53 newspaper articles found. The newspapers are the daily *Jornal de Notícias* (JN – annual circulation: 451 119) and *Público* (PB – annual circulation: 200 705) and the weekly *Expresso* (EX – annual circulation: 539 076)¹, three of the most representative – while quality-oriented – Portuguese newspapers. Other important newspapers have been created in the last years, but they were not considered in our research due to lacking of the time span which was aimed to analyze.

We have searched different expressions about environmental migrations, within each of the analysed newspaper websites (in which are uploaded all the newspapers edited during at least the last decade)²; 2004 is the starting year, as no articles on this subject have been found before.

The content analysis of these newspaper articles aimed to answer partially to two of the categories proposed by Holsti [1]: to make inferences about the antecedents of the communications, in what regards to the reasons/encoding process that lead to the writing of these articles; and to describe and make inferences about the characteristics of communications, mainly focusing on the message / what is tried to be told. On a following stage, it will also be necessary to make inferences on the consequences of these media entries, trying to decode the process to understand its effect and underlining discourse to pass to the general audience. The underlying objectives were: (a) to understand what motivated the Portuguese media to spread news' entries on environmentally induced migrations; and (b) to identify the content of the newspaper articles, with a special attention on the event or commemorative date being mediated, the individual and/or institutional protagonists, the referred global (natural and/or societal) problems, their association with other mediated topics, the geographical attribution of media attention, and the identification of terms and expressions to define the subjects of environmental migration.

The framework on human ecology allows the construction of an integrated project with a systemic approach, starting from ecological principles to understand human social organization and recognizing adaptation as the key process of the relationship between humanity and the environment [2]. Taking the interdependent relationship between population, environment, technology and organization, we make our way

¹ The annual circulation of Portuguese newspapers is provided by the Portuguese Association for the Control of Circulation – *Associação Portuguesa para o Controlo de Tiragem e Circulação* (www.apct.pt).

² *Jornal de Notícias*: <http://www.jn.pt>; *Público*: <http://www.publico.pt>; *Expresso*: <http://auiou.expresso.pt>.

to questioning the environmental migrant as a social actor that emerges from the enhanced interaction between the social complex and the ecological complex [3].

It is also important to consider the significance of human ecology in what regards to the thematic basis, as it studies the connections between humans and their natural resource base, both at the local as at the global scales, and also the problems that result from the mal-adaptation of the social sphere to the environment, ecosystems and resources. It gives, therefore, an important systematic and theoretical reflection to analyze such problems like those resulting from the environment-migration link. We must recognize that the physical ecology and the interdisciplinary ecology have contributed with concepts and methods to analyzing the phenomenon and its surrounding issues, which can be observed for example in studies about the carrying capacity [4], which were latter connected with approaches to natural capital [5] and ecological footprint [6], and in the more recent studies over the human appropriation of net primary production [7], the global material and energy flow accounting [8], conflicts over ecological distribution [9, 10], as also in broader studies about the consequences of global environmental change. Moreover, multiple forms of environmentally enforced mobility and migration are being studied, as well as the link to over-use and unequal distribution of resources [11].

At the same time, and recalling the contribution from the social scientific research, it is important to attend to the effects of globalization and the continuing unequal development, which increases the gap between the global North and South [12] and creates new problems through urbanization, concentration of settlements in the coastal areas and river deltas, also originating new dynamics in which cities/metropolis are the main mobility platforms [13]. We should as well pay attention to the fact that human ecology (and similar systemic research perspectives) explores the multifaceted nature of migration, which is rarely one of environmental reasons alone, but a complex livelihood phenomenon: economic, political, cultural, social and environmental factors come together to affect this type of mobility [14]. This approach is also attentive to the health consequences of these migratory dynamics [15]. Developing the basic idea according to which migration is constituted as a demand for economic and social stabilization [16], sociological and geographical studies on human ecology added that migration is the main mechanism of social change and adaptation to human populations, in the case of a redistribution process to achieve a balance between population and the set of life opportunities available [17]. Migration on a situation of vulnerability due to environmental pressures has also been identified as a strategy for adapting to human habitat [18].

Discussions on environmentally induced migration processes have spelled out a diverse set of perspectives and theoretical approaches. Nonetheless, the essential debate can be attributed to the weight that is recognized to the human agency on the response to environmental changes. The more conventional/popular narratives assume that environmental changes will lead to direct displacement of thousands of "environmental/climate refugees", comprising a set of

concerns regarding the security of "northern States" [19]. However, facing this limited view of the potentialities of human agency, a wider vision has been proposed, anchored in interdisciplinary approaches about the link between environment and society, according to which there is a set of adaptation strategies of mankind towards the changing or adverse environmental conditions. This is the beginning of the recognition that human beings have the ability to respond to adverse environmental situations, but they also face a number of barriers if migration is the adopted or necessary adaptation strategy.

III. THE CONSTRUCTION OF THE "ENVIRONMENTAL REFUGEE" FIGURE WITHIN THE PORTUGUESE PRESS

A. *Cycles of events and protagonists*

On a first stage, crossing the global events and protagonists that originated the newspaper articles, it becomes possible to identify three cycles – which, despite crossing each others in terms of years, have a logical pathway: from the emergence of the problem (2004-2006: 14 articles), its assistance and study (2005-2009: 19 articles) to the search for the main (political) answers (2007-2010: 20 articles, the majority in *Expresso*, the weekly newspaper). Nonetheless, it is important to clarify that a selective use of scientific themes has been permanent in all the cycles, yet more pronounced (while presenting the main scientific reports) on the second one.

The first cycle of news marked the beginning of the identification of a social problem closely related to the environment, which has been expressed in some articles on desertification, commemorative days about the environment and, more specifically, after the Katrina hurricane in 2005. This specific event has allowed the emergence of a new category on the press: the forced migration and its relation with climate, while occurring on rich countries. This does not necessarily mean that Katrina had a specific climate change-related origin; but the phenomenon put media attention on this new feature of globalization, which eventually could bring new assets of vulnerability to the countries which were better known for their resilience [20]. This first cycle of media attention on "climate/environmental migrants/refugees" seems to be established from the desertification awareness which had been focused and approached until then. It figures like desertification would be the first environmental reason for those who had been pushed to migrate; but in this cycle, other factors – mainly climate change and global warming – are called into play. If we pay attention to the referred protagonists of these newspaper articles, it is possible to find Non Governmental Organizations (NGO's) representatives, which play a central role on recalling public attention for these social-environmental problems [21]; civil society' assisters (military and security personnel), which are seen as the first – yet unexperienced – social actors that provide assistance in case of emergency situations (like Katrina); and also some Portuguese scientists, which have researched more closely on desertification topics.

The need to explore the origins and possible consequences of the problem leads the press attention to a second cycle, in

which many studies and technical reports are financed, presented and discussed. To quote the most important – broadly quoted on the scientific sphere, as also in the majority of newspaper articles – we might refer the study that Nicholas Stern lead for the former UK Prime Minister Tony Blair, about the economics of climate change; and the reports from the Intergovernmental Panel on Climate Change (IPCC), about the physical science basis, the impacts, adaptation, vulnerability and mitigation of climate change. Along with this scientific focus, the political sphere is also brought for newspapers' attention. The Conferences of the Parties (COP's), events that express the international pledge around the United Nations Framework Convention on Climate Change, gain a growing mediated importance. This attributed importance increases with the expectation of concrete measures for international commitment to follow the end of Kyoto protocol. In this second cycle, the protagonists reflect this shift towards the scientific and political focus. The most quoted are the IPCC, the United Nations (and more specifically the United Nations University – Institute for Environment and Human Security – UNU-EHS), Nicholas Stern and the Worldwatch Institute for science-demanded studies; the insurance organization Munich Re Foundation, which financed some of previously referred studies, while preparing new financial solutions for those injured by environmental changes; the NGO Greenpeace, one of the few environmental NGO's that had the necessary funds to publish a scientific study; the Red Cross and Red Crescent, and also the Christian Aid, while voices from the empirical basis of assistance; and finally some politics and religious representatives. The UN and the IPCC were the most quoted entities in the press entries analyzed during this period.

The third cycle is highlighted by the search for multi-level answers (local, regional, international and inter-North/South) for the phenomenon of climate change and its impacts on human migrations. The main focus of media attention has been the COP 15 in Copenhagen, 2009, followed by the privileged Portuguese concern in international institutions that address forced displacement (United Nations High Commissioner for Refugees) and the European political answers (European Commission), both directed by Portuguese politics at the time (António Guterres and Durão Barroso, respectively). The attention is therefore put on international negotiations about climate, migratory regulation but also about diplomatic relationships, mainly between Europe and Africa. In this final cycle of our analysis, Portuguese scientists are also called into action, but mainly on topics like coastal protection and sea-level rise, following the fear that Portugal could be not only a receptor but also a producer of environmental migrants.

B. The association between different topics and their geographical attribution

It is important to refer that the great majority of newspaper articles led to a general/global scale in what regards to the geography of the reported news; nonetheless, some different spatial and social-economic attributions might be identified.

The first associations, mainly in the 2005 articles, have been made between desertification, droughts, natural disasters and climate phenomena, which would more or less directly lead to

poverty and migrations. The main examples on natural disasters have been hurricane Katrina and the Indian Ocean Tsunami (that occurred in 2004 and were used as a comparison to the impacts of Katrina), while allowing to observe the fear that similar consequences would arrive from the environmental problems at the Mediterranean area.

Another pool of association has emerged from natural disasters, climate change and conflicts over resources, this time referring to the poorer countries, still under development, with a greater demographic pressure. When the topics led to global warming and sea-level rise, then the geographical attribution would go to the Small Island Developing States (SIDS) and to large coastal settlements, yet foretelling the risk of the Portuguese coastal area.

Nonetheless, the majority of newspaper articles operates a generalist association between topics, to which a global scale is attributed. From this association emerges a kind of glossary on climate change and its environmental and human consequences: global warming, melting of ice caps, environmental degradation, extreme climate and natural events, lack of natural resources, soil impoverishment, biodiversity loss and human vulnerability. The causal association emerges from a kind of a random alliance between the previously referred topics and the consequence of human migration. In fewer newspaper articles we might also find the reference to other factors, more socially focused, that contribute to this multi-causal association: the financial crisis, access to energy sources, agricultural practices, food production, diseases/pandemics, urbanization, demographic and gender issues. It is important to attend the fact that these general associations occur predominantly with political protagonists, mainly from the United Nations Organization. We can therefore observe how a general discourse on a random association between environmental/climate problems and human migration is created and spread, with the legitimacy of political entities like UN.

C. Terms and expressions that define those who migrate due to environmental problems

We identified three main tendencies: (1) the victimization through climate and the new asset for the environment as a persecutor – the refugee figure; (2) the nexus between climate change, vulnerability, migration and conflicts; and (3) the fear of massive migrations, mainly towards Europe.

While 23% of the newspaper articles analyzed employed the terms “environmental refugees”, almost 10% opted for “climate refugees”. Nonetheless, 57% of the newspaper articles presented the term “refugee” to define the situation of human displacement due to natural or climate-related events. The figure of these “victims of climate” is hence constructed over a new imagery of the environment as a persecutor – beyond war, race, group, religious or political persecution, here finally the environmental problems and climate change came to give shape to a new type of refugees. “Environmental refugee” was the first expression used to describe people “who have been forced to leave their traditional habitat, temporarily

or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life” [22], a definition that is attributed to Essam El-Hinnawi during his contribute to the United Nations Environment Program in 1985. Another broadly quoted researcher, who provided the first statistical predictions on the number of environmental refugees worldwide, is Norman Myers [23]. His predictions were based on the relation between drought, soil erosion, desertification and other environmental problems, aggravated by hunger and lack of drinkable water, as also population pressures and deep poverty. While admitting the multi-causal root of environmental migrations, this concept has been widely criticized by social scientists like Richard Black [24] or Stephen Castles [25], as it does not provide a secure prediction and is not legally accurate: the Geneva Convention of 1951 (and its addenda) does not contemplate the environment as one of the possible motives for the status of refugee.

The first event in which environmental refugees are identified in the newspaper articles is the hurricane Katrina, which was considered the “worst natural disaster on the history of USA (...) two million people without home”. There was also the note to a considerable number of “refugees being evacuated (...) they are all black”. Apart from this lived situation, the other references have generally been made using the future or conditional verb tenses, pointing to a possible living situation which is not yet clearly observable. Nonetheless, the Portuguese press identifies “this concept of refugee: people to whom the natural elements took the past”.

To fully understand this concept, the press presents us the link of issues like climate change, vulnerability, migration and conflicts. While stating that “the warming of planet Earth and the environmental degradation are between the main causes of migrations on the 21st century”, the press informs that “migrations and poverty [occur] due to the lack of conditions to live when climate and soil become adverse to the survival of communities”. Is it stated that “we face an injustice, originated by climate change, as the ones who are less responsible and have less resources are the most affected by the refugee drama”. It is also possible to identify a reference to the “increase of refugees due to economic and environmental reasons”, as also that “people have no other remedy than displacing due to extreme poverty, environmental degradation, political persecution, war”, identifying “those who will be massively displaced by climate change (...) [including the] internally displaced”. Another important idea discussed in the Portuguese press is that “climate changes are a threat to global security (...) [as its subsequent] migrations could lead to conflicts”. In some newspaper articles this propensity to conflicts is more emphasized when they relate with the poorest contexts: “in the near run, environmental factors will have a negative impact over the poorest areas of the globe (...) [:] more situations of forced flight and disputes over resources that might end on civil conflicts”.

The scientific literature on climate-related migration informs us that its consequences “may involve violence, or less sensationally but no less importantly, more structural forms of disadvantage” [26], or at least that migration can be considered the intermediate stage between environmental degradation, disasters and conflicts [27]. The consensual points on the interplay between environmental degradation, migration and conflicts, are the demographic pressures that are increasing in the host contexts and might easily exacerbate tensions, and the “ethnic competition” that is likely to occur [28]. There is also the concern about confrontations over pastoral and public lands, which bring to evidence the difficulty in establishing resource use rights [29]. The fact is that the social consequences of environmental change or degradation are considerably variable, and the most common are a series of important forms of disadvantage like oppression, poverty and marginalization, yet not necessarily large scale violence. These migrants can either become “destitute refugees or can transform themselves into successful migrants [, and this] appears to depend on conditions of social peace and the resources available” [30].

The last nexus to highlight is the fear of massive migrations towards developed countries due to environmental problems, which is the key to the main underlining theme forwarded by the media. The expressions that might be found in the newspaper articles vary from linear explanations like “while diminishing arable land and forests, desertification provokes, therefore, the migration of the affected populations. It is one of the main causes of massive migration” to chaotic and apprehensive positions like “fatal warming (...) [is giving origin to] unprecedented migrations” due to which “Portugal [, among other countries, will] inevitably [be] involved on the migration of hundreds of millions of people from Africa and other origins”, as directly quoted from Nicholas Stern. Expressions like this last one, or “[due to climate change,] migrations of populations towards the north of Europe and global conflicts are expected”, exacerbate the connotations of urgency and unavoidability that are created through the concept of environmental/climate refugees. The point is that “it actually evokes fantasies of uncontrollable waves of migration that run the risk of stoking xenophobic reactions or serving as justification for generalized policies of restriction for people seeking asylum” [31]. Only one newspaper article, which was focused on the *climategate*³ scandal, referred the possibility of “people presently threatened by hunger or malnutrition [due to environmental factors to be] agitating the phantom of their increase or their massive migrations”, which would actually constitute a counter factor to the claim for better rights and treatment to this group of migrants.

The study from Rafael Reuveny [32] about the linkage

³ The *climategate* is the abbreviation of the Climatic Research Unit email controversy. It began on November 2009, before COP15, with the hacking and publication of emails from the Climatic Research Unit and the University of East Anglia. The climate skeptics argued that, through this material, it was possible to understand that the anthropogenic global warming was a scientific conspiracy, through data manipulation and suppressing critics.

between environmental migrations and conflict highlights some important conclusions on this matter. Reuveny has found that environmental factors usually work together with “underdevelopment, dependence on the environment for livelihood, high population density and growth, an income inequality” [33] in order to generate environmental migrations, and about half of the analyzed cases involved intrastate migration, one quarter involved interstate migration and the last quarter involved both migratory patterns. Conflicts in the receiving areas were found in half of the cases (with different intensities), less frequent when the arrival of migrants was perceived as a benefit for the host context and when it occurred in developed (instead of developing) countries. The reality is that the great majority of environmental migration paths with conflict occurrence are observed between developing neighbour countries, in which the majority of the population depends on the environment for livelihood, ethno-religious divergence arise, and competition over resources and resource scarcity are a threat to both resident and migrant populations. Therefore, massive migrations of environmental migrants towards the northern developed countries are less probable, and their occurrence along with conflicts is even less realistic.

IV. CONCLUSION

It is important to acknowledge how a limited view over the possibilities of human agency towards environmental changes has been observed at the majority of the press-entries that have been analyzed. Notwithstanding the content evolution from the identification of the problem to its study and search for main answers (specially at the political sphere), the view that surpassed media attention might be considered partial and misleading in what regards to the type of discourses. The general conclusions actually pointed to massive migrations of “refugees” due to climate change and global warming, with little association of concrete places under greater environmental pressure or degradation. Moreover, the association of this prognosis with protagonists from the scientific and political fields is likely to increase the legitimacy of this discursive line. The intervention of NGO’s and other protagonists from civil society, namely those most concerned about environmental problems, is likely to increase the sensitivity of international community to the problem of those people who would have no home due to environmental/climate change. To reinforce the message, this issue is widely associated with other problems both at the environmental as at the social/economical dimensions, leading to a potentially broader comprehension of the interrelated dimensions at stake when environmental migrations might occur. We get to hear about the victims of global climate change and other environmental degradation processes, which would potentially gain the refugee status; those that are highly vulnerable and likely to result from/or increase conflicts, especially over natural resources; those that are possibly endeavouring an exit, which might consist on the confluence of many people into

massive migrations towards richer – yet very distant – countries from the northern/occidental world.

In the search to summarize the conducting wire that might help to understand the different discourses produced about these “environmental/climate refugees/migrants”:

(1) The first step has been the identification of the problem from the scientific field – the possibility of migrations occur as a response to the problem of environmental/climate change;

(2) Then this identified problem is publically explored, in order to guarantee it reaches the international political agenda;

(3) The problem enters on the political agenda, officially discussed about and gains legitimacy;

(4) The topic is gradually constructed as a problem within society, and social members tend to pay attention to the most prominent and securitarian messages – in this case, the message about massive migrations from the developing world towards the occidental world due to climate change.

These discourses deserve an increased attention and ought to be put in question. We forward the hypothesis of being actually assisting to the “greening” of anti-migration discourses, yet the “green” campaigns aimed a totally different objective, which was to put those environmentally pushed from their homes on the international debate. Nonetheless, many misleading categories seem to have been crystallized through the political discourse and public communication. We suggest deepening the scientific research and public discussion with more concrete facts and figures:

- What are the environmental pull factors that origin out-migration processes from already disadvantaged contexts? How do the various factors interact and harness human life?

- Are we talking about private or public resources? Which common property resources are put into question? How can we understand the impact of social capital and social networks on these processes [34], both towards migration and non-migration adaptation strategies?

- Should attention be put on hypothetical long-term mass migration or on practical short-scale movements with probable increasing conflicts (or at least higher disadvantages) on resource management at a national/neighbouring countries scale?

- Nonetheless, Europe is possibly a destination, even if it is not a financially accessible destiny for the majority of migrants from developing states experiencing environmental degradation. But if we recall the role of social networks, this cost would become more bearable. It is therefore important to observe how these networks are created in the Old Continent, namely among countries with colonial and post-colonial migration, while also attending to the diversity and intensity of the migration flows.

- Another urgent asset is to examine how this still hybrid identity [35] is being integrated on the heterogeneous masses of destination contexts.

The core objective underlining scientific studies and political debates over environmental migration is not crystallizing misleading concepts, but rather promoting global

development, and therefore a more integrated vision on the problem is needed. Rather than focusing on climate change, a possible route would rely on sustainability, as this concept embraces an integrated resource management view while acknowledging the need of quality in human life. Sustainability can be understood as “a continuous process of accommodating social and ecological systems in approximating never achievable optimal forms of co-evolution” [36], and the deepening of the discourses over this social-ecological relationship is a needed step to better recognize the integration of the economic, social and environmental spheres that are fundamental to the comprehension and response to environmentally induced migration processes.

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REFERENCES

- [1] O. Holsti, “Content Analysis in Political Research”, in Davis Bobrow and Judah Schwartz (Eds.) *Computers and the Policy-Making Community*, Englewood Cliffs NJ: Prentice-Hall, 1968, pp. 111-153.
- [2] I. Vieira, *Migrações e Ambiente. Imigrantes ambientais no contexto europeu*, Project Work – Master on Human Ecology and Contemporary Social Problems, Lisbon: FCSH-UNL, 2010.
- [3] W. Catton & R. Dunlap, “A new ecological paradigm for post-exuberant society”, *American Behavioral Scientist*, 24 (1), 1980, pp. 15-47.
- [4] W. Catton, “Carrying capacity and the limits to freedom”, paper prepared for Social Ecology Session 1 – XI World Congress of Sociology, New Delhi, 1986.
- [5] R. Costanza, R. D’arge, R. de Groot, S. Farber, M. Grasso, B. Hannon, K. Limburg, S. Naeem, R. O’Neill, J. Paruelo, R. Raskin, P. Sutton & M. van den Belt: “The value of the world’s ecosystem services and natural capital”, *Nature*, 387, 1997, pp. 253-259.
- [6] W. Rees & M. Wackernagel, “Ecological footprints and appropriated carrying capacity: Measuring the natural capital requirements of the human economy”, in A. M. Jansson, M. Hammer, K. Folke & R. Costanza (Eds.) *Investing in natural capital: The ecological economics approach to sustainability*, Washington, Island Press, 1994, pp. 362-390.
- [7] H. Haberl, K.-H. Erb & F. Krausmann: “Global human appropriation of net primary production (HANPP)”, published at *The Encyclopedia of Earth*, 2010, [www.eoearth.org/article/Global_human_appropriation_of_net_primary_production_\(HANPP\)](http://www.eoearth.org/article/Global_human_appropriation_of_net_primary_production_(HANPP)) (23/09/2011).
- [8] H. Haberl, M. Fischer-Kowalski, F. Krausmann, H. Weisz & V. Winiwarter, “Progress towards sustainability? What the conceptual framework of material and energy flow accounting (MEFA) can offer”, *Land Use Policy* – Special Issue Land Use and Sustainability Indicators, 21 (3), 2004, pp. 199-213.
- [9] J. Martinez-Alier, *The Environmentalism of the Poor. A Study of Ecological Conflicts and Valuation*, Northampton/Massachusetts: Edward Elgar Publishing, 2002.
- [10] J. Martinez-Alier, “Ecological distribution conflicts and indicators of sustainability”, *International Journal of Political Economy*, 34 (1), 2004, pp. 13-30.
- [11] J. Rice, “Ecological unequal exchange: consumption, equity and unsustainable structural relationships within the global economy”, *International Journal of Comparative Sociology*, 48, 2007, pp. 43-72.
- [12] W.R. Thompson & R. Reuveny, *Limits to Globalization, North-South divergence*, Oxon & New York: Routledge, 2010.
- [13] L. Baptista, “Cidades e arredores”, in Vaz, Domingos (Org.) *Cidade e Território. Identidades, Urbanismos e Dinâmicas Transfronteiriças*, Lisbon: Celta, 2008.
- [14] Castles, Loneragan & Lee in C. Boano, R. Zetter & T. Morris, *Environmentally displaced people – Understanding the linkages between environmental change, livelihoods and forced migration*, Refugee Studies Centre, Oxford: University of Oxford, 2008.
- [15] A. Fernandes & J.P. Miguel (Eds.) *Health and Migration in the European Union: Better Health for All in an Inclusive Society*, Lisbon: Instituto Nacional de Saúde Doutor Ricardo Jorge, 2009.
- [16] A. Holingshead, “Human Ecology and Human Society”, *Ecological Monographs*, Vol. 10 (3), Ecological Society of America, 1940.
- [17] A. Hawley, *Human Ecology: A Theory of Community Structure*, New York: Ronald Press, 1950.
- [18] R. McLeman & B. Smit, “Migration as an adaptation to climate change”, *Climatic Change*, 76 (1-2), 2006, pp. 31-53.
- [19] C. Gray & R. Bilsborrow, “Environmental Influences on Migration in Rural Ecuador”, Paper for the 2010 Annual Meeting of the Population Association of America, <http://paa2010.princeton.edu/download.aspx?submissionId=101839> (14/02/2011).
- [20] A. Oliver-Smith, “Disasters and forced migration in the 21st century”, published online in 2006 at *Understanding Katrina – Perspectives from the Social Sciences*, SSRN – Main Social Science Research Council Site, <http://understandingkatrina.ssrn.org/Oliver-Smith/> (31-08-2011).
- [21] S. Yearley, *Cultures of Environmentalism: Empirical Studies in Environmental Sociology*, Hampshire: Palgrave, 2009.
- [22] In R. Stojanov, “Environmental Refugees – Introduction”, *Acta Universitatis Palackianae Olomouensis, Facultas Rerum Naturalium, Geographica*, 38, 2004, pp. 77-84.
- [23] N. Myers “Environmental refugees: a growing phenomenon of the 21st Century”, *Philosophical Transactions of the Royal Society*, London, B: 357, 2001, pp. 609-613.
- [24] R. Black, *Environmental Refugees: myth or reality?*, Brighton: University of Sussex, 2001.
- [25] S. Castles *Environmental Change and Forced Migration*, Oxford: Refugee Studies Centre, Oxford: University of Oxford, 2001.
- [26] Barnett in C. Raleigh, L. Jordan & I. Saleyhan, “Assessing the impact of climate change on migration and conflict”, *Social Dimensions of Climate Change*, Washington DC, World Bank, 2008, p. 34.
- [27] Homer Dixon in Raleigh et al., op. cit., p. 34.
- [28] Raleigh et al., op. cit., p. 36.
- [29] Unruh in Raleigh et al., op. cit., p. 36.
- [30] Raleigh et al., op. cit., p. 37.
- [31] E. Piguet, “Climate change and forced migration”, New Issues in Refugee Research – Research Paper 153, Geneva: UNHCR, 2008, p. 8.
- [32] R. Reuveny “Climate change-induced migration and violent conflict”, *Political Geography*, 26, 2007, pp. 656-673.
- [33] R. Reuveny, op. cit., p. 662.
- [34] S. Curren, “Migration, Social Capital, and the Environment: Considering Migrant Selectivity and Networks in Relation to Coastal Ecosystems” in W. Lutz, A. Prskawetz & W. Sanderson (Eds.) *Population and Environment: Methods of Analysis*, Population and Development Review, a supplement to, 28, 2002, pp 89-125.
- [35] R. King (Org.), *The Atlas of Human Migration. Global Patterns of People on the Move*, London: Earthscan, 2010.
- [36] K. Bruckmeier, “Interdisciplinary Conflict Analysis and Conflict Mitigation in Local Resource Management”, *Ambio*, 34 (2), 2005, pp. 65-73, Royal Swedish Academy of Sciences, p. 73.

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