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THE ECOLOGICAL IMPERATIVES OF SUSTAINABLE DEVELOPMENT & THE TRANSBORDER REGIONALIZATION PROCESSES (THE POSTSOVIET' COUNTRIES CASE)

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Abstract

The intensification of the negative ecological impacts of a number of economic activities make one to seek for their elimination or nivelation at least treating both as of the primary tasks of the sustainable development provision. With this the necessity to form a public good to manage it efficiently to solve the problem is aggravated in speculative terms because of various of such activities to constitute important economic sectors the environmental impacts of which tend to cover different countries thus to require the transborder regionalization processes to facilitate the innovative actitude of the main stakeholders to overcome efficiently the ecological damages and to provide innovative development. The verification of such deductions is the objective of present paper.

Keywords

Ecology – Sustainable development – Public good – Transborder regionalization – CIS – EAEU

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Introduction

The intensification of the negative ecological impacts of a number of economic activities make one to seek for their elimination or nivelation at least treating both as of the primary tasks of the sustainable development provision. In practical terms it requires either the liquidation of the ultimate cause, i.e. the very economic activity, or the creation of a particular pubic good it to impede or compensate the effects mentioned¹. The first opportunity looks poor due to the importance of the products of the industry to be liquidated and at best has to do with the some fundamental technological innovations and the respective production development. The second one is highly correlated with the government' and the society' performance and/or their transborder structures these to facilitate the innovative actitude of the main stakeholders to solve the ecological problems². The verification of such speculative deductions is what the present paper is about.

The methodology of the research

The aim specified above dictates the general scientific methods to be applied when the research. Since the transborder regionalization processes focus the main blocks of the analysis are the identification of the presence of the ecological problem mentioned in all of the participating countries. Then it is the determination of the reasonability for them to develop the integrative links be it at the bilateral or the multilateral levels. Focusing consequently on both, the research is to determine their effectiveness and to deduce the accuracy of the theoretical statement formulated at the end of the Introduction part. If no, the key factors or circumstances to change the inicial proposition are to be introduced with the prospective research directions indicated. The sutable case to verify the above formulated is the atomic industry development in Russia and other republics of the former USSR. Being it an important branch of these national economies and to provide in some countries up to one half of their total demand for energenic recourses the atomic industry produces some serious ecological damages and risks of radiological, thermal and mechanical type caused these by the heavy metals emissions, elevated oxygen consumption rates and the release of carbon dioxide. Many specialists state their relationship with the climate change, the biocenosis violation and many other harmful for the people' life and for the environment effects³. Furthermore such dangers tend provoking serous psychological, social and even political damages related to the distorted and/or exagerated interpretations by population of the hazardous production of the nuclear sector⁴.

¹ D. O'Connor, Industrial Development in the 21rst Century: Sustainable Development Perspectives. United Nations, 2007.

² J. Blatter, "Emerging cross-border regions as a step towards sustainable development? Experiences and considerations from examples in Europe and NorthAmerica", International Journal of Economic Development Vol: 2 num 3 (2000): 402-439; R. Falkner, "The political economy of 'normative power' Europe: EU environmental leadership in international biotechnology regulation", Journal of European Public Policy Vol: 14 num 4 (2007): 507–526 y F. Joas; M. Pahle; C. Flachsland y A. Joas, "Which goals are driving the Energiewende? Making sense of the German Energy Transformation", Energy Policy num 95 (2016): 42–51.

³ P. Stoett, "Toward renewed legitimacy: Nuclear power, global warming and security", Global Environmental Politics Vol: 3 num 1 (2003): 99–116 y B. Baybeck; W. Berry y D. Siegel, "A Strategic Theory of Policy Diffusion via Intergovernmental Competition", Journal of Politics Vol: 73 num 1 (2011): 232–247.

⁴ B. Baybeck; W. Berry y D. Siegel, "A Strategic Theory of Policy Diffusion via Intergovernmental Competition", Journal of Politics 73(1) (2011): 232–247.

Such ecological problems are agravated with unfinished character of the research which tends revealing the negative consequences to occur when some particular terms combination or accumulation. Of the most prominent cases of these are the Chernobyl nuclear power plant accident (1986) and the so called "nuclear legacy" of the USSR with the important territories contaminated because of the intensive if not unrestricted atomic development under the national defense impetus⁵.

The diversity and scope of such a legacy kept unknown for a long time both for the practitioners and the researchers. Thus the ecological problems related became subjects of special attention of almost all of the postsoviet national governments. Russia, Belarus, Kazakhstan, Armenia and other republics enacted the laws of the atomic energy uses, the radiation security guarantees with the respective clauses introduced in the national ecology charters and the national development strategies stimulating thus the innovations and adances of the sector.

The States enforced the control over the atomic industry environmental impacts, the special registers of hazardous production processes, their licencing and other measures to prevent or nivel the harmful impacts with the development of a special environmental safety industrial infrastructure just to name a few⁶.

Meanwhile the scale of the environmental problem of the atomic sector went far beyond the national borders to embrace actually all of the postsoviet economies proving to be of general character forming thus a basis for the transborder cooperation and integration processes development in the sector and further on.

Results and Discussion

Still the materialization of such an endeavor results far from being smooth. In spite of the importance of the problem for all of the state members of the transborder regionalization processes the analysis of the latter focused on both the inter- or supragovernmental efforts to solve or to nivel the ecological problems of the atomic production doesn't prove them to perform automatically or traditionally as a driver of these processes.

The analysis of the bilateral integration links in the atomic sector

The case of the nuclear plant construction in Belarus by Russian specialists cooperating with Belarussain providers (which are more than 20 of the 34 in total) looks to be one of the quite rare variants of the effective integration relationship development in the sector this to consider the ecological aspects among other aspects as well. The project is to liquidate the energetic recourses deficit in the republic and to provide up to 25% of their total national consumption. The collaboration is also to impede many of the harmful consequences of the power station because of its new design this to follow the standards of the generation 3+ developed under the IAEA recommendations issues after the accident with Fucusima and to be suitable for the use in other places⁷.

⁵ A. Duit; P. Feindt y J. Meadowcroft, "Greening Leviathan: the rise of the environmental state?", Environmental Politics Vol: 25 num 1 (2016): 1–23.

⁶ J. Baumgartner, "From There to Here: Punctuated Equilibrium to the General Punctuation Thesis to a Theory of Government Information Processing", The Policy Studies Journal Vol: 40 num 1 (2012): 1–20.

⁷ A. Stanculescu, IAEA activities in the area of emerging nuclear energy systems. Vienna: International Atomic Energy Agency, 2001. Available: https://oecd-

The innovative approach is complemented with the other perspectives of the stable collaboration among the two sides referring these to the personell training and the provision of raws from Russia.

Different from Belarussia the ecological problems of the Armenian nuclear power plant served as a stumbling block in the integration processes development between Russian and Armenian atomic sectors in the current decade. These were focused mainly on the prorogation of the lifespan of Metsamor Nuclear Power Plant beyond the designed, its modernization and the construction of a new unit.

By that time the limited opportunities of the nuclear power production due to the narrow national market, supplying the plant some 30-40%% of the total energetic recourses of Armenia, looked to be enlarged prominently with the opportunities of its exportation to Iran. Under the intensification of the competitive rivalry the forces to counteract the sector development and regional integration were the Karabakh conflicts, the terrorist threats' increase, the Fukushima nuclear accident and the recomendations of EU to close the Metsamor plant issued in frame of a joint policy initiative The Eastern Partnership. These made the Armenian government and society to doubt the reasonability to continue with the existed plant, its inefficient normanive provision and with the fulfillment of the bilateral agreement between Armenia and Russia of 2010.

Furtheron the new regional agreements for the atomic sector development were concluded with the funding of the lifespan prorrogation of Metsamor Nuclear Power without the ecological damages, the development of the normative basis of the atomic energy it to optimize the price and the time of the modernization and the new unit construction by Russian entities.

Nothing easier result the integration processes between Russia and Kazachstan. Various aspects of the the provision of ecologically safe and secure nuclear development were formulated in the bilateral memorandum of mutual understanding on cooperation in the field of construction of the nuclear power plant (2014) and the Address of the President of the Republic of Kazakhstan "Kazakhstan's way – 2050: Common Aim, Common Interests, Common future" (2014).

Some of the directions mentioned in these such as the joint projects to eliminate the environmental pollution and to produce uranium has become real. Meanwhile the others related to the safe power plan construction are far from being realized depending on the socio-political and economic policy factors correlation.

The same ambiguity referes to the relationship between Russia and the Asian postsoviet Republics. The latters declared their intentions to cooperate with the former to develop the secure atomic industry and to eliminate the notorious "nuclear legacy"⁸.

nea.org/pt/docs/iem/madrid00/Proceedings/activities_iaea.pdf; J. G. Marques, "Evolution of nuclear fission reactors: Third generation and beyond", Energy Conversion and Management Vol: 51 num 9 (2010): 1774-1780 y Gif Annual Report. 2017. Available: https://www.gen-4.org/gif/upload/docs/application/pdf/2018-09/gif_annual_report_2017_210918.pdf ⁸ S. Bird, R. Spier, "The complexity of competing and conflicting interests", Science and Engineering Ethics 11(4) (2005): 515–517.

With such an aim the Kyrgyz Republic signed the agreement with Russian Federation on cooparation in the field of the peaceful uses of nuclear energy (2012) and the memorandum on cooperation in the field of environment protection later. Then it was the agreement on cooperation for the modernization of the Kyrgyz mining plant to develop national uranium deposits.

The Republic of Tajikistan and Russia concluded the agreement on cooparation in the field of the peaceful uses of nuclear energy (2017) considering the ecology problems of the radioactive waste and spent fuel management as well as of design, construction and utilization of research reactors, the radioisotope production and the application of nuclear technologies in industrial sectors. Similar aspects focused the agreement on cooparation in the field of the peaceful uses of nuclear energy between Russian Federation and Republic of Uzbekistan.

In spite of a quantity of documents signed the practical realization of these resulted quite limited due to the differences of national approaches towards the sector development, the lack of its decent infrastructure and of the scientific technical support all this to stall the nuclear sector development and to ramp up environmentally hazardous facilities and materials⁹.

Thus the limited efficiency of the bilateral agreements to stimulate the ecologically secure nuclear sector development makes the partners to seek for the opportunities of the multilateral institution-building to solve the problem.

The multilateral institutional development for the ecological safety of the atomic industry

Nowadays there is a quantity of multilateral institutions in the sector to relulate is ecological impacts. Of these the most prominent one is the Framework Program "Atom - CIS cooperation" for the cooperation of the member states of the CIS reguin concerning it the peaceful use of atomic power for the period up to 2020 (2011) to mobilize the participant countries to form the joint terms for the ecologically safe production and the use of nuclear power as well as to make joint decisions of the other sectoral problems related to ecology.

Meanwhile the very framework type of the program makes it mobile and flexible to seek the participants efficient forms of joint practices and coordinate their actions and to development various vectors of collaboration.

Thus in frame of the Program and after its impetus a number of documents have been elaborated in the following spheres:

the participants' normative approaches convergence:

⁹ M. Beise, "Lead markets: country-specific drivers of the global diffusion of innovations", Research Policy Vol. 33 num 6-7 (2004): 997–1018; D. Jahn y S. Korolczuk, "German exceptionalism: the end of nuclear energy in Germany!", Environmental Politics Vol: 21 num 1 (2012): 159–164 y J. Chandler, "Trendy solutions: Why do states adopt Sustainable Energy Portfolio Standards?", Energy Policy Vol: 37 num 8 (2009): 3274–3281.

- agreement on harmonizing approaches to regulatory and technical framework, conformity assessment, standardization, accreditation and metrological assurance in the area of peaceful uses of nuclear energy (2017);

- standardized requirements for registers of ionizing radiation sources of CIS member States;

the information provision:

- the project of a complex of activities to provide the data exchange on the safe uses of nuclear energy, which facilitates the standardization of the very procedures and the efficiency of the latter;

- the development of a single "nuclear portal" of the CIS member states in internet (*www.sng-atom.com*);

the personnel training:

- the design of a training system of highly qualified personnel it to participate in the national development programs of nuclear technologies applied with peaceful purposes by the CIS member States, its testing and launch;

the scientific and applied research:

- the agreement on the joint use of the experimental complex on the basis of the Kazakhstan material science tokamak¹⁰, the statement to update the Program of the scientific research on the basis of the Kazakhstan material science tokamak for the period of 2018–2020 and to develop the means to fulfil the Program incl. its thermonuclear reactor' materials research and testing in Kazakhstan;

the infrastructure provision:

- the interstate targeted programme "Recultivation of the territories of the states exposed to the impact of uranium production" (2018) it to facilitate the liquidation or the partial nivelation of the problem of tailings for uranium, of the risks of their harmful radiological effects with the emergency situations to occur;

- the agreement on the collaboration between the CIS member states to provide readiness in the event of a nuclear disaster or a radiation emergency and to provide mutual assistance in the clean-up of its aftermath (2018);

- the development of the agreements on the cross-border transportation of radioactive materials through the territory of the CIS member States and of the information exchange of the member states of the CIS in the area of transportation radioactive sources;

¹⁰ A Tokamak is a toroidal device in which a plasma is magnetically confined to be used to control the nuclear fusion process

the strategical collaboration provision:

- the decision of the directives of CIS about the possibility & opportunity to continue developing the Framework Program "Atom - CIS cooperation" for the period of 2021–2030 and to prepare its new edition.

Still the institutions elaborated have not been complemented with the pronounced practical steps these to confirm the efficiency of the collective efforts. The lack of these make the norms to be more of the nominal or declarative type than the actual one.

From the formal point of view the basic cause looks to be related with the large number of the participants subjects to different national and international factors impacting their economic policies, strategies, etc.

Thus, a higher efficiency seems more reasonable with a more compact regional organization such as the Eurasian Economic Union (EAEU) formed by a limited number of highly integrated postsoviet economies with the majority of the nuclear objects of all of the region. Still the problems of atomic sector and its ecological impacts keep being out of its principle focus and the main course of activities, the same as has been of its predecessor, i.e. the Eurasian Economic Community.

Just a few of their efforts are related to the sector and worth to be mentioned: i.e. the development of the Joint Energetic Strategy; the Framework Program for collaboration in the sphere of the peaceful uses of nuclear energy and the project of the Intergovernmental centre of EAEU of the development of the energy efficient technologies.

The novel perspectives which seem to make use of the regional institutions introduced to develop of the ecologically secure atomic production in the region are related to the organizational intentions, recently declared, to deal with the non-member Eurasian countries for the atomic contracts. The too short time passed and the ongoing institution-building in the EAEU impede the definitive evaluation of the organizational support to develop the regional collaboration in the nuclear sector in general and in the related ecological sphere especially.

Still the intermediate outcomes are far from being highly positive and appreciated by the experts. In terms of their typology of regional organizations the sectoral and other efforts of EAEU make them treat the latter as a "forum for discussions" or "the quest for another path". These are not about the initiatives of microeconomic subjects and their intentions to make use of the integration institutions to their own advantage.

The typical focus of such organizations are the administrative efforts which stimulate the preservation of the fragile value chains, inefficient for the main microeconomic stakeholders, the sustainable development in general and/or the development of the informal sector with the exchange processes difficult to be regulated¹¹.

¹¹ M. Dussauge-Laguna, "The neglected dimension: bringing time back into crossnational policy transfer studies", Policy Studies Vol: 33 num 6 (2012): 567–585; S. Fankhauser; C. Gennaioli y M. Collins, "Do international factors influence the passage of climate change legislation?" Climate Policy, (2015): 1–14 y N. Heiden y F. Strebel, "What about non-diffusion? The effect of competitiveness in policy-comparative diffusion research", Policy Sciences Vol: 45 num 4 (2012): 345–358.

Thus the effective blockage of business actitivy under such terms makes inefficient the processes of the transborder regionalization these not to stimulate the sustainable economic development but in reality to bring all back to national authorities.

Conclusion

The research of the transborder regionalization processes related to the governmental efforts be it at the bilateral or multilateral levels and designated to solve or to nivel the ecological problems of the nuclear sector doesn't confirm them to be realized in all cases and automatically performing always as a driver of these processes.

Some positive opportunities for such a role occur when the bilateral collaboration of national partners development with no visible negative impacts of the international factors as well as of the national economic policies and/or socio-political actitudes.

And while the multilateral collaboration with the transborder institution-building the cornerstone is the consideration for the interests and the actitude of the principle microeconomic stakeholders interested in the usage of such institutions or, if not, its emancipation to recognize the regional institutions value.

The determination of the limits until which these subjects are able to make use of the institutions, i.e. to apprise them and thus to support the transborder integration are to be the object of the further research.

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