



## Development Strategies for Sustainable Transport

Adejoh Benjamin Ochola<sup>1</sup>, Sa'eed Abdul-Basit<sup>2</sup>, Hadiza Ali<sup>3</sup>

Department of Civil Engineering,

Kaduna Polytechnic<sup>1,2 and 3</sup>

Email: [adejoh\\_benjamin@yahoo.com](mailto:adejoh_benjamin@yahoo.com)

### ABSTRACT

The sustainable development concept was analyzed along a few decades, within a huge number of scientific debates, deepened at international level. That way, this concept received politic valences too, in the globalization context. Sustainable development has as background the finding that, the human civilization is a component of the ecosphere, dependent on the raw material and energy flows existent within it, on its stability and self-regulation capacity. The public policies elaborated on this basis aims to reset and maintain an rational long run equilibrium, between economic development and the integrity of the environment. Sustainable transportation concerns systems, policies, and technologies. It aims for the efficient transit of goods and services, and for the sustainable freight and delivery systems. Sustainable transport (or green transport) is a concept, an ideology and – in some countries – a governmental policy, that consists of strengthening or replacing the current transport systems of an urban/suburban area with more fuel-efficient, space-saving and healthy lifestyle-promoting alternatives. The term refers to any means of transport with low impact on the environment, and includes human or animal muscle-powered vehicles, low-carbon fueled vehicles, any kind of vehicle using a renewable source of energy for its propulsion. Sustainable transport systems make a positive contribution to the environmental, social and economic sustainability of the communities they serve. Transport systems exist to provide social and economic connections, and people quickly take up the opportunities offered by increased mobility.. The programs, documents and strategies elaborated in transportation, for the pre- and post adhesion period of Romania – in sustainable development field – contains

relevant forecasts and target objectives too. Relevant for this analyze are the strategies and policies which concerns with a short – term period. The most appropriate term to fulfill the European Unions requirements is the 2013 Horizon. The national objective of this is to promote a proper transportation system for Romania, able to facilitate a secure, rapid and efficient movement of peoples and goods, at national an international level, consonant with the European standards.

**Keywords:** *Sustainable Transport, Environment, Pollution.*

## INTRODUCTION

The sustainable development concept was analyzed along a few decades, within a huge number of scientific debates, deepened at international level. That way, this concept received politic valences too, in the globalization context. Sustainable development has as background the finding that, the human civilization is a component of the ecosphere, which is dependent on the raw material and energy flows existent, on its stability and self-regulation capacity. The public policies elaborated on this basis aims to reset and maintain a rational long run equilibrium, between economic development and the integrity of the environment. The problems that the relationship between the human and the environment raises up, are area of interest for the international community, starting with the first Declaration of the United Nations Conference on the Human Environment (Stockholm, 1972) and are underlined in the works of World Commission on Environment and Development (1985). The report of that commission "Our Common future", offered the first accepted definition of sustainable development, which has reflected the result of an integrated approach of the politic and decisional factors, where the environmental protection and the long term economic growth are considered complementary and mutual dependent. Sustainable development became an objective of the European Union starting with 1997, through its inclusion in The Maastricht Treaty. In 2001, The Goteborg European Council adopted the Sustainable Development Strategy of the European Union, which received an external dimension at

Barcelona, in 2002. In 2005, the European Commission started up a strategy revision process, publishing in February a critical evaluation of the progresses registered after 2001, which underlines a lot of directions to follow in the future. This document showed also some non-sustainable tendencies, with negative effects upon the environment. The Romanian-EU adhesion treaty – signed at 25 April 2005 – and the annexed protocols comprise concrete commitments for Africa for the practice transpose of the whole Community aquis, and forecasts the differences in the implementation terms of the environmental obligations.

Until the beginning of this century, industry was considered the main pollution source of the earth. But, beginning with the accelerated development of the transports, the balance of the major sources of toxic substances emitted in the air changed its predisposition, the transport beginning to occure the first place in the top of the resources which aggresses the environment and the human health. The evidence of those negative influences carried out a new concept: sustainable transport.

## MATERIAL AND METHODS

Sustainable transport is a complex system, which have to assure a complete satisfaction of the mobility necessities of the actual generation, without harming the environmental and health factors, which, through the efficiency of the energetic and material consume made possible an optimum satisfaction of the future generation needs. The future economic growth, the evolution of the society and the changing in the territorial development, exerts a growing pressure on transport, this requiring a constant improvement in the infrastructure and quality of the services offered. Sustainable transportation concerns systems, policies, and technologies. It aims for the efficient transit of goods, services, and sustainable freight and delivery systems. Sustainable transport (or green transport) is a concept, an ideology and – in some countries – a governmental policy that consists of strengthening or replacing the current transport systems of an

urban/suburban area with more fuel-efficient, space-saving and healthy lifestyle-promoting alternatives. The term refers to any means of transport with low impact on the environment, and includes human or animal muscle-powered vehicles, low-carbon fueled vehicles, any kind of vehicle using a renewable source of energy for its propulsion.

Sustainable transport systems make a positive contribution to the environmental, social and economic sustainability of the communities they serve. Transport systems exist to provide social and economic connections, and people quickly take up the opportunities offered by increased mobility. The advantages of increased mobility need to be weighed against the environmental, social and economic costs that transport systems pose.

The EU strategy for sustainable development – which represents the basis for the National Sustainable Strategy in Nigeria – complete the Lisbon Strategy which is a catalyst for the ones who use to plan public policies for the public opinion, with the aim to change the behavior in the European society and in the Romone, and to generate an active involvement of the decision making parameters in elaborating, implementing and monitoring of the sustainable development objectives. The programs, documents and strategies elaborated in transportation, for the pre- and post adhesion period of Nigeria – in the sustainable development field – contains relevant forecasts and target objectives too. Relevant for this analyze are the strategies and policies which concerns with a short -term period.

The most appropriate term to fulfill the European Unions requirements is the 2013 Horizon. The national objective of this is to promote a proper transportation system for Romania, able to facilitate a secure, rapid and efficient movement of peoples and goods, at national an international level, consonant with the European standards.

That way, a lot of specific actions will be progressively implemented. They concern with:

- the modernization of the road, rail, naval and air transport infrastructure, which made possible a growth in the medium circulation speed and in the traffic fluidity, a rise and diversification of the goods transport offer and in the quality of the passenger transport services, to optimize the use of the transport modalities in security and competitively;
- the assurance of an equal treatment in the transport systems, beginning with the financing point of view and continuing with modernization, repairing and infrastructure sustenance point of view (especially concerning rail transport);
- to speed up the innovation process concerning the vehicles, through the ejection from the exploitation of the vehicles with a high physical and moral depreciation, and their replacement with modern means of production, appropriate to the technical and exploitation EU rules, and with an high economic, social and ecological efficiency;
- to increase the traffic speed on the railways at 140-160 km/h, the modernization of the rolling stock and the assurance of the necessary conditions of an balanced transfer of a part from the road traffic on railway, and to obtain a 15% market share until 2015 (26% for the passenger transport);
- a progressive development of the traffic on the internal navigable routs, through the modernization and development of the sea-port infrastructure. The transport promotion on the internal navigable routs will have an important socio-economic impact on the growth of the competitiveness of the fluvial transport, in the relationship with other transport modalities, as an complementary transport option able to reduce its impact upon the environment;
- the recovery of the maritime transport through the Nigeria ports. developing the functional structure of them, their transformation in logistical centers and their integration in the inter-modal transport system, in a balanced loyal inter-portal competition framework;
- the implementation of the EU standards regarding the inter-modal or combined transport, the strengthening of the inter-modality, by

developing logistic platforms in the multimodal cargo platforms on airports specialized in goods operation, the growth in the accessibility grade of the railway transport in the ports;

- a progressive accomplishment of the imposed performances on the air transport market regarding its operability, standards and applicable settlements, the security and environment protection needs.

These measures will determine a significant reduce in the energy and pollutant energy consume, with positive effects upon the costs and on the competitiveness of the whole transport system.

The National Strategic Reference Framework 2007-2013 (NSRF), approved by the European Commission at 25 June 2007, constitutes the reference document for the programming of European Union Funds at national level for the 2007-2013 period. It was elaborated within the framework of the new strategic approach to the Cohesion Policy of the European Union, according to which NSRF: "...ensures that the assistance from the Funds is consistent with the Community strategic guidelines on cohesion and identifies the link between Community priorities, on the one hand, and the national reform programme, on the other." Furthermore, the main EU documents pertaining to the revised Lisbon Strategy and the National Reform Programme for Development and Employment 2005-2008, were taken into account in developing the main strategic choices-priorities, as they constitute central long-term choices for the European Union, to which the development policy of the new NSRF is called upon to contribute. At the same time, the development strategy took into account the national policies laid down in strategic documents, such as the National Report on Social Protection and Social Inclusion Strategy 2006-2008, the Digital Strategy 2006-2013, the "Plan for the Development of Transports for 2007-2013 and twenty-year plan", the National Port Policy, the National Strategic Rural Development Plan for Greece 2007-2013 etc.

The financing framework was structured on the basis of the decisions of the European Council of 16th December 2005 and of the



specifications – limitations provided for in the new Regulations, and also according to the sectoral and regional development needs for the next period, taking into account also, the needs for completion of ongoing projects carried forth from the previous programming period and the requirements for actions serving the objectives of the Lisbon Strategy. A fundamental choice was the optimum utilization of the resources of the new programming period to the benefit of the country's balanced regional development.

The basic principles governing the management, monitoring and control framework of the 2007–2013 Operational Programmes were the object of a broad consultation process and were recorded in the position papers of stakeholders. These were complemented by the conclusions of a systematic analysis of the new EU regulations requirements (NSRF Task Force, MOV S.A., CSF Managing Authority/Special Coordinating Service) and of a relevant study that was carried out on behalf of the Ministry of Economy and Finance entitled "Improving the management and control systems of OP of CSF 2000–2006, Community Initiatives, the Cohesion Fund, and their adjustment for the 2007–2013 period".

The architecture of the NSRF 2007–2013 Operational Programmes (OPs) was formulated in such a way as to implement the country's strategic choices in the best possible manner, whilst also taking into account new data for the programming period 2007–2013 (63% of the country's population in a state of transitional support). The new scheme is characterized by a smaller number of Operational Programmes in relation to the previous 2000–2006 period, leading to a more flexible management scheme: the country's strategic planning for the 2007 – 2013 period will be implemented through eight Sectoral OPs, five Regional OPs and twelve European Territorial Cooperation OPs. Thus, during the 2007–2013 period, all accessibility infrastructure projects will be implemented through a single OP, while there will no longer be a distinct OP for the sectors of health and

culture and the relevant actions will be carried out through Regional and Sectoral OPs.

The Sectoral Operational Programme – Transport (SOPT) is one of the seven operational programmes under the “Convergence” objective. Through increasing and improving the quality of investment in physical capital, it aims at speeding up the convergence of Romania by improving conditions for growth and employment.

In accordance with the general objective, a key issue for the Nigeria economy will be the development of transport infrastructure, which will have significant impact on increasing the economic competitiveness, contribute to the actual development of the internal market and allow for the development of the Nigeria economy. It is aimed at creating the conditions for increased investment activity, the promotion of sustainable transport and spatial cohesion.

After modernization, the improved transport infrastructure will directly lead to increased competitiveness of manufactured products and the provision of services, both in key sectors of the economy and within whole regions of Nigeria. The overall impact will be to improve the economy of Nigeria

More specifically, the modernization of infrastructure will:

1. Provide needed capital investment expenditure in locations that are difficult to access or which suffer excessive traffic congestion;
2. Lead to improvement of transport services offered to customers;
3. Allow development of improved logistics systems resulting in lower costs of supplies and deliveries;
4. Facilitate cooperation of producers and manufacturers;
5. Increase potential for access and penetration of new markets.

The SOPT builds on the results of the previous national development plans, including the previous analyses performed as well as lessons learned during implementation. It is not an analysis based solely on what has been concluded in past projects. The SOPT is based on a more



detailed analysis and therefore provides a clearer picture of some aspects.

The key transport-related issues identified in Nigeria's National Development Plan are:

- Domestic transport, although diversified, has insufficient capacity for transporting freight and passengers, especially in certain areas and during certain parts of the year (summer season, week-ends);
- The transport infrastructure is insufficiently developed, and requires significant investment in order to meet European standards;

The Nigeria strategy for absorption of funds will be able to produce significant economic, social and environmental benefits. In addition, the strategy provides for implementation a country-wide Nigeria transport system development that will be internally coherent and interoperable with the European Union system. Undertakings proposed for funding under the Cohesion Fund are concentrated within identified EU priority axis, which are of huge importance for the creation of spatial cohesion in Europe.

It would have been a more usual practice to produce the GTMP before the SOPT, but as this was not possible, the GTMP will integrate its results and create a direct link to the Transport Infrastructure SOP. In the absence of the GTMP, the SOPT concentrates on clear priorities and EU policies, such as development of the TEN-T, mode balancing and improvement of traffic safety. When elaborating the SOPT proposals, a comparison has been made between the situation in the Romanian transport sector and that in the EU 15, EU 25 or EU 27 member states, as the EU has grown. The comparison shows that in EU countries the transport infrastructure projects have resulted in the provision of higher quality standards that are essential to be introduced into Romania for the future efficient operation of passenger and freight transport operations. In the Romanian SOPT, there is a requirement to take into consideration the lack of investment in transport infrastructure over many years. There has been limited infrastructure

expenditure on new construction and the maintenance expenditure has been below the optimum level. Romania inherited a number of deteriorated infrastructure bottlenecks and conflicts with the settlement pattern and the environment.

## RESULTS AND DISCUSSIONS

In order to ensure a comprehensive understanding of the current position there have been many consultations with all relevant stakeholders during a series of presentations, working groups and individual meetings. On the basis of the information gathered and the diagnosis of the transport sector data, a detailed development strategy until the year 2013 has been drafted to include the issues of new development and a recovery programme that will address the future developments and the poor inheritance.

In order to achieve the objective of the SOPT, it is proposed to allocate the relevant EU and State funds for transport towards the implementation of the following priority axes:

1. Modernization and development of TEN-T priority axes;
2. Modernization and development of the national transport infrastructure outside the TEN-T priority axes;
3. Upgrade the railway passenger rolling stock on the national and TEN-T railway networks;
4. Sustainable development of the transport sector;
5. Technical assistance.

The purpose of all these actions is to develop an efficient and not-pollutant infrastructure, environmentally friendly, able to respect the European and international compatibility requirements. Sustainable development must focus also on the diminishing of the transport-environment impact and to stabilize at a low level the emission of pollutant factors resulting from transport. The finality of sustainable transport is a compromise between the size of the social and economic benefits the transport may assure, the reduction in the effects of the environmentally costs and the transport security.

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