

Special Bucharest Conference

"How can the EU generate a virtuous circle in the Black Sea Region – the case of food and energy security"



Bucharest, April 26th 2016

CONFERENCE REPORT **-FINAL CONCLUSIONS-**

FINAL CONCLUSIONS ON ENERGY SECURITY

Energy security is defined by availability and reliability of resources, but also by environmental sustainability. Last years have brought a significant impact on energy security. Technological innovation is shaping energy market at an unprecedented pace and democratizes a commodity that had strong strategic content. Technology has increased significantly the supply of energy. Demand side has also been influenced by innovation, through reduced consumption for industrial processes and end-consumer appliances alike. This changed the dynamics of energy policy and strategy in South-East Europe as well and presented the region with a unique opportunity of breaking the vicious circle of energy dependency.

The discussions reached a series of conclusions that can develop into action points to be tackled for European and national decision-makers:

1. **More than just gas:** Energy security has to be looked upon in a broader sense, covering gas, as well as coal, renewables, electricity and heating
2. **Building regional cooperation:** South-East European countries need to build better relations and cooperate closer with each other in order to ensure regional stability and security and the EU should encourage and support such a partnership
3. **The energy paradigm shift:** The fundamentals of the energy market are changing due to oversupply of resources and technological advancements, democratizing a traditionally-strategic market.
4. **Better planning, thorough acting:** Europe needs to rethink the way it builds projections to better reflect market realities and better plan and finance future projects
5. **From supply to demand:** There is no longer a seller's market, but increasingly a buyer's market and this paradigm shift should be reflected in national, regional and European policies.
6. **Europe's new growth engine:** Economic prosperity will come from developing economies and New Europe has to take the initiative of bringing Ukraine closer in order to achieve a new economic corridor between the Baltic Sea and the Black Sea.
7. **A new dimension of energy security:** Cyber security has become a real threat that can be mitigated through establishment of best practices, national task forces dedicated to energy security, and moving away from the tradeoff between cyber security and cost;

Further on, this paper will develop and argue each of the points mentioned above, while keeping Black Sea region as the main focus.

Overview

What mechanisms are in use in order to measure energy security? One way is by observing the International Energy Security Risk Index (IESRI), an analysis released every two years by the Institute for 21st Century Energy. In 2015, Romania was ranking 15 out of 70 countries measured (961 points), the best score for Central and Eastern Europe, similar with Turkey (1087 points) and far better than Bulgaria (1419), Serbia (1478) or Ukraine (2009). It is also worth mentioning that all countries in the region have made progress in this index, although there are still large gaps between them. However, this can be misleading in Romania's context, having challenges to tackle in production capacity, especially coal fueled power plants.

Country	2013 score	2015 score
Romania	1000	961
Turkey	1189	1087
Bulgaria	2425	1419
Serbia	2060	1478
Ukraine	2237	2009

*Source: <http://www.energyxxi.org/sites/default/files/InternationalIndex-Final2013.pdf>

Access to energy remains a big issue due to energy poverty in the area. One third of Bulgarian households are unable to keep their houses warm, while in Serbia the number goes to around 40%¹. All these aspects indicate that state-owned energy companies became a guarantee of social security in South-Eastern Europe, being decoupled from the free-market mechanism and eating up large amounts of subsidies each year. Unfortunately, investments have been limited until now in Serbia. In terms of energy intensity, Romania's is 2.5 times higher than EU-28 average. The other countries, like Bulgaria or Serbia, are 5 or 6 times higher.

Country	2013 index	2014 index
Romania	243	235
Bulgaria	430.7	448.8
Serbia	487.4	441.9
EU 28	128.3	122

*Source: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdec360&plugin=1>

¹ http://ec.europa.eu/energy/sites/ener/files/documents/INSIGHT_E_Energy%20Poverty_Appendices.pdf

1. More than just gas

Although acting as the VIP of energy over the last 10 years, natural gas is becoming just one dimension of many in the energy mix of South-Eastern Europe. Even for countries such as Ukraine, the situation changed dramatically in just 5 years. Ukrainian gas consumption went down from 100 bcm/year to 35 bcm/year in 2015 and the country has cut imports from Russia to half². Looking at local resources, the Black Sea has a good resource potential, but it will take time to harvest benefits because of commercial, technical and geostrategic issues that need to be overcome. One direction to be developed is the Central and SE Europe Gas connectors. But Romania, and SEE countries in general, needs a predictive, predictable and stable legal and fiscal tax environment in order to catalyze such developments and harness the window of opportunity presented. Through regional cooperation, under the guidance of the European Union, this is possible. There are examples of success stories in such a sense, the Baltic energy markets interconnection program. SEE Region can have a shared vision and converge in terms of energy intensity and access to energy but the European Union should accelerate financing, in order to overcome the gaps in security. There is a need to implement a Marshall plan in the Balkans and Black Sea region in order to get out of the vicious circle of energy diplomacy.

Moving away from conventional resources, 10 years ago, the projection for renewables was at a minimum, but its share increased far more than was estimated. Technology will continue to disrupt projected supply and demand in value and volume. The cost of gas, coal, wind and solar is converging. Generally, solar and wind are becoming cheaper than coal and gas. It has been proven that only some form of gas generation is cheaper than coal, solar and wind. This price conversion is creating a whole new set of choices and the way we approach these choices will define the security of each country's energy mix.

The electrification of the energy sector, both in transport and buildings, is the new name of the game. Speed of innovation is growing, even in buildings performance relatively to electricity consumption and Europe and neighboring countries have to be very agile in keeping the game high or stepping up the game.

2. Building regional cooperation

The Balkans and the countries around the Black Sea have had a poor track record of cooperation. It is high time this changes, as there is a good opportunity to achieve sustainable energy security, if all actors collaborate. In this regard, it is worth mentioning that all countries in the region are well diversified in energy mix (nuclear, coal, hydro, renewables), bringing the region one step closer to collaborating throughout the energy mix.

² https://ycharts.com/indicators/ukraine_natural_gas_consumption

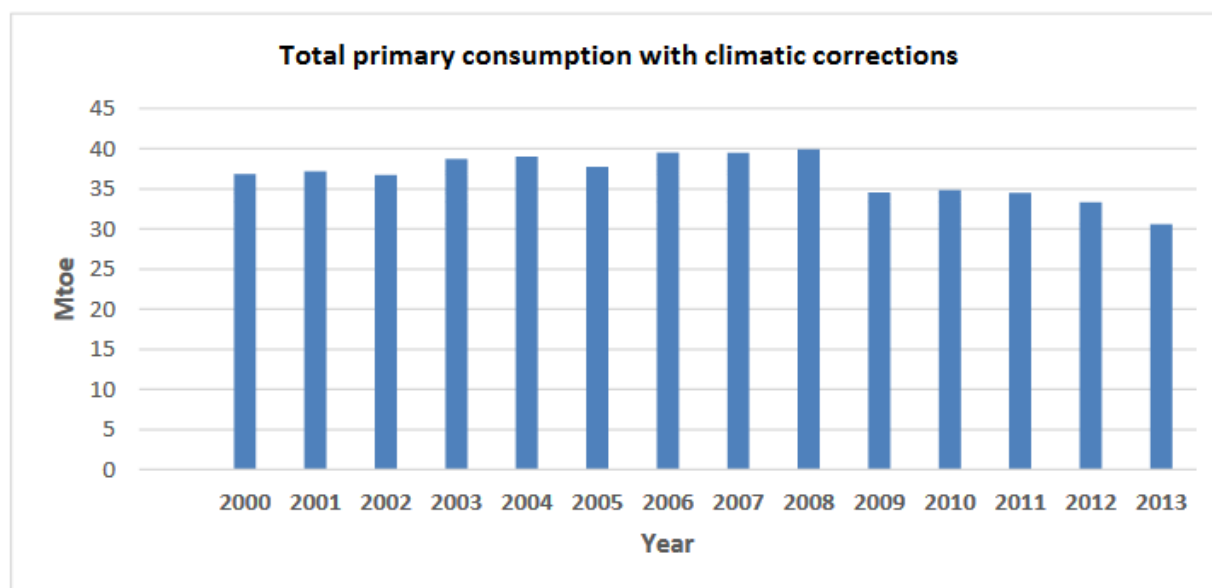
As changes are fast on a global scale, Europe cannot afford any longer to wait 28 countries to agree individually. Brussels has to facilitate development that meet the needs of each region rather than of each individual country. Western Europe has a very different action plan than Eastern Europe, therefore making it hard to set an order of priorities.

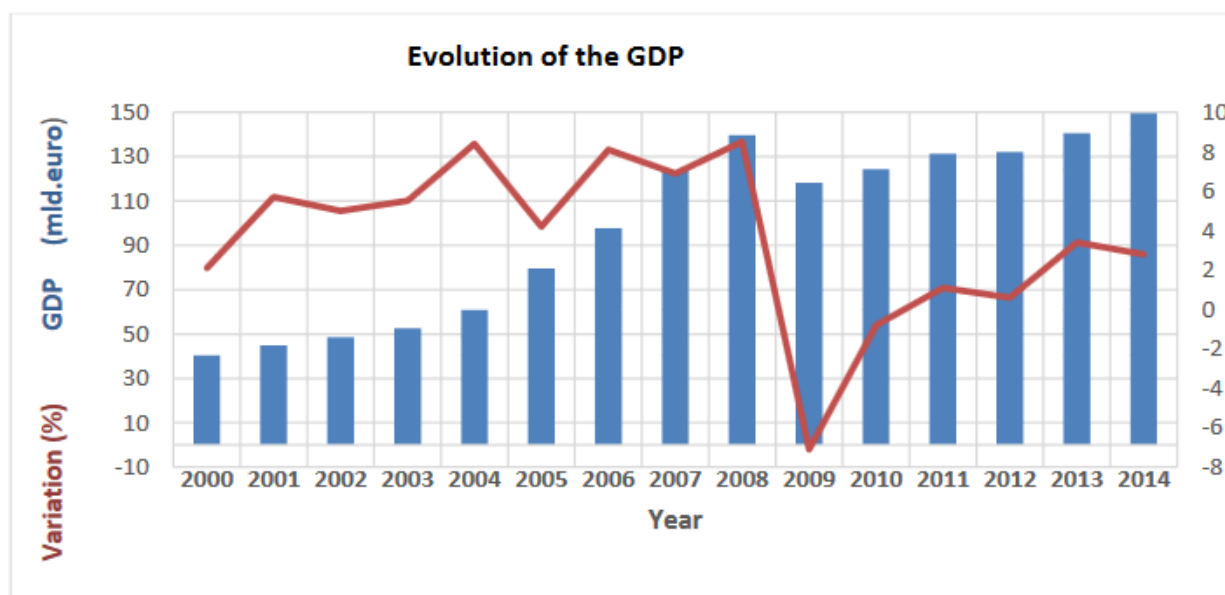
Regional cooperation can multiply the security index growth factor inside the European Union. This will be achieved only if EU policymakers think of ways to facilitate it, rather than thinking of ways to integrate all 28 countries at once. It may actually make the final integration easier, as priorities will start converging to a common denominator.

3. The energy paradigm shift

Energy is changing completely and we find ourselves in a rapidly advancing global energy revolution that requires new policy and process architectures. There is no secret that prices for renewables are going down year after year as equipment performance evolves, but there are also additional quantities of hydrocarbons coming to the market, a subject this paper will address later on.

We can see how energy efficiency has improved just by looking at energy primary consumption and GDP trends in the last 5 years in Romania. While the first declined by 15%, the latter grew by 16%. The trend shift is evident when looking at the historical data in the tables below.





Source: Romanian Energy Regulatory Authority

Furthermore, Global GDP is projected to grow over the next 25 years by 200%³, while global energy consumption is projected to register only a 37% increase globally⁴. Therefore, the correlation between economic growth and energy consumption is becoming obsolete.

These facts are game-changers that will make things unpredictable. Europe needs a new political arrangement, both confrontational and inclusive. Debating the inclusive approach, we need a new platform in order to discuss in a very open way the future of energy, in order to secure availability, reliability and sustainability of the energy market of the future. Talking about the confrontational approach, each individual market should be aware that today's changes leverage the buyer's power.

4. Better planning, thorough acting

The giant, white elephant projects are no longer the name of the game in Europe. Europe's LNG capacity, which is of 197 bcm, is just 20% used and other projects, currently under development, will enter the European market in the coming years. Projection of gas consumption for 2015 was 600 bcm, but eventually it turned out to be 400 bcm⁵. Is Europe making wrong decisions? Not just Europe, the whole world. Only in 2015, USD 380 billion worth of investments were cancelled⁶.

³ <https://data.oecd.org/gdp/gdp-long-term-forecast.htm>

⁴ https://www.iea.org/publications/freepublications/publication/WEO_2014_ES_English_WEB.pdf

⁵ <https://ec.europa.eu/energy/sites/ener/files/documents/LNG%20consultation%20-%20publication.pdf>

⁶ http://www.bloomberg.com/news/articles/2016-01-14/oil-slump-seen-delaying-380-billion-worth-of-upstream-projects?utm_content=buffer6a1b3&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

At EU level, there are lots of talk, but few deliveries. First of all, Europe has to improve projections. Having the right data, right engagement of stakeholders should be the top priority for analysts when preparing reports. These documents represent the foundation of investment decision-making. Geopolitics cannot be blamed. If we take oil, for example, the impact on price was minimal, irrespective of the conflicts in regions with high reserves. Secondly, the EU, in general, and SEE region, in particular, focuses too much on gas, missing a whole series of other opportunities, while analysts try to make pipeline project look feasible. Romania, Bulgaria, Turkey, Greece, Serbia, all these countries focus on becoming a regional gas hub, but they will never be more than a transit area.

The new VIP topics should concentrate more on innovation and electrification in order to keep up with the game. Energy efficiency (buildings and machines alike), cyber security, grid connectivity solutions, battery technologies are just a few of the points where advancement, both radical and incremental, is achievable in the near future. Moreover, cooperation, and not domination, will ensure a higher percentage of implementation for planned projects.

5. From seller to buyer

Energy market is “democratizing”, as the shift from supply to demand security is in its final stage. We are marching through the era of resource abundance, more energy than the economy can absorb. The market will continue to be flooded with even more resources from big suppliers such as Iran, Brazil or Australia in the coming years (starting with 2018⁷) the last will produce half of the gas Russia currently sells in one year. This actually means a huge supply. Demand map is also changing. It is no longer richmen’s clubs, with Europe and USA dictating consumption. It is the Asia-Pacific nations setting up the tone, namely China, India or Pakistan. Moreover, 15% of incremental consumption growth will come from these countries⁸. By 2050, even countries like Saudi Arabia if it continues to consume its oil at the current level, will start importing. Egypt already turned into consumer from producer, but they will become again self-sufficient when commercial exploitation of the Alexandria field will commence. In the United States, LNG import terminals were converted into export terminals as the country became self-sufficient. Shale gas became the biggest unintended gift to EU from USA.

This unique situation in recent history presents itself with a series of opportunities. Buyers have improved their negotiation power. They can choose from whom they want to consume energy, its price. For Black Sea and SEE, Southern gas corridor was historically seen as the solution. Today, although active, the corridor is not yet a

⁷ http://www.appea.com.au/wp-content/uploads/2015/05/APPEA_Key-Stats15_web.pdf

⁸ <http://www.imf.org/external/pubs/ft/weo/2016/update/01/>

proper corridor, but rather a distribution line, having a capacity of just 16 bcm/year⁹. However, in the future it can become a huge transit line.

Europe should be a strong supporter of the Southern Corridor, not necessarily for its needs, but for Turkey's need to reduce gas dependency from Russia. Another big change comes from the increased investment in renewables which was higher than conventional, a fact that adds to the whole energy proliferation crisis, but stands for the shift from Oil and Gas Era to the Electron Era.

6. Europe's new growth engine

Asian countries continue to grow strongly. We see the importance of creating new, adequate policies, not only for stability and security, but also for growth in Europe. But it will not come from old member states. It will be Central and Eastern European countries that will take the lead. The New Europe, and the European Union should invest both politically and economically in order to ensure long-term sustainability of this new growth engine. Brussels needs to work on new economic policies, liberalization of so many regulations which are currently perceived as continuous pushes to fragmentation, even inside developed European economies.

However, CEE countries need to turn the perspective as well and act not so much as beneficiaries, but as contributors, to create technologically advanced, as well as militarily strong regions. The historical concept of the Intermarium¹⁰, a political, economic and industrial zone between the Baltic Sea and the Black Sea seems closer to a dream than to reality, unless Romania and Poland take the initiative of bringing Ukraine closer. This should be South-East Europe's strategic goal and the European Union should empower the region by backing the initiative politically and economically. Nevertheless, it is a difficult task, taking into account that there were a lot of armed conflicts over the last 65 years around or nearby the Black Sea.

Ensuring prosperity in Central and Eastern Europe means ensuring stability in the whole Europe and beyond. Regional action with EU support will sustain another strong growth region inside Europe, will bring the Black Sea region closer to stability, but will also make Europe regain the momentum, lost during the crisis, of a real European Union. A north-south pipeline, electricity and gas interconnections with EU border countries and closer economic cooperation are the main ingredients.

7. A new dimension of energy security

The December 2015 case of Black Energy attack in Ukraine brought cyber security in the spotlight. Today, the energy sector, despite investments and security threats, is still driven by basic market rules and by profit. This results in a situation of a tradeoff between security and cost. In the race to reduce costs, we lost sight of the importance to protect critical energy infrastructure. Europe should not forget that no matter

⁹ <http://www.naturalgaseurope.com/southern-gas-corridor-and-eu-gas-security-of-supply-22688>

¹⁰ <https://en.wikipedia.org/wiki/Intermarium>

what, the energy security will be relying on a chain of infrastructure, from extraction and generation to local distribution. Thus, the European Energy Union will be only as strong as its weakest link and will bring new vulnerabilities that could be exploited by aggressors.

Who could be interested in launching attacks on energy infrastructure? State actors (that can achieve strategic advantage, intelligence gathering or sabotage), cyber terrorists (who a few years ago were a potential threat, but today they are a real, everyday threat, with high social and economic impact) and hacktivists (their purpose is just to protest, not to destroy). Cybercrime does not have a direct motivation; it usually has a financial interest in the back, while some do it just to show they can.

What type of measures should be taken in order to protect it? What should an efficient protection strategy include? How do we respond to accidents? How do we contain the damage and start the recovery? How to engage all the stakeholders to prepare, prevent and control the consequences of a successful attack? While there are many questions around the newly formed dimension of cyber security, there are a series of actions that can be undertaken. On the one side, focus on prevention and resilience, on the other, focus on responsiveness. This translates with implication on a regional and national level. Inter-agency coordination, that brings together the separate bodies and needs to bring the representatives of the private sector at the table. People need to be aware what the dangers are and the consequences associated therewith. By 2020 there will be 30 billion smart devices on the internet, including smart meters. National awareness and regional cooperation is intended to ensure top-down and bottom-up actions. If something happens on a site, there has to be a mechanism of cooperation between national entities in case of incidents.

Creating national task forces dedicated to energy security, for auditing, awareness and disaster recovery represents the hands-on solutions that would mitigate the risk and prepare Europe for cyber and security threats. Regional and international coordination is high on the agenda, but only if the national sectors have their own shop cleaned and cleared out. Nonetheless, Europe has to view cyber security as an investment in the future, contributing to the availability, reliability and sustainability of energy.

The way forward

The Black Sea region has a unique opportunity of addressing historical setbacks in its road of harmonized development. As shown in this document, creating a virtuous circle around energy security is not only feasible, but has a good chance of success, given the radical shifts of the global energy market topology. The main action points to success are regional cooperation, better planning and market understanding, fostering innovation, renewal of Europe's growth engine and preparing for modern threats. In this quest, Europe as a whole may even regain its vitality and common

voice, while South-East Europe and the Black Sea Region can make sustainable, long-term progress in ensuring energy supply and efficiency.

FINAL CONCLUSIONS ON FOOD SECURITY

Food security panel members of the Conference, following the discussions have reached the following conclusions:

1. Innovations to develop high added value sectors: animal husbandry, manufacturing.

A change of coefficients in a while, would reflect technical progress or simply the innovations made by this sector. However, this change does not occur in isolation; the interdependence between sectors of the economy brings a new equilibrium with innovation.

Despite the transition in technology, taking into account product innovations and process only developed countries could maintain a share of value added in production at the same rate over the next period, while other countries have deteriorated substantially due to the production decline. The reason for prices decline seems to be the same as for the food - squeezing prices to buyers from retailers.

Europe will be challenged by increased competition for limited natural resources and finished with the effects of climate change, in particular on primary production systems (agriculture, including animal husbandry and horticulture, forestry, fisheries and aquaculture) and the need to provide a sustainable supply of safe food and safe European and an increasing global population. A 70% increase in food supply worldwide is estimated to be required to feed the 9 billion global population by 2050. Agriculture covers approximately 10% of emissions of greenhouse in the Union, and while they are declining in Europe, global emissions from agriculture are projected to increase by 20% by 2030. Furthermore, Europe will need to ensure sufficient supplies and sustainably produced raw materials, energy and industrial products, under conditions of decreasing fossil carbon resources (oil and liquid gas production is expected to decline by about 60% in 2050), while maintaining competitiveness.

2. Undeveloped infrastructure, including irrigation.

Development of irrigation systems, serving a more than a farm requires coordination systems and some form of property rights, at least to identify who has what rights

to use, manage and exclude others from the land associated infrastructure and water. Even for individual wells and rainwater, so more and more people begin to irrigate, they impact other users of the basin, and some form of coordination and the rules governing water use can help prevent conflicts and provide users some assurance that their investments in irrigation will be sustainable.

3. Poor organization of farmers structures to facilitate their access to the market: associations, cooperatives, producer groups.

The following issues will influence the degree of agricultural associations of farmers:

- A farmer's level of dependence on the results of organized activity.
- A degree of certainty availability outputs.
- The extent to which the outputs will only be available as a result of collective action.
- The extent to which a collective action associated rewards are distributed fairly.
- The availability of a reward in a reasonable time.
- A measure that rewards are proportionate to the costs of continued participation

4. Trade balance deficit, dominated by products with low vegetable processing sector.

Export performance is often linked to a nation's development stage and the export performance of countries geographically close. From 2002 to 2013, the value of all extra-EU transactions (total imports and exports in euros) of agricultural products increased by 87%. Annual rates growth, however, slowed in recent years. Export growth has seen a downward trend in 2012, a slight recovery took place in 2014 and continuing this trend for 2015. Demand for agricultural products is growing, mainly driven by global population growth and diversification in nutrition and diets in more animal products is a result of higher average income.

5. The general insecurity in the region, driven by conflicts and migration.

Third Millennium began with a declaration of war between terrorism and democratic societies. The latter proposed a global democratic revolution, declaring peace and security as the supreme value of global legal system. Facing new threats of the world - terrorism, nuclear proliferation, illegal migration, the government's failure (failed states), hunger, environmental degradation, etc. - UN Charter assumed the role of guarantor of peace and social progress. Noting that 2014 is the International Year of Family Farming, FAO encouraged countries to increase support for farming families in the region by ensuring access to appropriate technology, financial services, markets and natural resources such as soil and water.

6. The degree of accessibility still low of the farmers with small farms to specific services.

An objective to facilitate farmers' access to innovative services that enable them to increase agricultural production and the development of a family business, could be the implementation of rural credit, these simple steps:

- examine the availability and affordability of credit in rural areas
- determination of the items of small farmers
- choice of the creditors
- identify expectations of farmers from these loans
- regulation of institutional rules to access these loans.

7. Promoting land consolidation through land consolidation, which requires specific legislation.

Environmental conditions are a growing priority. Roads are built to fit the landscape. Watercourses are restored, often with buffer zones. Land consolidation projects are also used to protect wetlands and changing land use patterns particularly in areas threatened by frequent floods and soil erosion.

Land consolidation now comprises village renewal activities. Projects include provision of suitable land for new homes, jobs and improve living and working conditions. With the changing rural economy, previously used for agriculture buildings are renovated and transformed into other social and commercial purposes. In line with other changes in the concept of rural development, land consolidation now placing increasing importance on gender inclusion, participatory approaches and the use of mediation and alternative dispute resolution in conflict resolution.

8. The food loss is due to reduced capacity food storage and management that favors the generation of waste food.

Food waste is reported internationally by FAO, as a widespread phenomenon, affecting the food security worldwide. In this context, both international organizations and European institutions and national governments have begun to review the normative acts regulating action plans on food waste and objectives.

Although increased accessibility to food sources in the world there are still high levels of malnutrition. Food production is lost either during or after the time wasted by the inappropriate consumption, inadequate marketing strategies and legislation. An objective analysis of the global situation would fail to point out that before the challenges along the food chain, more important is a culture of consumption still weak nationwide. For sustainable consumption and responsible information campaigns are needed, which should be conducted freely through communication and action groups at local and national level. Consumers should be instructed to

assess their own consumption, including food arriving fastest to be discarded and what quantities should be procured without excesses.

9. Brain migration through young professional workforce emigration

Brain exodus or human capital leak represents the migration of well-educated, highly skilled workers. Regarding solutions to limit brain exodus, migration cannot be politically banned due to human rights and free movement rights. But, on long term, governments have to adopt efficient measures to prevent brain drain phenomenon. On one side, emigration from South to Northern Europe and from Eastern to Western made damages in the origin country. On the other hand in some host-countries, brain exodus is a threat to local qualified citizens, afraid of losing their jobs for other EU citizens. Actually, at an international level, there are just a few countries, like USA, Canada and Japan, capable of transforming the new workforce in productivity and economic development.

10. Poorly funded research, which requires knowledge of structural adaptation to market requirements.

Types of good practice mainly fall into four areas, namely:

- Supporting the rights of the poor and access to natural resources;
- Supporting knowledge and accountable and participatory processes counseling;
- Engage the rural producers of agricultural and related markets;
- Support the participation of rural people in political processes and governance.

Main ways to spur agricultural research:

- Strengthen the capacity of rural poor people by supporting their organizations;
- Facilitate and institutionalization of platforms for interaction between the various stakeholders;
- Flexible approach to the research process, focusing on accountability and regarding adaptation context.

11. The price volatility.

The Common Agricultural Policy of the EU has been provided with means to provide much of its support through intervention on boosting agricultural prices: that has been largely replaced by direct payments and environmental benefits that are decoupled from production - even if the degree of release is imperfect. Slowing grain production is mainly a phenomenon of the OECD, although even the developed countries recorded slower rates of growth in recent years.

Price fluctuations are both a normal attribute as a prerequisite for a competitive market. The essence of the price system is that when a commodity becomes

EUROPEAN LEAGUE FOR ECONOMIC COOPERATION

insufficient, its price increases, which lead to a drop in consumption and more investment in production. However, the efficiency of the price starts to go down when the price movements are increasingly uncertain and subject to extreme fluctuations over a long period of time.

More reforms of existing instruments, such as the Compensatory Financing Mechanism and Facility exogenous shocks in the event of the International Monetary Fund could help vulnerable countries cope in times of crisis by creating safety nets worldwide.