

The results envisaged to be obtained through the implementation of the project can be analysed at different time scales, being included in two categories:

- Short-time results;
- Long-time results.

Short – time results will be visible at the end of project implementation, consisting in:

i) the development of the RDI infrastructure through a new platform building, thus extending the existing research area at the UB level;

ii) the development of the national network for the long term socio-ecological through the extension and modernizing the research area of the regional research stations in Braila and Sinaia, through the purchase of last generation monitoring equipment;

iii) implementation of the most modern techniques of investigation/analysis in the fields of systems ecology and biology through purchasing of very performant equipments;

iv) designing of an informational system structured in accordance to the international standards, as to ensure a high level of integration for the data and knowledge in the fields of systems ecology and biology obtained through the creation and organization of the Bioinformatics and Modelling Department.

The results obtained will be monitored through the following indicators (2.7 Indicators):

- Built surface (m²);
- Modernized surface (m²);
- New created laboratories (nr);
- Modernized laboratories (nr);
- Jobs created (nr);
- Level of investments in high performing equipments (over 100000 EUROS);
- Level of investments in monitoring and field investigation equipments for the long term ecological research zones.

Long – time results will be obtained after the implementation of the project.

The main result of the project lies in **the realization of a research structure/platform** comparable to the similar ones from abroad, with active participation in the life of scientific/academic community and at the elaboration of long-term development strategies.

- An important dimension is the **collaboration of the research unit during some international consortia** meant to apply great research projects at the European level. A good example is the development of the extended infrastructure BORN (*Biodiversity and Observation Research Network*) for the development of the research and investigation processes which affects the loss of biodiversity and of its consequences, especially on the climatic changes, in which the research platform can have an important role as they reach pole in this domain from Romania. The institutional development and strengthening in the direction initiated by DSES-UB and continued by PCBE as a part of the newest and greatest challenge at European and global level is, at the same time, both a priority and an opportunity for the University of Bucharest. Since 2003, Romania has been a part of the International Long Term Ecological Research (ILTER), and since 2004 has been a member of (through the University of Bucharest) a Network of Excellency, ALTER-net (A Long-term Biodiversity, Ecosystem an Awareness Research Network) aiming at differentiating a long term interdisciplinary research consortium to study the complex relationships between ecological and socio - economical systems as parts of the socio-ecological complexes.

The research teams that will use the proposed infrastructure are part of different international and professional networks and associations, or partners of several international programmes and have submitted applications under the FP 7 call, synthesized in the following table.

Implication of designed infrastructure with other international programmes/projects

Crt.

Programme /Project

Name

Implication

1.

Network of Excellence

European Network of Excellence (NoE) for Inter and Trans-disciplinary Research on Complex Relations

Partners through the DSES (2004-2009)

2.

- Interdisciplinary network of national research institutes with expertise in landscape assessment, planning and management

Landscape's Europe Network/Headquarter Alterra/Wageningen/Netherlands

Partners through the DSES

3.

Professional European association

European Nature Conservation Network/ Headquarter ECNC – Tilburg/Netherlands

Partners through the DSES

4.

FP7

European Biodiversity Observation Network: Design of a plan for an integrated biodiversity observing s

Partners through the DSES

5.

FP7

Groundwater and Dependent Ecosystems: Impacts of Water Supply, Climate Change and Land-Use (

Partners through the DSES

6.

LIFE WATCH

Preparatory project for the Life Watch infrastructure for

biodiversity research



PCBE component of the network through DSES

7.

BMBS Action TD0901

Hypoxia Sensing, Signalling and Adaptation (2009- 2013)

COST network accessed through Department of Molecular Investigation MID

8.

BMBS Action 0903

Skin Barrier and Atopic Diseases (SKINBAD) (2009- 2013)

COST network accessible through MID

9.

BMBS Action 0903

Network of experts in the diagnosis of myeloproliferative disorders (MPD) (2009- 2013)

COST network accessible through MID

10.

BMBS Action 0704

Emerging EMF Technologies and Health Risk Management (2008- 2012)

COST network accessible through MID

11.

CMST Action TD 0903

Understanding and Manipulating Enzymatic and Proteomic Processes in Biomineralization (2009- 2013)

CO₂ST network accessible through MID and Department for Biotechnologies and Renewable Resources

12.

CM₂ST Action CM 0902

Molecular Machineries for Ion Translocation Across Biomembranes (2009- 2013)

CO₂ST network accessible through MID

13.

CM₂ST Action CM0903

Utilisation of Biomass for Sustainable Fuels & Chemicals (UBIOCHEM) (2009- 2013)

CO₂ST network accessible through DSES

14.

ESSEM Action ES0902

Permafrost and Gas Hydrate Related Methane Release in the Arctic and Impact on Climate Change -

COST network accessible through DSES and DBRR

15.

ESSEM Action ES0805

The Terrestrial Biosphere in the Earth System (2009 - 2013

COST network accessible through DSES

16.

ESSEM Action ES0805

Detecting evolutionary hot spots of antibiotic resistances in Europe (DARE) (2008 - 2012

COST network accessible through MID

17.

FA Action FA0901

Putting Halophytes to Work - From Genes to Ecosystems (End date: May 2013)

COST network accessible through MID and DSES

18.

FA Action FA0902

Understanding and Combating Porcine Reproductive and Respiratory Syndrome in Europe (2009 - 2013)

COST network accessible through MID

19.

FPS Action FP0903

Climate Change and Forest Mitigation and Adaptation in a Polluted Environment (2009-2013)

COST network accessible through DSES

The presence of the Department of Systems Ecology and Sustainability in different consortia, focused on new approached issues such as - environmental / biodiversity issues, environmental policies implementation, global changes can be easily observed from the presented table. The Neurobiology Laboratory has a close relationship with the laboratory of Prof. J. Schwarz in Hamburg, D.G. Margineanu, PhD from the Union Chimique Belge and Prof. Fernando da Silva from the University of Amsterdam who, through their research are among the names most often cited in the neurobiological field literature. At the same time there are certain collaborations with Biophysics and Modelling laboratories very active on the international scientific scene, such as the University of Heidelberg.

By creating this infrastructure, important perspectives are opened concerning the potentiality of collaborating among different components and the economic environment. A series of research directions, for example in the domain of Molecular Biology – molecular markers at humans and among different species of animals – will have a direct economical impact. Other directions open important channels of connecting the research activity and economical environment (molecular toxicology, microchips A.N.D. and other microdisposes used in nanotechnologies, the identification of ionic channels which are the target of the activity of anti-inflammatory agents). The knowledge produced by using this infrastructure will be transferred to different economic domains such as: biotechnology, human and animal health and the evaluation of genetic resources. The scientific services towards enterprises will be expanded as well as the **transfer of scientific products**

in various economic domains:

medicine, engineering, bio-technology, management of socio-ecologic complexes, inclusively the domain of measures, tests, attempts and certificates

. In this manner additional incomes will be obtained, besides those from the implementation of research projects, which will lead to the increase of personal incomes of the research staff and thus to the increase of life standard.

Developed in such a way to be integrated in extended networks of institutes, laboratories based on complementarities and multidisciplinary integration, **the proposed research unit will feed the informational system** which constitutes the essence of the system-support for the ecosystem and adaptive management (SSMEA). This will be done in strong relationship with the main beneficiaries of the activity results of this platform seen as social partners from the economical and administrative environment. The producing of trans-disciplinary knowledge in biology and systemic ecology will ensure **the decision making process concerning economical development, ecological and social security – sustainable development.**

In conclusion, **the long-term results**, will be visible in the following years after project implementation, and will consist in:

- Increase of the RDI infrastructure visibility in the international scientific field through the increased number of international projects in which the platform will be included;
- Diversification of research themes approached at the level of the platform (e.g. Biotechnologies);
- The increase of the scientific production;
- Increase of the educational activities quality;
- Enhancement of the technological transfer towards the economic and scientific fields;
- Increase the efficiency in assisting the decision making processes.

The differentiation and use of a set of adequate indicators, specific to every type of anticipated result (2.7 Indicators) assures the transparency of the project achievements and evaluation of the performances of the created structure. The following table synthesizes the main results and their way of quantification.

The anticipated results of the project, its implementations and their way of quantification

Planned results

Indicator

Increase of the RDI infrastructure visibility

- Nr. of networks in which the reserch teams will be integrated

- Nr of international projects in which the platform is integrated

Increase of the scientific production

-Number of publications, certificates, studies, participations in congresses, conferences, workshops (re

- Elaboration of complex studies, which integrates trans-disciplinary knowledge

Increase of the educational activities quality

-Nr. de doctoral thesis finalized

-Nr. of young reserchers members of the research teams of the platform

Enhancement of the technological transfer towards the economic and scientific fields

- Number of studies/services performed for the economical field

Efficiency increas in assinstance of the decizional act

- Nr. of partnerships with ONGs, decizional factors, local authorities, private economical agents etc.

-Nr. of studies for the decision makers

The results envisaged after the project implementation are in accordance to both the objectives of the domain D2 as well as with the operation 2.1 in particular.

In an indirect way, the results envisaged to be obtained through the research/development activities carried out at the level of the Research Platform in Biology and Systems Ecology will lead to a **sustainable economical development, development of international partnerships** by the increase of number of partners in joint EU projects, **attraction of a greater number of young researchers** and, not last,

the approach of new research fields

.