

BRIEF SUMMARY OF THE KNOWLEDGE BASED BIO- ECONOMY (KBBE) AND BIOTECHNOLOGY RELATED ACTIVITIES IN TURKEY

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Objectives of the KBBE-NET

The main role

To support the Commission and the Member States to achieve a coordinated effort in the development and implementation of a European research policy for a knowledge-based bio-economy.

Objectives of the KBBE-NET

Possible activities

- Strategic discussion and recommendations for establishing a European Research Agenda in the long term (FP7, and beyond) which should allow to build a European Knowledge Based Bio-Economy.
 - Contribution to the update of the Life Sciences and Biotechnology Strategy in 2007 and hereby revitalising the strategy.
 - Exchange of information between Member States regarding national research policies and mapping of activities including international cooperation.
 - Cooperation between Member States (joint research programmes, common infrastructures, training programmes...).
 - Other activities.
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KBBE and Industrial Biotechnology related activities in Turkey

Can be categorized as follows;

- research and developmental studies
 - political and strategical efforts and incentives
 - industrial and agricultural inventions and productions
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Institutions Conducting Research and Developmental, Educational Studies on KBBE related Activities

- **Universities** with the large facilities to conduct research projects regarding all aspect of BIOTECHNOLOGY and implementing educational programs related with the BIOTECHNOLOGY
 - **Governmental Institutions and Organizations**
 - Ministry of Agriculture and Rural Affairs, Ministry of Health, Ministry of Environment and Forestry
 - Departments, Directorates and Institutes working under the administration of those Ministries
 - Turkish Scientific and Technical Research Council
 - State Planning Organization
 - **Private sector organizations**
have very limited contribution
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Main Financial Sources For Supporting R&D Activities

- ❑ Turkish Scientific and Technical Research Council (TUBİTAK)
 - ❑ State Planning Organization(SPO)
 - ❑ Foundations of Universities
 - ❑ Very limited financial source from private sector
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Authorities and Institutions taking part in making policy, strategic planning and legislative regulations regarding the KBBE and Biotechnology related activities

- Ministry of Agriculture and Rural Affairs:
 - **General Directorate of Agricultural Research**
 - Ministry of Environment and Forestry
 - State Planning Organization(SPO)
 - Turkish Scientific and Technical Research Council (TUBİTAK)
 - Supreme Council for Science and Technology
 - Universities
 - NGOs
 - Association of Turkish Industrialists and Bussinesmen (TUSİAD)(Private sector organization)
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Recent Strategies and Plans regarding KBBE related activities for sustainable economic development of Turkey

- In recent "*Economical Development Plan*" prepared and published by SPO, **Industrial Biotechnology** is underlined as most important scientific research area to be supported
 - In "*Vision 2023 Strategies for Science and Technology*" document prepared collaborative work of Universities, NGOs and TUBİTAK, Biotechnology took important place in scientific research priorities of Turkey
 - *Supreme Council for Science and Technology* chaired by Prime Minister gave **Biotechnological Research** studies important place in state policy of Turkey for its economical development
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KBBE related Activities in Agriculture and Industrial Biotechnology of Turkey

- ❑ Large Agricultural Capacity and arable land areas of Turkey will be very important factor for providing feedstocks (crops, seeds, plants etc) to be needed for production **bio-based products** in future
 - ❑ Large feedstock capacity of Turkey will be good source for meeting the need of KBBE activities in EU member countries
 - ❑ Number of plants producing **bio-fuels (Bio-alcohol and bio-diesel)** are increasing in course of time
 - ❑ There are substantial number of enterprises producing food (such as baker yeast) and drinking materials (beer and wine etc) using conventional **Biotechnological Processes**
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“KNOWLEDGE BASED BIO-ECONOMY” UNDER TURKISH AGENDA

- ❑ Most of the technologies related to the KBBE are related to the agriculture in Turkey.
 - ❑ Turkey is a major agricultural producer.
 - ❑ Turkey is aware of the fact that application of new technologies to agriculture will play a major role in its development and growth.
 - ❑ Agri-food industry has been and will be the base for Turkish economic growth.
 - ❑ Turkey covers the “knowledge-based bio-economy” for its sustainable economic growth in its development strategies as other European Member States.
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Some areas related to KBBE and Biotechnology are;

- ❑ Plant improvement using combination of conventional breeding and modern biotechnologies (new genotypes with high yield and quality, resistant to biotic and abiotic stress factors)
 - ❑ Sustainable use of genetic resources (phytoremediation by using genetic resources and modern biotechnology)
 - ❑ Genetic improvement and preservation of farm animals
 - ❑ Food and feed safety and quality (determination of residues, contaminants, GMOs)
 - ❑ The use of waste agricultural products (i.e. biofuels)
 - ❑ Molecular characterization of plant and animal genetic resources
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National Benefits expected from KBBE and Biotechnology related Activities in Future

- ❑ Creation of market and new job opportunities
 - ❑ Contribution to the efforts of rural development of Turkey and reduction in the ratio of unemployment
 - ❑ Reduction in ratio of population employed in agriculture from avaragely 35% of total to lower values
 - ❑ Creating new job oppurtinunities will probably be solution to that serious **political issue** which was met at south-east region of the country
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FINALLY

- To benefit from KBBE and Industrial Biotechnology, Turkey needs to increase the number of scientists working in this area, and also it should not only involve technology transfer but also the creation of new products from rich genetic resources and benefit economically from the “nature and natural resources” nationally and also at European level, which KBBE-NET may provide such an opportunity during the candidacy period through cooperation and integration within the Framework Programmes.
 - Finally, KBBE (**KNOWLEDGE BASED BIO-ECONOMY**) **and INDUSTRIAL BIOTECHNOLOGY** are accepted in Turkey as a key for the sustainable development of the country because of its agricultural production potentials.
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**Thank you very much for
your attention**
