# Mapping Turkey's Resource Centers







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# ACRONYMS

TVET Typoa Uncsd Undp Unfpa	<ul> <li>Cattle Breeders' Association of Turkey</li> <li>Council of Foreign Ministers</li> <li>Development Assistance Committee</li> <li>Development Cooperation Forum</li> <li>Doctors Worldwide Turkey</li> <li>European Union</li> <li>Food and Agriculture Organization</li> <li>Gross National Income</li> <li>International Agricultural Research and Training Center</li> <li>Islamic Conferences of Health Ministers</li> <li>Islamic Development Bank</li> <li>Istanbul International Centre for Private Sector in Development</li> <li>International Labour Organisation</li> <li>Investment Promotion Technical Assistance Program</li> <li>Turkish Employment Agency</li> <li>Cancer Early Diagnosis, Screening and Training Centre</li> <li>Least Developed Countries</li> <li>Low-Income Food-Deficit Countries</li> <li>Millennium Development Goals</li> <li>Middle East and North Africa</li> <li>Official Development Assistance</li> <li>Organization of Islamic Cooperation</li> <li>Project Cycle Management</li> <li>Resource Center</li> <li>Sustainable Development Goals</li> <li>Strategic Health Programme of Action</li> <li>Small and Medium Size Enterprises</li> <li>Sub-Saharan Africa</li> <li>Social Security Institution</li> <li>Technical Cooperation Apgricultural Enterprises</li> <li>Turkish State Railways</li> <li>General Directorate of Agricultural Enterprises</li> <li>Turkish Cooperation and Coordination Agency</li> <li>Scientific and Technological Research Council of Turkey</li> <li>Technical and Vocational Education and Training</li> <li>Ten-Year Programme of Action</li> <li>Wi conference on Sustainable Development</li> <li>UN Population Fund</li> <li>UN Population Fund</li> <li>UN Population Fund</li> </ul>
UNDP	: UN Development Program

# ACKNOWLEDGEMENT

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The partner institutionsextend their thanks and appreciation to the Resource Center's focal points (see Appendix, A.4 for the detailed list) for their excellent cooperation insharing information about their institutions through interviews, questionnaires and profiles. We particularly extend our thanks to: Dr. Ayşe Özdem (Directorate of Plant Protection Central Research Institute), Zübeyde Albayram Doğan (International Agricultural Research and Training Center (IARTC), Dr. Hüseyin Velioğlu (Cattle Breeders Association of Turkey (CBAT), Vedat Karakaş (International Center for Livestock Research and Training (ICLRT), Sait Kocabay (General Directorate of Agricultural Enterprises (TIGEM), Mehmet Çoban (Nazilli Cotton Research Institute), Savaş Yılmaz (Turkish Green Crescent Society), Ali Doğan (Doctors Worldwide Turkey (DWWT), Assoc. Prof. Murat Gültekin (Cancer Early Diagnosis, Screening and Training Centres (KETEMs), Rusen Cetinkaya (Turkish Red Crescent), Prof. Dr. Hilmi Volkan Demir(The National Nanotechnology Research Center - UNAM Bilkent University), Prof. Dr. M. Kadri Altundağ (Hacettepe University Cancer Institute), Kerem Köker (İstanbul Metropolitan Municipality Lifelong Learning Center ISMEK), Filiz Açıkgöz (Turkish EmploymentAgency (İŞKUR), Tülay Dalkılıç (Farmer Training, Dairy Science and Technology Centers of SÜTAŞ), İsmail Özdoğan (Vocational Qualifications Authority (VQA), Mehmet Turgay Erol (Social Security Institution (SSI), Nuri Deliorman (Post and Telegraph Corporation (PTT), Faruk Akçay (EGO), Mustafa Ali Kurtbay (TURKSAT), İbrahim Çevik (Turkish State Railways (TCDD), Mustafa Kılıç (DHMI - Air Navigation Service Provider and State Airports Authority of Turkey), Prof. Dr. Abdullah Karaman (TUBİTAK MAM Earth and Marine Sciences Institute (EMSI), Yavuz Dede (IHH Humanitarian Relief Foundation), Hüseyin Alp Kaya (Prime Ministry Disaster & Emergency Management Authority (AFAD), K. Gökhan Elgin (Istanbul Governorship Istanbul Project Coordination Unit (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project), Prof. Dr. Haluk Özener (Boğaziçi University - Kandilli Observatory and Earthquake Research Institute).

"The Islamic Development Bank extends gratitude to the Government of Turkey, to Turkish institutions and to the Turkish civil society for their constant willingness to generously share their knowledge and expertise with other Member Countries. Turkey's current socio-economic position is ample evidence of the effective development journey the country has embarked on over the past few decades. The Islamic Development Bank firmly believes that Turkey's wealth of knowledge and expertise will help other Member Countries achieve their development goals. The Bank will, therefore, spare no effort to link other Member Countries with Turkey in the interest of greater cooperation and capacity development."

#### Dr. Ahmad Mohamed Ali

President

Islamic Development Bank

"Islamic Development Bank has always been open and cooperative in enhancing knowledge sharing among its member countries. We see Reverse Linkage initiative as a powerful mechanism to foster the catalytic role of the IDB in the area of South-South cooperation. We always encourage Turkish institutions to share their experiences with other member countries. I am confident that this study with its prioritization of the fields would enable us to enhance South-South cooperation among OIC countries. I personally thank SESRIC and IDB for this comprehensive report."

#### Mehmet Şimşek

**Deputy Prime Minister** 

IDB Governor of the Republic of Turkey

"...While recognizing the importance of South-South cooperation as acritical avenue for human and productive capacity-building, technical assistance and exchange of best practices among developing countries, I am confident that the "Mapping Turkey's Resource Centres" is an instrumental document which will contribute significantly towards enhancing OIC-wide South-South cooperation for the implementation of a wide range of socio-economic programmes..."

#### Amb. Musa Kulaklikaya

Director General Statistical, Economic and Social Research and Training Centre for Islamic Countries

"The realities of today's world require an inclusive international cooperation approach, which can move beyond short-term national interests to embrace the various problems facing the global world. There is a great need to develop a new partnership strategy with the understanding that the dignity of each human being is equal to that of the whole of humankind. Turkey is determined to play a key role in the establishment of such an understanding on a global scale by sharing its expertise and knowledge with other development partners. TİKA strongly believes that the number of success stories in development cooperation can be increased by joining efforts and capabilities..."

#### Dr. Serdar Çam

President

Turkish Cooperation and Coordination Agency

"This publication illustrates Turkey's critical role in South-South development cooperation. Through an exploration of Turkey's various centres of excellence, readers will grasp the depth and breadth of the substantive knowledge, expertise and technology that Turkey is offering to its partners around the world in sectors such as agriculture, health, education, communications, and emergency management. UNOSSC considers this unique study to be a valuable asset and a practical tool for expanding cooperation between the Member States of the Islamic Development Bank and other countries of the Global South towards the achievement of the 2030 Agenda for Sustainable Development"

#### Jorge Chediek

Envoy of the UN Secretary-General on South-South Cooperation

Director, United Nations Office for South-South Cooperation

# **EXECUTIVE SUMMARY**

In the post-global financial crisis era, many emerging countries are seeking opportunities to achieve development cooperation with other IDB Member Countries. In this context, South-South cooperation is viewed as one of the effective drivers for development that offers a framework for identification, matching and exchange of solutions to common problems and best practices for fostering development cooperation.

Moreover, Turkey has become a significant foreign aid provider and accumulated substantial development experience, know-how and technology to be shared with other developing countries. Against this backdrop and in the light of the fact that South-South cooperation gives the opportunity of transferring this knowledge amongst IDB Member Countries, the present study entitled "Mapping Turkey's Resource Centers" aims to provide an analysis on Turkey's emerging role in South-South cooperation, showcase the country's potential in some selected sectors and present profiles of Turkey's selected resource centersfrom public, non-governmental organizations (NGOs) and the private sector.

#### INTERNATIONAL DEVELOPMENT COOPERATION: OVERVIEW

Since the inception of the Fourth Cooperation Framework for South-South Cooperation 2009-2013, there has been an intensified commitment to South-South and triangular cooperation efforts. In this context, many emerging countries have now become among the important sources of technical knowledge, information and concrete development solutions, which are now being shared in other parts of the world. Within the system of OIC, the Islamic Development Bank (IDB) is the only multilateral development financing institution whose membership is drawn entirely from the developing South.

Resource Centers play a significant role in the development activity. All Resource Centers have in common the notion of excellence and they are described as organizational environments that strive for and succeed in developing high standards of conduct in a field of research, innovation or learning.

#### TURKEY'S INSTITUTIONAL CAPACITY FOR INTERNATIONAL DEVELOPMENT COOPERATION

Since 1991, Turkey has held observer status with the OECD's Development Assistance Committee (DAC), to which it reports the volume of its official development assistance (ODA) flows each year. From 2002 to 2014, Turkey's aid volumes rose from US\$ 85 millionto US\$ 3.6 billion.Turkey has thereby surpassed a series of traditional donor countries and most other emerging economies as an aid provider.

A wide variety of Turkish non-governmental organisations and government agencies such asthe Ministry of Health and the Ministry of Food, Agriculture and Livestockare involved in the implementation of Turkish development cooperation. However, the key player is the Turkish Cooperation and Coordination Agency (TİKA), which operates Programme Coordination Offices in over 48 countries.Turkish aid is focused on South and Central Asia as well as the regions of the South Caucasus, the Middle East and Sub-Saharan Africa.TIKA also recently widened its area of activities in the regions of East and South Asia, Pacific and Latin America.

Turkey's focus on bilateral aid is noticeable. Its bilateral development assistance encompasses project/ programme assistance, technical cooperation, cultural cooperation, restoration activities, shelter and housing, scholarships, support for refugees and emergency relief.

Turkey is also actively engaged in raising awareness in the international community and contributing to the efforts for finding solutions to the pressing problems of the Least Developed Countries (LDCs).

#### METHODOLOGY FOR MAPPING RESOURCE CENTERS

The Reverse Linkage division has undertaken the task of developing standard guidelines and supporting documentation that can be used during the mapping exercises for IDB countries. The purpose of these guidelines is to provide a consistent and structured framework to assess the capabilities of the RCs and identify those that qualify to partner with the IDB in providing innovative interventions to meet the capacity development demands of member countries.

Based on this guideline, comprising 12 steps, this report summarizes the 27 best practices which are identified out of approximately 50 through an objective evaluation process.

#### **PRIORITY AREAS**

In this study, five sectors have been selected to be focused on: (1) agriculture, livestock and food security; (2) health and nutrition; (3) technical and vocational education and training; (4) transport and communications; and (5) disaster and emergency management. These sectors were selected from among a wide range of areas where Turkey can offer expertise, knowledge and technologies to other IDB member countries. The selection criterion is mainly based on the twinning of the areas prioritized in the IDB's Vision 1440H document with those of Turkey's Tenth Five-Year Development Plan (2014-2018) where Turkey has significant experience and expertise in these areas.

#### **PROFILES OF THE SELECTED RESOURCE CENTERS**

This section provides profiles of Turkey's selected resource centers by priority areas. In each priority area, five to six resource centers have been selected in order to provide a more balanced picture of the institutional capacities that Turkey possess and is ready to share with other IDB member countries. These profiles have been preparedthrough questionnaires, activity reports, strategic plans, interviews and expert meetings. It is worth mentioning that these resource centers represent just a selection among a wide range of institutions. The 27 best practices have beenselected through an objective evaluation process.

On the other hand, the main criteria of Reverse Linkage interventions is the ability of RCs to co-finance Reverse Linkage projects. Different sources of funding such as government, membership, donation, foreign resources, international private institutions, development agencies contributions and self-funding exist concerning Turkey's selected resource centers.

# Mapping Turkey's Resource Centers

# International Development Cooperation: Overview

- 1. Since the inception of the Fourth Cooperation Framework for South-South Cooperation 2009-2013 there has been an intensified commitment worldwide to South-South and triangular cooperation efforts. This commitment is a response to new challenges to development resulting from rapid and uneven globalization, as well as the recent global financial crisis and its persisting repercussions on the real economy. In this context, many emerging countries in the IDB membership have now become not only among the key providers of development assistance worldwide, but also among the important sources of technical knowledge, information and concrete development solutions, which are now being shared in other parts of the world.
- 2. Although interest in South-South cooperation has grown significantly during the Fourth Framework, commitment from the countries of the Global South has been expressed steadily since 1978 when the UN Conference on Technical Cooperation among Developing Countries was held in Buenos Aires, which produced the Buenos Aires Plan of Action for Promoting and Implementing Technical Cooperation among Developing Countries. The by-products of this outcome have been observed in many South-South cooperation initiatives supported by the IDB member states over the last 30 years.
- 3. The Universal Declaration of Human Rights (UN, 1948), on the other hand, has evolved into an important constituent for the international development cooperation activities. The Declaration provided that all people were born free and equal and they must treat each other in a spirit of brotherhood. It stipulates the right for every person to a standard of living, including food, clothing, housing, medical services and the necessary social services adequate for the health and welfare of himself and of his family, and the right of mothers and children to special protection and assistance. In this respect, the overall objective of development cooperation is to provide assistance to poor and less developed countries by promoting their long-term social and economic human development, thereby contributing to poverty reduction, and ensuring peace and security in the world. These basic principles are also based on universal values as provided in the UN Millennium Declaration and other UN declarations, such as Johannesburg Declaration on Sustainable Development (Johannesburg, 2002), International Conference on Financing for Development (Monterrey, 2002), International Conference on Population & Development (Cairo, 1994). In contributing – among other things – to further improving the effectiveness of development cooperation, the Fifth Strategic Framework of the United Nations Office for South-South Cooperation 2014-2017 is designed with the objective of providing multi-layered support to the member states, at their request, and the entire United Nations system in bolstering South-South and triangular cooperation in the contemporary development setting.
- 4. South-South cooperation is articulated in the UN System as being a process whereby two or more developing countries pursue their individual and/or shared national capacity development objectives through exchanges of knowledge, skills, resources and technical know-how, and through regional and interregional collective actions, including partnerships involving governments, regional organizations, civil society, academia and the private sector for their individual and/or mutual benefit within and across regions<sup>1</sup>. Complementing South-South Cooperation initiatives isTriangular Cooperation, which is defined by the UN as "collaboration in which traditional donor countries and multilateral organizations facilitate South-South initiatives through the provision of funding,

<sup>1</sup> Nairobi outcome document of the High-level United Nations Conference on South-South Cooperation, adopted by the General Assembly in resolution 64/222 (2010).

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training, management and technological systems, as well as other form of support". According to the World Bank, triangular cooperation normally involves a traditional donor from the ranks of the OECD's Development Assistance Committee (DAC), an emerging donor in the South, and a beneficiary country in the South (Ashoff, 2010).

- 5. Moreover, the UN Development Cooperation Forum (DCF) was created by world leaders in response to the deep changes in the development cooperation landscape and the growing number of development cooperation actors. It reviews trends in international development cooperation and aims to facilitate coherence among the various development actors. The DCF is another multi-stakeholder platform which also brings together decision makers from developing and developed countries, parliamentarians, civil society organizations, local governments and private philanthropic organizations. It reflects on how development cooperation can best help achieve development goals and identify good practice that can be fed back into policy making at the country level.
- 6. The OIC Charter also refers several times to the term "cooperation" with a particular emphasis on both South-South and multilateral cooperation frameworks. This is most apparent in the determination of the member states "to promote cooperation among Member States to achieve sustained socio-economic development for effective integration in the global economy, in conformity with the principles of partnership and equality." The biennial UN-OIC Coordination Meetings, in this regard, serve as a critical platform for discussing some pressing issues facing, as well as ensuring a more concerted action in, the development of South-South cooperation. During the 2014 Meeting, participants underlined the importance of addressing social, economic and cultural issues facing IDB member states and acknowledged the need for greater cooperation between the two systems towards achieving the sustainable development objectives as set out by the UN Conference on Sustainable Development (UNCSD or "Rio+20") as well as Agenda 21. They also expressed their commitment to maintaining close coordination on Sustainable Development Goals (SDGs) – and the post-2015 development agenda in general. To this end, one of the issues recognized was the importance of, and need for, systematic support for South-South and triangular cooperation initiatives between the IDB member states and other developing countries. as well as building of institutional capacities in that regard. Towards intensifying cooperation and coordination on this front, the two parties agreed to leverage on the Multilateral Support Architecture for South-South Cooperation, developed by the United Nations Office for South-South Cooperation (UNOSSC). The Architecture will pave the way for the effective implementation of a number of internationally agreed development goals in the framework of post-2015 development agenda. More specifically, parties agreed to further expand the systematic activities in support to South-South cooperation agendas of the IDB member countries, including the documentation of successful Southern solutions and South-South trade opportunities, development of capacity for the implementation and management of South-South cooperation, as well as South-South cooperation in the promotion of people-centered investment activities.
- 7. Within the system of OIC, the Islamic Development Bank (IDB) is the only multilateral development financing institution whose membership is drawn entirely from the developing South. The articles of agreement of the IDB clearly affirm "harmonious and balanced development through mutual financial and economic cooperation amongst its members."
- 8. Indeed, the IDB has been promoting cooperation among its member countries through a variety of programs including, but not limited to, the Technical Cooperation Program (TCP), Trade Cooperation and Promotion

Program (TCPP), Investment Promotion Technical Assistance Program (ITAP), Capacity Building Program for IDB Countries, Alliance to Fight Avoidable Blindness Program, Bilingual Education Program, as well as Science & Technology Programs. The implementation of these programs has enabled the IDB to mainstream and scaleup successful stories and best practices through the concept of Reverse Linkages.

- 9. Reverse Linkages are specific cooperation activities whereby the IDB member countries are the principal, forefront and direct agents in the provision of expertise, knowledge, know-how, investments, success stories, best practices as well as other specialist services to address development constraints or exploit unique opportunities in other member countries. This is achieved through a mutually beneficial arrangement, whereby the IDB plays the facilitator role.
- 10. In the view of the above, the present study entitled "Mapping Turkey's Resource Centers" is expected to contribute to the IDB's Reverse Linkage interventions by identifying, assessing and analyzing the expertise, knowledge and technologies which Turkey not only possesses but also has shared with other developing countries in IDB's membership. The study focuses on a number of sectors which were selected from among a broad spectrum of areas where Turkey can offer knowledge and expertise to its partners in the Global South. The selection criterion is mainly based on the twinning of the areas prioritized in the IDB's Vision 1440H document and 10-Year Strategic Framework with those where Turkey has significant experience and expertise to offer development assistance.
- 11. The IDB 10-Year Strategic Framework has three strategic objectives, namely inclusiveness, connectivity for growth, and promoting the development of the Islamic financial sector. In this framework, it is envisaged that IDB will enhance its status as a partner-of-choice in the development of its member countries, anauthoritative reference on Islamic finance, and the most prominent facilitator of cooperation between member countries, and with Muslim communities in other developing countries.
- 12. Based on the new vision of the IDB and most urgent contemporary challenges confronting its member countries, IDB's Vision 1440H document identifies the mission of the Bank to be: "to promote comprehensive human development, with a focus on the priority areas of alleviating poverty, improving health, promoting education, improving governance and prospering the people." In alleviating poverty, the Vision 1440H recognizes the strategies and plans to develop the agricultural sector including the expansion of agro-land and irrigation, agro-skills development and distribution of seeds and fertilizers as an utmost priority. Turkey, on the other hand, hosts some of the leading resource centers operating in these selected areas covered in the IDB's vision which have the capacity and willingness to transfer some of their successful models, mechanisms and best practices to other IDB member countries. The selected best practices are believed to have helped Turkey achieve its current development status and, therefore, could be adapted and replicated in other IDB member countries in a contextualized manner to foster their own development processes.
- 13. The role of Resource Centers in the development activity cannot be underestimated. As an indication of the growing emphasis the country puts on innovation, Turkey increased the share of expenditures for research and development in its GDP, including both public and private, from 0.45% in 1996 to 1.01% in 2014. In a recent synthesis by OECD Directorate for Science, Technology and Industry entitled "Centres of Excellence as a Tool for Capacity Building", the resource centers are defined as "organisational environments that strive for and

succeed in developing high standards of conduct in a field of research, innovation or learning." Overall, there are no official criteria on what a Resource Center is and what is not, nor a fixed formula for establishingResource Centers. Given the absence of any official criteria developed by a third party, it is up to each institution (or funder of the establishment of resource centers) to decide what constitutes a resource center. In the OECD Synthesis, resource centers are grouped into three classes based on their main functions: namely, basic research, innovation and advancement of technological development, and social and economic development.

- 14. Regardless of strategic orientation, all Resource Centers have in common the notion of excellence, and the particular requirements that come with that label. Some of these dimensions are high research quality and productivity, resource attraction and concentration, international visibility and attractiveness (including staff recruitment), and organisational robustness (good governance).
- 15. A Resource Center can be established not only to perform one of the three functions stated above, but also to foster development cooperation itself. One such example in this regard is the UNDP Istanbul International Centre for Private Sector Development (IICPSD) which was established in 2011 with the objective, inter alia, of forming a Resource Center to provide capacity development activities, harnessing triangular development cooperation and South-South partnership, and promoting skill-building, access to enterprise-related finance, entrepreneurship and assistance to enabling actors.
- 16. The present study, in this overall context, aims to (1) provide an analysis on Turkey's emerging role in South-South development cooperation; (2) showcase the country's potential in some selected sectors; and (3) offer some policy offshoots in the light of preceding analyses. A methodology has been used to identify and select Resource Centers in this study, cf. Chapter 3. The study is rather intended to serve as an example for possible future extensions, in order to contribute to the development of a pool of best practices and resource centers in the IDB region. The majority of information and data used in the study is collected from the resource centers through questionnaires and interviews. A set of resource centers in Turkey has also been selected and profiled.

# Mapping Turkey's Resource Centers

Turkey's Institutional Capacity For International Development Cooperation

- 17. Turkey's transition from single to multi-party rule in the 1950s opened the door for the flow of foreign aid to Turkey (Kulaklıkaya and Nurdun, 2010). The Marshall Plan marked the country's first experience with the Official Development Assistance (ODA) as an aid recipient country (Oba, 2013). Since then, Turkey's role in the international aid community has changed fundamentally. New economic dynamics and an increasing sense of responsibility for promoting global peace through contributing to global sustainable development have both helped Turkey emerge as a new donor in international development cooperation activities. ODA has played an increasingly important role as part of the country's proactive foreign policy. Although Turkey still receives aid at a symbolic level, it is currently a net contributor to ODA. At the same time, Turkey continues to consider itself to be a developing country and emphasizes the fact that its cooperation with other developing countries takes place on an equal footing so as to lead to a win-win situation for both partners.
- 18. Turkey launched its foreign aid programme in 1985 when Turkey's then State Planning Organization (now Ministry of Development) worked out a comprehensive aid package worth US\$ 10 million destined towards institutional capacity building in a number of African countries; namely Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal, Somalia and Sudan (Kulaklıkaya and Nurdun, 2010). Since then, Turkey's status changed progressively from an aid recipient country to a net donor. The transformation of Turkey's development cooperation into a more coordinated one, on the other hand, was led by the changing international environment in the late 1980s, particularly in the Caucasus and Central Asia, followed by the emergence of newly-independent countries in the region. These countries were in urgent need of support in order to deal with the challenges of state building and economic transformation. This, in turn, required the development of Turkey's institutional as well as regulatory capacity for international development cooperation, and an effective mechanism for coordinated response.
- 19. Turkey's development assistance gained momentum after 2003 when the country's official contributions increased from only US\$ 67 million in that year to US\$ 339 million in 2004 (Figure 2.1, left). The sharp increase in ODA from 2003 to 2004 was accomplished by the gradual increase of ODA of Turkey in general after 2003. Besides, the adaptation of adequate data collection methods in accordance with the OECD's Development Assistance Committee (DAC) Guidelines<sup>1</sup> was also important. While the weak amount of coordination among the relevant Turkish government institutions was one of the major factors that kept the figures on Turkey's ODA flows at very low levels before 2004; the unavailability of complete data on development assistance, underreporting of in-kind support as well as the lack of awareness of the international criteriafor aid calculations also contributed to the situation.

<sup>2</sup> Nairobi outcome document of the High-level United Nations Conference on South-South Cooperation, adopted by the General Assembly in resolution 64/222 (2010). DAC is one of the key forums in which the major bilateral donors work together to increase the effectiveness of their common efforts to support sustainable development.

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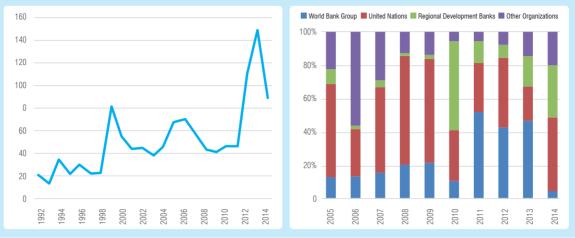
Figure 2.1. Turkey's Development Assistance: Official (1992-2014, left, US\$ million) and Total (2005-2014, right, US\$ million)

#### Source: OECD, Total flows by donor [DAC 1]

20. Following a rather stable period between 2005 and 2009, during which the average level of ODA remained close to US\$ 700 million amid the pervasive global economic crisis, Turkey's total ODA outflows reached US\$ 3.6 billion in 2014 (OECD/DAC Statistics). In terms of the shares of major stakeholders in total development assistance – which was recorded at US\$ 6.4 billion in 2014, US\$ 3.6 billion (56.2%) came from public entities as ODA, US\$ 2.4 billion (37.5%) from the private sector in direct investments (DI), and US\$ 327 million (5.1%) from the civil society organisations (including NGOs) (Figure 2.1, right) (OECD/DAC Statistics). As a share of GNI, the ODA figure in 2014 corresponds to 0.45% of Turkey's gross national income (GNI), which puts the country in the high ranks among DAC countries (DAC average: 0.30%)(OECD/DAC Statistics). Besides, in 2013, Turkey ranked first among countries delivering humanitarian aid when compared to GNI with a ratio of 0.21.In this context, Turkey was the third largest donor of humanitarian aid after the USA and United Kingdom in 2013. As a symbol of Turkey's humanitarian contributions, İstanbul will be hosting the World Humanitarian Summit in May 2016.

#### 2.1 International Institutions and Standards

21. Turkey's involvement in development cooperation activities is not limited to bilateral assistance. The country has strong ties with various international organizations with a view to accentuating the country's growing contribution to the global development cooperation activities. In this context, Turkey also undertakes multilateral cooperation activities through voluntary contributions to international and regional development institutions, which primarily include the IDB, World Bank, OECD and the United Nations (UN) System. Turkey's ODA in the form of multilateral assistancedecreased from US\$ 151 million in 2013 to US\$ 89 million in 2014, increasing by 90% over its 2010 value of US\$ 47 million (Figure 2.2)(OECD/DAC Statistics).





Source: OECD, Total flows by donor [DAC 1]

- 22. The foreign assistance policy of Turkey is guided by various international frameworks including, inter alia, the UN Sustainable Development Goals (SDGs), the Monterrey Consensus, Busan Partnership for Effective Development Cooperation, the Paris Declaration, and the Accra Agenda for Action. Turkey has so far shown its commitment to the decisive principles of the Paris Declaration on Aid Effectiveness of 2008 and the Accra Action Plan of 2008 which stress the aid community's determination to continue with the agenda on ownership, harmonization, alignment and managing for development results. The New Strategic Framework of the UN Office for South-South Cooperation for the period 2014-2017, on the other hand, is geared towards building inclusive and stronger partnerships among main stakeholders such as the G20, G77, DAC, as well as the private sector, NGOs and other civil society organisations, in almost all of which Turkey pursues an active and aligned policy. As a founding member of the OECD (1961), Turkey has held observer status with the DAC since 1991, to which it regularly reports the volume of its official development assistance flows each year.
- 23. Turkey also joined the G20 troika in December 2013 to assume the G20 chairmanship in December 2014. Accordingly, the G20 leaders' summit in 2015 was held in Turkey. The importance of Turkey's leadership of the G20 stems from the importance the country attaches to South-South development cooperation which has already been high on the G20's agenda in the recent years. One of the outcomes of the Fifth Summit of G20 in 2010 in Seoul was the Multi Year Action Plan on development whereby the G20 recognized the value of knowledge sharing in development cooperation activities and requested the Task Team on South-South Cooperation (TT-SSC) and UNDP to provide recommendations on how knowledge sharing can be scaled up, taking full advantage of existing initiatives and platforms and their potential to become, through enhanced partnerships, an effective tool for development at all levels: North-South, South-South and triangular. The G20's work on South-South cooperation gained further momentum under the term leadership of Turkey by strengthening interaction between the G20 and Low-Income Developing Countries.
- 24. Turkey is also an active member of the Deauville Partnership, which is a partnership between the G8, Gulf countries, Turkey and ten international financial institutions to support Arab countries in transition. The DeauvillePartnership

aims to provide financial and technical assistance, particularly in youth and women employment and the development of small and medium sized enterprises (SMEs) in the region. Under the Deauville Partnership, Turkey provided financial packages, established ministerial level joint economic commissions, as well as councils to monitor bilateral economic and commercial relations, signed investment protection agreements, made direct investments, and organized internship, training and experience-sharing programmes.

25. Turkey's European Union (EU) accession process, on the other hand, has helped the country access a large pool of best practices and programmes that it can, not only adopt, but also transfer to other developing countries in the context of South-South cooperation by tapping into the opportunities available for student and academic staff mobility, exchange of innovative approaches and good practices, and institutional policy reform (including programmes such as Erasmus + and Horizon 2020). The Horizon 2020, for instance, is the biggest EU research and innovation programme with nearly €80 billion of funding available over the next seven years from 2014 to 2020. All in all, this pool of opportunities strengthens the position of Turkey as an attractive contributor to the South-South cooperation framework.

#### Box 1: The COMCEC Project Cycle Management (PCM)

Turkey boosts its development cooperation with other developing countries also through some cooperation mechanisms developed by international organisations situated in Turkey. An example of such a mechanism is the Project Cycle Management (PCM) concept developed by the Standing Committee for Economic and Commercial Cooperation of the Organisation of Islamic Cooperation (COMCEC), through its coordination office, which is a methodology that facilitates the realization of ideas through projects. Turkey holds the permanent chairmanship of the COMCEC. The Development Bank of Turkey, on the other hand, is the founding bank of the PCM which is also responsible for performing financial and technical monitoring of the projects accepted to the PCM. In this context, PCM can be seen as an effective instrument in transferring knowledge, experience and expertise between IDB member countries.

The PCM provides funding to projects serving COMCEC Strategy's principles (enhancing mobility, strengthening solidarity and improving governance), output areas (trade, transport & communications, tourism, agriculture, poverty alleviation, finance) and strategic objectives (expansion of trade among the member countries; improving the functioning, effectiveness and sustainability of transport and communications in the IDB member states; developing a sustainable and competitive tourism sector; increasing the productivity of agriculture sector and sustaining the food security; eradicating extreme poverty and hunger in the member countries). Projects have to pursue the notion of multilateral cooperation among COMCEC Member Countries. They have to aim at strengthening human, institutional and administrative capacity of the Member Countries along with promoting cooperation among them.

Under the PCM, only a COMCEC Member Country or an OIC Institution can submit a project. Technical Cooperation/ Capacity Building Projects are eligible for funding. Projects have to aim at improving technical cooperation among member countries while also giving specific attention to building institutional capacity. The tasks and responsibilities about the implementation of projects are distributed among three entities, namely the Project Owner (PO), COMCEC Coordination Office (CCO) and the Development Bank of Turkey.

In the 2013-2014 cycle, a total of 15 projects, in areas ranging from poverty alleviation to trade, finance, transport, agriculture and tourism, from ten IDB countries and two OIC institutions were entitled to a grant. The budget amount per project ranges from US\$ 100, 000 to 250, 000 for IDB member countries whereas from US\$ 50, 000 to US\$ 100, 000 for OIC institutions. In PCM, project owners are required to cover at least 10% and 25% of the project budget in the cases of IDB countries and OIC institutions as project owners, respectively.

- 26. Turkey also hosts theregional offices of a number of UN and non-UN system agencies, such as: UN PopulationFund's (UNFPA) Eastern Europe and Central Asia Regional Office; The World Bank's GlobalIslamic Finance Development Centre; UN Development Program's (UNDP) Regional Bureaufor Europe and the Commonwealth of Independent States; UN Food and AgricultureOrganization (FAO) Sub-regional Office for Central Asia; International Finance Corporation(IFC) Regional Office for Europe, Middle East and North Africa; UN Industrial DevelopmentOrganization (UNIDO) Centre for Regional Cooperation; IDB Group Gateway Office; and UNWomen's Regional Office in Europe and Central Asia. Since 2015, the headquarters of the World Association of Investment Promotion Agencies (WAIPA), originally based in Geneva, Switzerland, is located in Istanbul. The General Secretariat of the Turkic Council is also located in Istanbul.
- 27. Moreover, the role of Turkey in the South-South Cooperation at the regional level is also emphasized through the Istanbul Ministerial Process that was established to provide a platform to discuss regional issues, particularly encouraging security, political, and economic cooperation among Afghanistan and its neighbors. This region-led dialogue was launched in 2011 to expand practical coordination between Afghanistan and its neighbors and regional partners in facing common threats, including counter-terrorism, counter-narcotics, poverty, and extremism.

# 2.2 Key players

28. A broad spectrum of government as well as non-government agencies is involved in the implementation of Turkey's development cooperation. Some of the key players of Turkey's development cooperation could be summarized as follows:

# The Turkish Cooperation and Coordination Agency (TİKA)

- 29. The Turkish Cooperation and Coordination Agency (TİKA) was established in 1992 to meet the immediate aid needs of Eurasian countries and entrusted with the responsibility of coordinating and implementing Turkey's development cooperation policy in alignment with the national and international actors, as well as bilateral donors; and producing development cooperation statistics for Turkey.
- 30. The primary areas of development cooperation of TİKA are in the fields of health, education, water, sanitation, construction of buildings and roads, renovating schools and hospitals and providing equipments. Other components of activities of TİKA are technical cooperation with partner countries, the financing of infrastructure projects such as irrigation, sanitation and transportation, as well as the construction or renovation of schools, hospitals, and architectural objects of cultural heritage. TİKA also extends humanitarian assistance.
- 31. TİKA defines the guiding principles of Turkey's development cooperation as "a partner country-centered approach; the promotion of the partner country's ownership; the encouragement of participatory development; long-term commitments; sustainability; adaptation to economic, social and political changes; and coordination with the donor community." (Hausmann, 2014)
- 32. Development cooperation at the country level goes through TİKA's 50 Programme Coordination Offices in 48 different countries, including 24 IDB member countries, as per the most recent TİKA Activity Report. New projects are either based on proposals from the Turkish Programme Coordinators in the respective countries,

communicated via TİKA to the relevant ministries, or are brought to TİKA's attention by government institutions in these recipient countries (Hausmann, 2014). These institutions provide the experts for the implementation of the projects while TİKA coordinates and also partially finances the project-related activities.

# The Ministry of Foreign Affairs

33. The Ministry of Foreign Affairs is also deeply engaged in Turkey's foreign international cooperation agenda mainly through coordinating the country's participation at as well as contribution to international fora. In 2013, the Ministry of Foreign Affairs was the second leading agent of multilateral assistance with US\$ 25 million (TİKA, 2013). Moreover, the "Foreign Young Diplomats Training Programme" has been implemented annually since 2005 which provides threeweeks of vocational training to the diplomats around the world (TİKA, 2013).

## The Undersecretariat of Treasury

34. The Undersecretariat of Treasury plays an important role in Turkey's foreign financial assistance and offers concessional and non-concessional loans and grants in cash to other countries and multilateral organisations and funds. In 2013, the Undersecretariat of Treasury was the leading agent of multilateral assistance with US\$ 110 million (TİKA, 2013). It also provides technical assistance programmes mainly through training programmes including public debt management, exchange and cash management.

## The Ministry of Health

- 35. As of 2011, according to its activity assessment report for 2003-2011, the Ministry of Health of the Republic of Turkey signed 97 cooperation agreements with 56 countries in the area of health with the aim of building a legislative basis for bilateral cooperation. Through such agreements, the Ministry promotes the exchange of health personnel, knowledge and experience and encourages direct and close mutual relationships among scientific institutions working in the health domain and supporting commercial enterprises in private sector.
- 36. Theoretical and practical training was also provided in various hospitals in Turkey to 398 physicians from Afghanistan, Sudan, Uzbekistan, Kazakhstan, Georgia, Azerbaijan, Mauritania, Djibouti, Palestine, Mali, Cameroon, Iraq, Guinea, Tajikistan, Niger and Kosovo (TİKA, 2013). In the context of health weeks, 286 persons were operated on, 1, 048 persons were examined and 99 persons underwent ultrasonographic examination (TİKA, 2013).

# The Ministry of Food, Agriculture and Livestock

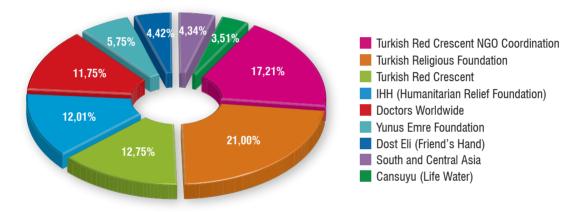
37. The Ministry of Food, Agriculture and Livestock has developed cooperation in agriculture with many countries including Sudan, Yemen, Afghanistan, Palestine, as well as Balkan, Central Asian and the Caucasus countries in areas such as technical assistance to increase the capacity of related institutions, provision of equipment for the institutions and farmers, and training of farmers.

## Non-Governmental Organisations (NGOs)

38. Non-governmental organisations (NGOs) play an increasingly important role in transmitting Turkey's experience and best practices related to a diverse set of development areas. Representing one of the most organised

forms of development assistance providers, they contributed significantly to the sharp increase in Turkey's ODA particularly from 2003 to 2004. NGOs implement development assistance either through income from benefactors or through public support. Yet, there was such a significant lack of data on NGOs development cooperation activities that they were virtually missing from the overall picture up until 2005, when TİKA began collecting ODA data for the first time on the NGOs. In 2013, the two NGOs that have played the most important role in Turkey's development cooperation activities are the Turkish Red Crescent NGO Coordination as and the Turkish Religious Foundation (Figure 2.3).

## Figure 2.3. Non-Governmental Organizations Providing Aid over US\$ 5 million (2013, %)



Source: TİKA, Turkish Development Assistance Report (2013)

# 2.3 Priority areas and destinations

- 39. Turkish foreign policy has over recent years been putting more emphasis on extending the scope of the country's involvement beyond the immediate neighborhood and addressing proactively other pressing global issues. In line with this objective are Turkey's efforts in the past decade to deepen development cooperation relations with African countries. Although TİKA was initially established to deliver development aid to former Central Asian, Caucasus and Balkan countries, later on, it extended its aid efforts to the countries in the Middle East and North Africa (MENA) as well as those in Sub-Saharan Africa (SSA).
- 40. In 2014 alone, Turkey provided development assistance to some 120 countries that appear on the OECD's list of aid recipients. Between 2005 and 2011, on average, half of Turkey's bilateral official development assistance went to South and Central Asia, although this trend has changed in the last few years (Figure 2.4). Since 2012, assistance flows to Middle East and Africa regions have increased their shares in Turkey's bilateral official development assistance. In 2014, 71% of Turkey's bilateral ODA was directed to Middle East and a further 11% went to Africa (OECD/DAC Statistics). In 2014, largest country recipients of Turkey's development aid were, in descending order, Syria, Tunisia, Kyrgyzstan, Somalia, Palestine, Afghanistan, and Bosnia-Herzegovina (OECD/DAC Statistics).

2016

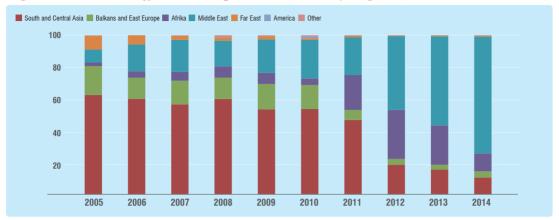
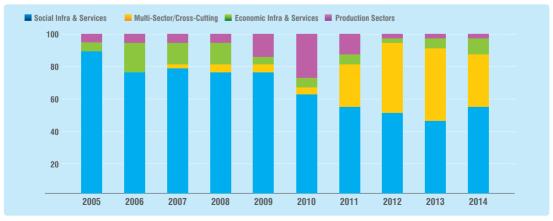


Figure 2.4. Bilateral Official Development Assistance by Region (2005-2014, US\$ million)

Source: OECD, Aid disbursements to countries and regions[DAC 2a]

41. Turkey's bilateral development assistance encompasses project/programme assistance, technical cooperation, cultural cooperation, restoration activities, shelter and housing, scholarships, support for refugees and emergency relief. From a sectoral approach, social infrastructure and services can be seen as the main focus of Turkey's development cooperation activities, at least until 2014. As shown in Figure 2.5, between 2005 and 2010, the share of social infrastructure-related bilateral ODA outflows in total sectoral outflows were on average above 80% (OECD/DAC Statistics). However, there has been a shift towards a multi-sector approach since 2011, whereby the ODA is targeted at projects that straddle several sectors with a concentration on environment, gender issues, as well as urban and rural development. At the subsectoral level, Turkey spent relatively more resources on education, government and civil society, and health sectors, and most of the country's recent development cooperation projects in these subsectors focused on infrastructure development. The main reason behind this concentration can be explained by Turkey's demand-driven aid policy whereby the country aims to respond to the demand by recipient countries to deliver aid in specific sub-sectors that the recipient country deems a priority.

#### Figure 2.5 Bilateral Sector-centric Official Development Assistance (2005-2014, US\$ million)





25

- 42. Geography also plays a role in the spectrum of cooperation activities undertaken by Turkey in different regions. In Africa, for instance, in addition to the above; education, vocational training, institutional capacity development and humanitarian assistance are also of utmost priority. In that regard, the Africa Agricultural Development Programme, Africa Health Programme and the Africa Vocational Training Programme are some of the multicountry programmes tailored by Turkey to the specific needs of the countries in Africa.
- 43. Turkey is also actively engaged in raising awareness in the international community and contributing to the efforts for finding solutions to the pressing problems of the LDCs –whose number has almost doubled from 25 to 48 since 1971. As an extension (by-product) of this effort, the UN decided to convene the Fourth UN Conference on the Least Developed Countries (LDCs) in 2011, which was hosted, by the country. The Conference gave an opportunity to inform the international community about global challenges facing the LDCs including, among others, poverty, food security, energy security, adverse effects of the climate change. The Istanbul Declaration and Istanbul Programme of Action, accordingly, set out a cooperation framework and the responsibilities of the international institutions, developed countries as the development partners, developing countries within the context of South-South Cooperation and LDCs themselves (time frame 2020).
- 44. Turkey set aside a budget of US\$ 5 million to contribute to the monitoring of the implementation, with an expression of the intention to host a Mid-Term Review Conference, and announced the country's Economic and Technical Cooperation Package for the LDCs. Based on this package, Turkey has committed a total annual budget of US\$ 200 million to LDCs, starting from 2012, which is dedicated to technical cooperation projects and programmes as well as scholarships. The contributions, in this regard, have concentrated on areas such as, increasing productive capacities, strengthening the role of the private sector in development, improving the instruments for investment incentives, tourism, reducing the risk of disaster and disaster management, fight against desertification, forestry and afforestation, dry land management, empowerment of women in social life and economy, increasing education opportunities, vocational training, especially for girls and increasing job opportunities for young people.
- 45. The next section presents the methodology for mapping resource centers in order to identify the existing capacity and potential of Turkey in selected areas for cooperation in which the country has an outstanding position.

# Mapping Turkey's Resource Centers

# Methodology For Mapping Resource Centers

- 46. The Islamic Development Bank (IDB) fulfils the capacity development needs of its member countries through a set of wide-reaching programs and activities. Recently, Reverse Linkage interventions have been developed and operationalized in order to address these needs.
- 47. One of the requirements in Reverse Linkage interventions is to have a well-researched and validated roster of institutions that would qualify as Resource Centers. These RCs would provide the capacity development solutions to sister organizatons in IDB countries. Therefore, there is a need to map the RCs that exist in IDB countries, understand their capabilities and assess their ability to cooperate internationally.
- 48. The Reverse Linkage division has undertaken the task of developing standard guidelines and supporting documentation that can be used during the mapping exercises for IDB countries. The purpose of these guidelines is to provide a consistent and structured framework to assess the capabilities of the RCs and identify those that qualify to partner with the IDB in providing innovative interventions to meet the capacity development demands of member countries.
- 49. Based on this guideline, this report summarizes the 27 best practices which are identified out of approximately 50 through an objective evaluation process.

1) Identify the themes to be mapped	2) Identify the authority for each theme	3) Meet the Head of the Authority - Describe Purpose of Mapping Exercise	4) Set up an Expert Level Meeting - identify long list of institutions
8) Send short -list of RCs to IDB Governor's Office for Endorsement	7) Assess the data and shortlist RCs to be Mapped	6) Collect and consolidate the information from RCs	5) Visit the Resource Centers
9) Prepare Final Report on RCs with their Profiles	10) Validate the Profiles with RCs	11) Publish the Profiles of RCs and integrate with Online Geo-mapping Platform	12) Organize Launching Event for the Published Profiles

## Figure 3.1 Process for Mapping Resource Centers

- 50. As shown in the figure above, the mapping exercise comprises 12 steps (see Appendix, A.1 for details). During the mapping study of Resource Centers in Turkey, these steps have been realized one by one in a chronological order. After analyzing the themes to be mapped, cf. Chapter 4, the authority for each theme have been identified. Moreover, interviews have been set up with the Head of the Authority as well as the experts in order to collect a full range and depth of information of RCs. While visiting each RC, questionnaires have been circulated to all RCs in order to collect key information that will feed into the RC's profile. Approximately 2-3 months have been necessary in order to receive the questionnaires filled by each RC. However, the information provided in some of these questionnaires did not incorporate statistical facts required for this exercise.
- 51. Documents such as activity reports, strategic plans, brochures have been collected in order to fill the gaps in the data provided in the questionnaires. This step took time, aroundtwo months, as the information provided by some of the RCs were not sufficient in order to profile these RCs as well as to score them. Once the information has been collected according to the requirements of IDB Reverse Linkage interventions, RCs have been scored and shortlisted based on a predefined set of objective criteria and a scoring scheme. The short-list of RCswas sent to the IDB Governor's Office in order to seek their views and endorsement. First 27 RCs has been selected and a draft report with short-listed RCs profiles has been prepared. Then, each profile has been sent to the respective RC for validation. This step was essential in order to update information and data regarding RCs. After validating the profiles with RCs, the final report has been prepared.
- 52. Once all of these steps have been completed, it is critical that the statistical information concerning main activities, area of expertise, achievements of RCs be very clearly spelled out in the questionnaires circulated and that programs and succesful international engagement are made very clear. Generally, filling the specific questions included in the questionnaires can take much more time than expected. Therefore, the consultant needs to start as soon as possible profiling RCs based on theiractivity reports and strategic plans.
- 53. After providing the methodology for mapping resource centers, the next section presents an overview of five sectors selected in the areas of agriculture, livestock and food security; health and nutrition; technical and vocational education and training; transport and communications; and disaster and emergency management.



# Mapping Turkey's Resource Centers

# **Priority Areas**

- 54. In the present study, five sectors have been selected to focus on: (1) agriculture, livestock and food security; (2) health and nutrition; (3) technical and vocational education and training; (4) transport and communications; and (5) disaster and emergency management. These sectors were selected from among a wide range of areas where Turkey can offer expertise, knowledge and technologies to other IDB member countries. The selection criterion is mainly based on the twinning of the areas prioritized in the IDB's Vision 1440H document with those of Turkey's Tenth Five-Year Development Plan (2014-2018) where Turkey has significant experience and expertise in these areas.
- 55. According to the Vision 1440H of IDB and most urgent contemporary challenges confronting its member countries, the Mission of IDB is to promote comprehensive human development, with a focus on the priority areas of alleviating poverty, improving health, promoting education, enhancing governance and improving the prosperity of the people. The Eight Millennium Development Goals (MDGs) established at the United Nations Millennium Summit in September 2000 serve as the minimum threshold to attain these priority areas. Turkey's Tenth Five-Year Development Plan (2014-2018), on the other hand, comprises four dimensions of development which are: (1) Qualified individuals, strong society, (2) Innovative production, sustainable high growth, (3) Livable places, sustainable environment, (4) International cooperation for development (see Appendix, A.3 for details). In this context, technical and vocational education and training as well as health and nutrition sectors are enlisted within the first dimension of development; agriculture, livestock and food security and transportation and communications sectors are enlisted within the third dimension of development. Thus, all selected five sectors cover each of the three dimensions emphasized in Turkey's Tenth Five-Year Development Plan (2014-2018) where Turkey hosts some of the leading resource centers.
- 56. In view of the above, this section offers an overview of these five sectors in member countries by giving the reasons for their selection. This includes a review of the main strategies and policies for these selected areas embodied in the IDB, OIC documents as well as Turkey's Tenth Five-Year Development Plan (2014-2018). Such review helps to better understand the capacities and needs of the member countries in these key areas and Turkey's potential of transferring best practices and programmes to other IDB member countries.

# 4.1. Agriculture, Livestock and Food Security

57. Agriculture plays an important role in the economies of IDB member countries as well as in the economies of most developing countries in terms of poverty reduction, employment opportunities, and food security and production. According to the latest data, 34.7% of the total population of the IDB member countries is employed in the agricultural sector. In 18 IDB member countries the share of the agricultural population is more than 50% of the total population, which highlights the significance of agriculture for the economic development of these countries. As a group, the IDB member countries occupy 29% of the world agricultural land area with permanent meadows and pastures which constitute the major proportion of the agricultural land in these countries. These figures show that the IDB member countries could be important actors in the world in terms of both the size of their agricultural population and agricultural land. This situation allows these countries to play a centralrole in the world agricultural production system.

- 58. In terms of water resources and their use in agricultural activities, the IDB member countries also appear as an important group of countries. The share of these countries in the world in terms of precipitation depth is 22%. However, they withdraw 29.4% of the agricultural water in the world. Given the low precipitation in depth scores in some IDB member countries, irrigation techniques play a significant role concerning agricultural activities. However, the IDB member countries principally use the surface irrigationmethod, which is the least water-saving technique among irrigation techniques. Alongside shortage of agricultural water resources and inefficient irrigation techniques, the IDB member countries have an insufficient fertilizer use ratio and low degree of agricultural mechanization (SESRIC, 2013b). Consequently, the group of IDB member countries have low land and labor productivity levels in the agricultural sector that are below the average of the world as of 2012.Over the last decade, IDB countries achieved 1.6% annualized growth in labor productivity, compared to 3.7% in other developing countries and 2.2% in developed countries (SESRIC, 2014a).
- 59. Agro-food industry also represents the main industrial activity and a major contributor to production, export earnings and employment in many IDB member countries. As a group, in 2013, the IDB member countries produce almost 14.5% of total crop production in the worldbut their share in total world processed crops is 15.3%. This figure indicates that IDB member countries lack the capacity to process what they already produce and they need to upgrade this capacity. In addition, IDB member countries produce 16.5% of total world primary livestock production, but they account for only 9, 7% of total processed livestock production, which indicates that they again lack of capacity to process the goods they produce.
- 60. Alongside agriculture and livestock, food security continues also to represent a major challenge for IDB member countries. According to recent FAO classification, 27 IDB member countries are placed among the world 55 low-income food-deficit countries (LIFDCs). Most of them are in Sub-Saharan Africa and the arid regions of West Asia and North-eastern Africa (SESRIC, 2014a). Food shortages continue to affect a significant number of the 27 IDB-LIFDCs, where 18 of them have been classified by the FAO as "Countries in Crisis Requiring External Assistance".
- 61. In response to these challenges, the IDB began to focus on agriculture, livestock and food security, particularly during the 1980s. Six ministerial conferences have been held between 1981 and 2012 to strengthen the cooperation and foster development in agriculture, livestock and food security in IDB member countries. Especially, the Fifth OIC Ministerial Conference on Food Security and Agricultural Development held in Khartoum in October 2010 urged the member countries to give food security a high priority in their national development agendas and budgets as well as mobilize resources for implementing food security programs and create favorable conditions for attracting and sustaining foreign investments into the agricultural sector, food security and rural development; to formulate an Executive Framework for Agriculture, Rural Development and Food Security in IDB member states.
- 62. Additionally, the 1994 version of the OIC Plan of Action to Strengthen Economic Cooperation among the Member Countries of the IDB identified "Food, Agriculture and Rural Development" as one of the top ten priority areas of cooperation among the IDB member countries. The Plan underlined the major problems facing the IDB community in the field of food and agriculture such as hunger, malnutrition, famine, widespread and mass poverty, desertification and under-utilization of the existing potentials, and the insufficiency of food production.

More recently, the 2005 OIC Ten-Year Programme of Action to Meet the Challenges Facing the Muslim Ummah in the 21<sup>st</sup>Century has also paid significant attention to agricultural and rural development and food security.

- 63. On the other hand, Turkey's Tenth Five-Year Development Plan (2014-2018) has a wide coverage of agriculture and food sectors under the dimension of "Innovative Production, Steady High Growth" which is the evidence that Turkey attaches importance to agriculture, livestock and food security. More precisely, the plan identifies objectives, which include the efficiency of crop and livestock production increasing meat and milk output; support for rural development; development of a competitive and environmentally-friendly agriculture sector that aims to access to sufficient and balanced nutrition for people;and the establishment of gene banks for agricultural R&D activities.
- 64. Turkey's Tenth Five-Year Development Plan stresses that Turkey ranks 36th among 105 countries covered in the Global Food Safety Index.In 2013, the average annual growth of agricultural sector reached 3.12% (World Bank, 2014). Moreover, the plan highlights efforts that have been made in order to increase the average scale of agricultural businesses to an optimal level as well as the protection of gene pools and proceeding with gene breeding operations.

# 4.2. Health and Nutrition

- 65. Like many other developing countries, the IDB member countries are still suffering from the double burden of communicable and non-communicable diseases. Currently, it is estimated that over 55.3% of mortality burden in the IDB member countries is due to non-communicable diseases (cardiovascular disease, diabetes, cancer and chronic lung disease); whereas 33.7% of deaths are caused by communicable diseases (SESRIC, 2015). It is worth mentioning that the prevalence of three key risk factors of non-communicable disease which are respectively tobacco use, unhealthy diet, lack of physical activity are high in most IDB member countries.
- 66. Furthermore, access to primary health care services continues to be a serious threat in many IDB member countries due to a lack of health infrastructure and physical inaccessibility accompanied by an inadequate health workforce. Recent statistics show that access deficit in social health protection reaches almost 90% of total population in some member countries, especially in Africa (SESRIC, 2013c). In the absence of a suitable social health protection, financing of health care depends on out-of-pocket spending. Out-of-pocket spending accounts for 38% of total health spending in IDB member countries (SESRIC, 2015).
- 67. The insufficiency of health financing is another concern in IDB member countries. The average per capita health expenditure in IDB member countries, as a group, is US\$ 186; compared to the non-IDB developing countries, where it is US\$ 325 (SESRIC, 2015). Besides, average government expenditure on health as a percentage of general government budget amounts to 7.9% in IDB member countries compared to 15.6% in the world. On average, IDB member countries as a group spend only 4.4% of their GDP on health compared with 10% in the world.
- 68. Equally crucial is water. The availability of clean and safe water improves the health condition of the population, as many diseases afflicting the poor countries are associated to unsafe, dirty and contaminated water (IDB, 2013b).

- 69. In order to tackle these challenges, the OIC adopted a Strategic Health Programme of Action 2014-2023 (OIC-SHPA) in October 2013, which is a framework of cooperation among IDB member countries, relevant OIC institutions and international organizations in the field of health. The OIC-SHPA aims to strengthen the health care system and improve the level of healthin IDB member countries through promoting the transfer of knowledge and expertise. In this regard, the OIC-SHPA proposes six thematic areas of cooperation (health system strengthening; disease prevention and control; maternal, new-born and child health, and nutrition; medicines, vaccines and medical technologies; emergency health response and interventions; information, research, education and advocacy) and provides various programmes of action and activities under each thematic area.
- 70. Moreover, the OIC Ten-Year Programme of Action (TYPOA) adopted by the Third Extraordinary Islamic Summit held in Makkah Al-Mukarramah in 2005 puts special emphasis both on mother and child health care and fighting diseases and pandemics.
- 71. Subsequent Islamic Conferences of Health Ministers (ICHMs), Islamic Summit Conferences and sessions of the Council of Foreign Ministers (CFM) have also adopted several decisions in the field of health that cover issues such as preventing and combating diseases, improving mother and child health, achieving self-reliance in vaccine production, establishing a Health Implementation Unit, strengthening health cooperation among IDB member countries and promoting health equity in the Islamic Ummah.
- 72. On the other hand, Turkey's Tenth Five-Year Development Plan (2014-2018) has a wide coverage of health and nutrition sectors under the dimension of "Innovative Production, Steady High Growth". Unlike the previous plans, which did not mention the term "health industries" the new one draws attention to a transformation program for health with a special emphasis on health care, family medicine, maternal and child health, preventive health, institutional capacity building in the health sector and combating infectious diseases.
- 73. Turkey's Health Transformation Program (HTP), launched in 2003, is seen as a flagship example of a successful primary health care reform, based on a combination of strengthened patients' rights, decentralization of decision making, performance based incentives, and improved monitoring systems (World Bank, 2014). As a result of the HTP, Turkey has considerably reduced maternal mortality, which fell from 28.5 deaths per 100, 000 live births in 2005 to 15.9 deaths in 2013. Infant mortality has also declined sharply from 20.3 deaths per 1, 000 live births in 2005 to 12 in 2012 (WHO, 2014). Turkey has met its Millennium Development Goal (MDG) target on both indicators. Cancer Early Diagnosis, Screening and Training Centres (KETEMs) were also established within the Turkish Public Health Agency through the HTP.

# 4.3. Technical and Vocational Education and Training (TVET) and Employment

74. Poverty and associated human development issues are direct consequences of the high unemployment rate in many IDBmember countries. In this context, the main objective of TVET and employment is to develop or maintain job-relevant skills for employment or for entry into the labor market. According to the International Labour Organisation (ILO), skills development connects education to technical training, technical training to labor market entry, and labor market entry to the workplace and lifelong learning, which help countries sustain productivity and translate growth into more and better jobs (SESRIC, 2012). Therefore, a well-educated and trained labor force is always a critical factor in achieving better economic performance.

- 75. Currently, there are around 55 million students worldwide enrolled in upper secondary TVET programmes, of which around 44 million (80%) come from the developing countries (SESRIC, 2014b). According to most recently available data, as of 2013, IDB member countries accounted for one-fourth of the total upper secondary TVET enrolments in the developing countries and one-fifth of those in the world. In IDB member countries, around 40% of upper secondary TVET enrolments were female students, compared to around 45% worldwide and other developing countries. Moreover, as far as the regional dynamics within the group of IDB countries are considered, it is observed that the member countries in the East Asia and Pacific, Europe and Central Asia and Latin America and Caribbean regions have considerably higher levels of upper secondary school TVET enrolment rate vis-à-vis those in Middle East and North Africa, South-Asia and Sub-Saharan Africa (SESRIC, 2014b).
- 76. Given these challenges, since its inception in the late 1970s, the IDB has placed education high among its priorities and has been actively involved in education financing in its member countries. In this connection, the Bank devoted its 13<sup>th</sup>Annual symposium "Women in Poverty Alleviation", held in conjunction with the 28th Annual Meeting in Ouagadougou, Burkina Faso, September 2002, to the issue of education and financing investment opportunities to women. Additionally, since 1980, the Bank has approved 250 projects, grants and technical assistance, amounting to about US\$1.196 billion (11.6%) of its total financing to all sectors), supporting different educational projects. This percentage is considered high compared to regional institutions such as the African Development Bank (6.7%) and the Asian Development Bank (4.7%), and also to the World Bank's average commitment of 8.5% for 1990-1998 (SESRIC, 2012). The approved funds were used for construction, rehabilitation, equipment and furnishing all types (academic, vocational/technical, illiteracy and adult education), all levels of education (primary, secondary, higher, teacher training, literacy center), capacity building and others.
- 77. Moreover, the Vision 1440H of IDB emphasizes that education taken by the young in the member countries should prepare them for the workplace, making them employable on completion of secondary and tertiary education. In this connection, the Vision 1440H highlights that special attention should be paid to developing the skills and capacity essential for the development of knowledge-based economies. In line with this Vision, IDB underlines strategies to enhance the quality of formal education that is geared for the market and lifelong learning that is especially critical for transition into knowledge-based economies.
- 78. On the other hand, education is the first subsection under the first development dimension of the Turkey's Tenth Five-Year Development Plan (2014-2018), which is entitled "Qualified individuals, strong society." This fact reflects the importance that Turkey gives to education and TVET. As underscored by the Plan, in order to assure a global position in high-value-added products and activities, a high-quality human capital is indispensable. The plan gives also special importance to the compatibility between the education system and the labor market, the entrepreneurial culture and the school-business relationships within the vocational and technical education in order to gain required skills and competencies.
- 79. In Turkey, education spending grew faster than GDP, allowing for a significant expansion of capacity. The lesson to be derived from Turkey's improvements in the education is the importance of combining additional spending with carefully designed reform plans (World Bank, 2014). In this context, the expansion of compulsory education to eight years in 1997 and 12 years in 2013, as well as targeted measures to improve access, were important milestones for Turkey in order to catch-up with the standards of the developed economies.

- 80. Turkey's experience since 2009 gives useful lessons on the impact of targeted reductions in payroll taxes and the design of activation labor market policies in emerging countries. Turkey reduced the overall tax wedge by 7 percentage points in 2008 (from 43% to 36%) and waived social security contributions for unemployed youth and women (World Bank, 2014). At the same time, lower payroll taxes have helped lower informality from 34% in 2005 to 25% in 2012.
- 81. Turkey has prioritized job creation in the Tenth Five-Year Development Plan and has recently approved the National Employment Strategy. It foresees a move toward more flexicurity, with reforms to severance pay, unemployment benefits, and temporary work contracts. In this context, Turkish Employment Agency (İŞKUR) plans to further boost its activation programs in order to increase the employability of lower-skilled workers. The placement rate of unemployed registered in İŞKUR reached 25.5% in 2014. (Table 4.1).
- 82. It is worth mentioning that in the TVET and employment area, the Ministry of National Education constitutes a reference for resource centers in Turkey.

Year	2006	2012	2014
Labour Force Participation Rate (LFP) (percent)	46.3	50.0	51.0
Women's LFP (percent)	23.6	29.5	30.1
Employment (millions)	20.4	24.8	26.1
Unemployment Rate (percent)	10.2	9.2	10.7
Youth Unemployment Rate (percent)	19.1	17.5	19.4
Informal Employment (percent)	47.0	39.0	35.1
Placement Rate of Unemployed Registered in İŞKUR (percent)	12.3	23.5	25.5

## Table 4.1 Key Labor Market Indicators for Turkey

# 4.4. Transport and Communications

- 83. Transportation is an indispensable element in any economic activity. Without physical access to resources and markets, economic growth and development is impossible. Therefore, an efficient transportation system is a fundamental element in sustainable economic development. It facilitates the transfer and movements of people, goods, services and resources and improves access to local and international markets. In this regard, improving transportation networks in and among IDB countries is a key factor that has direct impacts on enhancing and strengthening trade and economic integration in IDB countries at both the regional and global levels.
- 84. Moreover, transportation networks facilitate delivery of goods, which are of special importance to the IDB member countries since the majority of them are producers of primary commodities such as fuel and agriculture. In this respect, infrastructure development is especially critical in the more underdeveloped regions, where road and

Source: Tenth Five-Year Development Plan, 2014-2018

rail transport linking neighboring economies can bring enormous benefits. Additionally, telecommunications have also been playing a vital role in energizing several economic sectors and benefiting various social groups in the member countries.

- 85. Based on the most recent data available, the average road length for 1, 000 people living in the IDB member countries is calculated as 2.36 km, which is below the world average of 5.15 km (World Bank, WDI). Moreover, the average length of railway serving 1, 000 people is only 70 meters within the group of IDB countries, while the world average is almost triple that figure at 196 meters. (World Bank, WDI).
- 86. As a result of these figures, it is clear that the present situation of transportation and communications networks in the IDB countries, in terms of both capacity and performance, is still far from reaching the desired level of impact on intra-IDB trade and tourism activities.
- 87. In order to tackle these challenges, there is a strong emphasis on the transportation and communications sectors within the IDB framework. Firstly, one of the three principles of COMCEC Strategy, namely "enhancing mobility" is directly related to transport. Secondly, transportation is declared as one of the three priority sectors together with agriculture and tourism by the COMCEC. Thirdly, it is one of the six cooperation areas specified by the COMCEC Strategy. With this strategy, COMCEC aims to improve the existing regulatory framework in the member countries, promote studies and activities in order to improve the institutional and human capacity of relevant government and non-government institutions of the member countries, identify major issues related to transport infrastructure policy-making and enhance the development of information and communication technologies to provide high-quality services.
- 88. Furthermore, the Vision 1440H of IDB emphasizes strategies to develop a comprehensive transport and communications infrastructure to support growth as well as widen access to Information and Communications Technology and to make it more affordable.
- 89. On the other hand, Turkey's Tenth Five-Year Development Plan (2014-2018) has a wide coverage of transportation and communications sector under the dimension of "Innovative Production, Steady High Growth". The plan identifies objectives, which are the support of an integrated transport logistics services model, the creation of an efficient and effective transport infrastructure, prioritizing human factors and preventing damage to the environment.
- 90. Turkey leaves a good impression concerning the quality of the transport and telecommunications infrastructure. The foundations for improvements in the country's physical infrastructure were laid with a particular focus on road, rail and air transport in the 1980s. Over the past decade, the positive trend accelerated. Turkey is the sixth country in Europe and eight in the world to be operating high-speed trains. Istanbul's Atatürk Airport has also become a major international transit hub.

# 4.5. Disaster and Emergency Management

91. The frequency, duration and impacts of disasters and conflicts are on the rise. More than 430 million people were affected in the IDB member countries from 2, 112 disasters (mainly due to floods, epidemics, earthquakes and storms) recorded during 1990-2012 and almost 650, 000 people killed due to these disasters (SESRIC,

2013a). Much of the impacts could be avoided if adequate actions were taken to reduce the vulnerabilities of the communities. IDB countries are challenged by increased fragility and lack of capacity to prevent natural hazards turning into disasters.

- 92. Moreover, it is worth mentioning that when a disaster happens, support is required from almost every ministry and organization to provide relief to the affected population. Therefore, disaster risk management is a multisectorial subject, which requires coordination and collaboration amongst different ministries, departments, and stakeholders.
- 93. Given these challenges, the IDB attaches great importance to the issue of disaster risk reduction and the commitment to reduce the loss of life, livelihoods and economic assets through natural disasters, an initiative which seeks to accelerate the worldwide implementation of the Hyogo Framework for Action 2005-2015. The IDB supports the development of main tools for disaster risk reduction such as the development of guidelines to evaluate risk and strategies to integrate disaster risk reduction in sustainable development policies and plans. Also, IDB member countries endorsed the Strategy on Management of Disaster Risks and Climate Change Implications in the Islamic World at the Fourth Islamic Conference of Ministers of Environment in 2010. This strategy pursues a number of objectives highlighting the main action areas like strengthening governance capacity, reinforcing risk assessments and early warning systems, developing partnerships and cooperation projects, education and training, building information management networks and databases, promoting a culture of prevention and reinforcing preparedness to disasters, as well as post-disaster response and recovery.
- 94. Furthermore, with the aim of reducing risks from natural disasters, the Ministers of Environment of the 57 Islamic countries adopted in 2012 an Islamic Strategy for Disaster Risk Reduction and Management, and its Implementation Plan with the aim of reducing risk from natural disasters. The executive work plan to implement the Islamic Strategy for Disaster Risk Reduction and Management aims to mainstream disaster risk reduction and management across the Islamic world, and mitigate the impacts of disasters through supporting governments and non-governmental actors in preparing for natural hazards.
- 95. On the other hand, Turkey's Tenth Five-Year Development Plan (2014-2018) has a wide coverage of disaster and emergency management sector under the dimension of "Livable Places, Sustainable Environment" which is the evidence that Turkey attaches importance to this sector. Especially, the plan focuses on disaster risk identification, assessment and monitoring, the effectiveness of the intervention during and after the disaster, developing social protection and early warning systems.
- 96. In the Tenth Five-Year Development Plan, "Primary Transformation Areas" have been detected for the critical reform areas that require responsibility and effective coordination between institutions. This is important in terms of achieving the objectives of the plan. Prime Ministry Disaster & Emergency Management Authority (AFAD) has been determined as a "Component Responsible Agency" under the "Primary Transformation Plan" concerning "Improvement of International Cooperation Infrastructure for Development Infrastructure Programme (KAGEP)".
- 97. After analyzing the strengths of Turkey in the areas that has been identified above where Turkey can be a provider of knowledge and expertise, the next section provides the profiles of the selected resource centers by priority

areas. This section presents the findings of surveys and interviews conducted with a number of resource centers operating in the selected sectors. For each selected resource center, the analysis offers a background on the institution, as well as an overview of its basic functions, degree of integration into international cooperation activities, and selected best practices and programmes with the potential of transferring to other IDB member countries.

# Mapping Turkey's Resource Centers

# Profiles of the Selected Resource Centers

- **98.** For the purpose of this study, more than 50 resource centers from public, non-governmental organizations (NGOs) and the private sector have been visited and contacted. Special questionnaires have been sent to these resource centers (Appendix, A.2). Based on these questionnaires, activity reports, strategic plans, interviews and expert meetings, profiles of these centers have been prepared. It is worth mentioning that these resource centers represent just a selection among a wide range of institutions.
- 99. Figure 5.1 shows Turkey's selected resource centers by priority areas that have been described in the previous chapter. In each area, five to six resource centers have been selected in order to provide a more balanced picture of the institutional capacities that Turkey possess and is ready to share with other IDB member countries. Table 5.1 presents a short description of selected resource centers on the uniqueness of these centers.
- 100. On the other hand, the main criteria of Reverse Linkage interventions is the ability of RCs to co-finance Reverse Linkage projects. As shown in Figure 5.2, different sources of funding such as government, membership, donation, foreign resources, international private institutions, development agencies' contributions, and self-funding exist concerning Turkey's selected resource centers. Generally, the majority of the funding comes from the government in selected RCs. In this context, the public sector is continuing to support more and more RCs in Turkey. Donations, on the other hand, consist of cash offering for charitable purposes in the case of Turkish non-governmental organizations (Doctors Worldwide Turkey, Turkish Red Crescent and IHH Humanitarian Relief Foundation).

Figure 5.1 Turkey's Selected Resource Cemers by Filority Areas			
Agriculture, Livestock and Food Security	<ul> <li>Directorate of Plant Protection Central Research Institute</li> <li>International Agricultural Research and Training Center (IARTC)</li> <li>Cattle Breeders' Association of Turkey (CBAT)</li> <li>International Center for Livestock Research and Training (ICLRT)</li> <li>General Directorate of Agricultural Enterprises (TIGEM)</li> <li>Nazilli Cotton Research Institute</li> </ul>		
Health and Nutrition	<ul> <li>Turkish Green Crescent Society</li> <li>Doctors Worldwide Turkey (DWWT)</li> <li>Cancer Early Diagnosis, Screening and Training Centres (KETEMs)</li> <li>Turkish Red Crescent</li> <li>The National Nanotechnology Research Center - UNAM Bilkent University</li> <li>Hacettepe University Cancer Institute</li> </ul>		
Technical and Vocational Education and Training and Employment	<ul> <li>Istanbul Metropolitan Municipality Lifelong Learning Center İSMEK</li> <li>Turkish Employment Agency (İŞKUR)</li> <li>Farmer Training, Dairy Science and Technology Centers of SÜTAŞ</li> <li>Vocational Qualifications Authority (VQA)</li> <li>Social Security Institution (SSI)</li> </ul>		
Transport and Communications	<ul> <li>Post and Telegraph Corporation (PTT)</li> <li>EGO</li> <li>TURKSAT</li> <li>Turkish State Railways (TCDD)</li> <li>DHMI - Air Navigation Service Provider and State Airports Authority of Turkey</li> </ul>		
Disaster and Emergency Management	<ul> <li>TUBİTAK MAM Earth and Marine Sciences Institute (EMSI)</li> <li>IHH Humanitarian Relief Foundation</li> <li>Prime Ministry Disaster &amp; Emergency Management Authority (AFAD)</li> <li>Istanbul Governorship Istanbul Project Coordination Unit (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project)</li> <li>Boğaziçi University - Kandilli Observatory and Earthquake Research Institute (KOERI)</li> </ul>		

# Figure 5.1 Turkey's Selected Resource Centers by Priority Areas

# Table 5.1 Short Description of Selected Resource Centers

# 1) Agriculture, Livestock and Food Security

Directorate of Plant Protection Central Research Institute	The Directorate of Plant Protection Central Research Institute (PPCRI) has carried out studies on diagnostics of harmful organisms, biology, epidemiology and bio-ecology of plant pests, residues, risks, resistance and application techniques of plant protection products for human and the environment health. The Insitute was promoted as "Central Research Institute" in 1998 and since then it has been accepted as the reference institute on Plant Protection.
International Agricultural Research and Training Center (IARTC)	The IARTC is one of the leading institutions on conducting trainings at international level and sharing the agricultural studies, experience and knowledge in international platform. IARTC is also a research institution carrying out activities in the coastal line of the Aegean Region and pass zones on enhancing, preserving and efficient use of soil and water resources.
Cattle Breeders' Association of Turkey (CBAT)	The Cattle Breeders' Association of Turkey (CBAT) is a non-governmental organization which aims to increase the contribution of breeding activities to the national economy as well as the profits of the breeders with a more cost effective and scientific way of production.
International Center for Livestock Research and Training (ICLRT)	The overall objective of International Center for Livestock Research and Training (ICLRT) is to carry out scientific studies in order to increase animal productivity through improving genotype and environmental conditions in cattle, sheep, goat, poultry and small domestic animals. ICLRT is the only research institution in Turkey solely specialized in animal artificial insemination and embryo transfer.
General Directorate of Agricultural Enterprises (TIGEM)	The General Directorate of Agricultural Enterprises (TİGEM) aims to increase and diversify Turkey's plant and animal production as well as to improve the quality of its products. TİGEM is the only public institution in Turkey undertaking plant production and livestock breeding activities.
Nazilli Cotton Research Institute	The overall objective of the Nazilli Cotton Research Institute is to carry out national and international studies for increasing cotton productivity and yield by producing new cotton seeds. Nazilli Cotton Research Institute is the only research Institute in Turkey preparing, coordinating and carrying out projects on cotton.

# 2) Health and Nutrition

Turkish Green Crescent Society	The Turkish Green Crescent has almost a century long experience in the fight against addiction. The Turkish Green Crescent Society, on the premise of human honour and respect, endeavors to protect society and youth from harmful habits without discrimination.
Doctors Worldwide Turkey (DWWT)	The main functions of Doctors Worldwide Turkey (DWWT) are to provide medical aid as well as to create short/medium/long term projects to people in need of health service anywhere on earth regardless of race, ethnicity, age, gender, religion or ideology. DWWT is the first institution sending a doctor from Turkey to remote areas.
Cancer Early Diagnosis, Screening and Training Centres (KETEMs)	The Cancer Control Department in Ministry of Health is the institution in Turkey for planning, organizing activities on cancer, collecting statistics and implementing necessary measures in the fight against cancer. Cancer Early Diagnosis, Screening and Training Centers (KETEMs) provide basic health services for cancer in line with the policies and objectives of the Ministry of Health.
Turkish Red Crescent	As an organization that is closely interested in public health, the Turkish Red Crescent undertook the mission of establishing and developing blood donor centers in Turkey. The Turkish Red Crescent, which established its first blood centers in Ankara and Istanbul in 1957, meets Turkey's blood requirement to a great extent today. It has aimed to develop its mission every passing day and bring it to international standards since it was established.
The National Nanotechnology Research Center – UNAM Bilkent University	Since its establishment, UNAM, driven by excellence in science and technology at Bilkent has been serving several hundreds of scientists, researchers and students (currently over 800) both for on-campus and out-of-campus R&D communities in the fields of nanoscience and nanotechnology. UNAM is the first nanotechnology research center of Turkey. UNAM has rapidly established itself as the most prominent nanotechnology-focused academic institution in the region. It is also in a Cyberpark zone with tax incentives for incubated companies
Hacettepe University Cancer Institute	The Hacettepe University (HU) Cancer Institute is the major referral center for complex oncology cases. The main goals of the Hacettepe University Cancer Institute are to cure cancer, share experiences, expertise and knowledge and use its resources to fight against cancer and to ensure that cancer patients gain access to the best modern treatment and care. The Cancer Institute is a flagship institute in the prevention and effective treatment of cancer.

# 3) Technical and Vocational Education and Training and Employment

Istanbul Metropolitan Municipality Lifelong Learning Center İSMEK	Istanbul Metropolitan Municipality Lifelong Center İSMEK acts as a "public university" by giving training courses in the field of adult education. Since 1996, İSMEK provides free vocational and arts education to Istanbul's people. İSMEK has become the biggest training provider in the world in terms of the number of trainees and courses, the diversity of the training programs and the good results from such programs.
Turkish Employment Agency (İŞKUR)	The Turkish Employment Agency (İŞKUR) matches labor supply and demand in accordance with the needs of the market, facilitates and enhances employment through labor market programs, provides temporary income support to individuals who have lost their jobs and implements regulatory policy reforms on employment.
Farmer Training, Dairy Science and Technology Centers of SÜTAŞ	Sütaş Group, through its integrated business model, "From Farm to Table" safeguards the quality and naturalness of its products. This model consists of Farmer Training, Dairy Science and Technology Centers, Quality Feed Production, Dairy Cattle Breeding Farms, Livestock Selection and Certification Centers, Milk Production Facilities and Distribution Network. The Sütaş Farmer Training, Dairy Science and Technology Centers are one of the most successful and inspiring examples of university-industry partnerships.
Vocational Qualifications Authority (VQA)	Vocational Qualifications Authority (VQA) is the only authorized body to determine the principles of national qualifications in technical and vocational fields. The main role of the VQA is to build and operate the National Qualifications System in line with the European Union in order to perform activities concerning assessment, evaluation, certification, education accreditation and authorization.
Social Security Institution (SSI)	Social Security Institution (SSI) is established with the objective of the realization of a social security system at the contemporary standards that will provide individuals with social insurance and universal health insurance in an effective, equitable, easily accessible manner. SSI aims at providing the continuance of social security system that includes the entire population in Turkey. In Turkey, SSI is the only institution in the social security field.

# 4) Transport and Communications

Post and Telegraph Corporation (PTT)	The Post and Telegraph Corporation (PTT) offers postal, financial, logistics services and also provides universal postal services throughout Turkey by taking into account customer satisfaction and global changes. The PTT is one of the oldest institutions in Turkey, but it still continuously introduces innovation into its postal, cargo and logistics services.	
EGO meets the transportation needs of all the citizens living within boundaries of Ankara Metropolitan Municipality. In this context, EGO exe the tasks of managing, planning, designing, constructing as well as open facilities in the area of transport based on modern technology. EGO is the organization to include natural gas to the public transit fleet.		
TURKSAT	TURKSAT Satellite Communications Cable TV and Operation Inc. offers communications and IT services in its region with its high-tech infrastructure and experienced staff. TURKSAT also provides ICT's solutions to perform digital transformation of government agencies. TURKSAT is the sole satellite and cable TV operator in Turkey.	
Turkish State Railways (TCDD)	TCDD, the country's vertically-integrated railway company, has eight regional directorates around the country. In addition to operating and maintaining the railways, TCDD has also an extensive manufacturing capability in both rolling stock and track components. Turkey is the sixth country in Europe and the eighth in the world to be operating high-speed trains through TCDD.	
DHMI - Air Navigation Service Provider and State Airports Authority of Turkey DHMI - Air Navigation Service Provider and State Airports Authority of is responsible for air navigation services in the Turkish airspace. DHMI main functions: provision of airport operations and air navigation services DHMI is the sole provider of Civil Air Navigation Services for Turkey.		

# 5) Disaster and Emergency Management

TUBİTAK MAM Earth and Marine Sciences Institute (EMSI)	EMSI is the largest Institute of Earth Sciences in Turkey and one of the largest in Southeastern Europe. EMSI aims to conduct applied research with a focus on social benefit by using multidisciplinary approaches based on measurement, monitoring and modeling in the areas of active tectonics, geophysical imaging, and applied geology.	
IHH Humanitarian Relief Foundation	IHH Humanitarian Relief Foundation delivers humanitarian aid and prevents violation of fundamental rights and freedoms of people who have been affected by war, natural disaster and similar calamities, wounded, crippled, oppressed or left hungry and homeless no matter where in the world. The foundation sets a good example about how NGOs can play an active role in restoring and improving the social welfare of the society.	
Prime Ministry Disaster & Emergency Management Authority (AFAD)	In Turkey, disaster management along with humanitarian aid activities are executed under the coordination of AFAD. The main functions of AFAD are to ensure cooperation between all relevant national and international organizations for effective planning, management, support and coordination of disasters and emergencies as well as to promote disaster awareness and culture of prevention in the public.	
Istanbul Governorship Istanbul Project Coordination Unit (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project)	Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (İSMEP) is a risk mitigation project established under the roof of Governorship of Istanbul and conducted by Istanbul Project Coordination Unit (İPKB). ISMEP has drawn the attention of the world due to being the first risk mitigation project conducted by a local government.	
Boğaziçi University - Kandilli Observatory and Earthquake Research Institute (KOERI)	KOERI has a long tradition of earth observation and science. KOERI is a multidisciplinary earthquake research organization providing graduate education in the earthquake engineering, geophysics and geodesy departments and encompassing earthquake observation, research and application services within a single, integrated body.	

# Mapping Turkey's Resource Centers

	The majority of the funding comes from the government	<b>→</b>	<ul> <li>Directorate of Plant Protection Central Research Institute</li> <li>International Agricultural Research and Training Center (IARTC)</li> <li>International Center for Livestock Research and Training (ICLRT)</li> <li>General Directorate of Agricultural Enterprises (TİGEM)</li> <li>Nazilli Cotton Research Institute</li> <li>Cancer Early Diagnosis, Screening and Training Centres (KETEMs)</li> <li>Hacettepe University Cancer Institute</li> <li>Vocational Qualifications Authority (VQA)</li> <li>Social Security Institution (SSI)</li> <li>Prime Ministry Disaster &amp; Emergency Management Authority (AFAD)</li> <li>Boğaziçi University - Kandilli Observatory and Earthquake Research Institute (KOERI)</li> </ul>
	Metropolitan Municipality of Istanbul	↦	<ul> <li>Istanbul Metropolitan Municipality Lifelong Center İSMEK</li> </ul>
	Membership (entrance fees and annual subscriptions)	↦	<ul> <li>Cattle Breeders' Association of Turkey (CBAT)</li> </ul>
_	State-owned enterprise	↦	<ul> <li>Post and Telegraph Corporation (PTT)</li> <li>TURKSAT</li> </ul>
-	Government, self-funding, development agencies, local private institutions	↦	TUBİTAK MAM Earth and Marine Sciences Institute (EMSI)
	Donation	↦	<ul><li>Doctors Worldwide Turkey (DWWT)</li><li>Turkish Red Crescent</li></ul>
-	Donation + Grant	↦	IHH Humanitarian Relief Foundation
-	Government, development agencies, international private institutions	↦	Turkish Green Crescent Society
-	Private	↦	<ul> <li>Farmer Training, Dairy Science and Technology Centers of SÜTAŞ</li> </ul>
-	Government + Self-funding	↦	<ul> <li>Turkish Employment Agency (İŞKUR)</li> </ul>
-	Self-funding (100%)	↦	• EGO
	State-owned governmental organization	↦	<ul> <li>DHMI - Air Navigation Service Provider and State Airports Authority of Turkey</li> </ul>
-	Equity (88%) + Foreign Resources (12%)	↦	<ul> <li>Turkish State Railways (TCDD)</li> </ul>
	International private institutions contributions	<b>→</b>	<ul> <li>İstanbul Governorship İstanbul Project Coordination Unit (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project)</li> </ul>
	Republic of Turkey Ministry of Development (in addition to other national and international supports)		<ul> <li>The National Nanotechnology Research Center – UNAM Bilkent University</li> </ul>

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# Agriculture, Livestock and Food Security



# MAPPING TURKEY'S' 16 RESOURCE CENTERS

# **Directorate of Plant Protection Central Research Institute**



Directorate of Plant Protection Central Research Institute (PPCRI) has carried out studies on the diagnostics of harmful organisms, biology, epidemiology and bio-ecology of plant pests, residues, risks, resistance and application techniques of plant protection products for human and the environment health. PPCRI serves as the leading organization on Phytosanitary Researches at both regional and national area. Besides, biological-biotechnical methods, early warning systems and traps are developed and expanded across the country for an integrated pest management and organic farming.

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**Introduction** In 1934, the Institute was established as the Department of Phytopathology and named "Central Protection Institute" in Ankara (Kalaba). In 1998, it was promoted as "Central Research Institute" and since then the Institute continues its mission across the country with eight technical and four administrative departments. There are 75 technical staff (entomologists, pathologists, statisticians, biologists and chemists). PPCRI's budget is largely provided by the state.

Sector & Main Activities PPCRI is involved in the agriculture, livestock and food security sector. Main activities of PPCRI can be summarized as follows: Diagnosing harmful organisms in cultivated plants; identifying their distributions, intensity and severity of damage; determining the most effective and economical control methods; conducting researches on plant protection products, plant protection machinery and toxicology in order to protect the environment and human health.



Nazife Tuatay Plant Protection Museum

**Areas of expertise** PPCRI's activities have been carried out especially in the fields of Pest, Plant Diseases, Weed, Pesticides, and Biological Control. PPCRI works as a center of expertise at both regional and national level in these areas.

Achievements Department of entomology (nematological unit) analyses over 400 plants and department of phytopathology (bacteriology, virology, and mycology units) analyses over 1, 000 plants per year for domestic and external quarantine purposes. In addition, nematology and mycology units perform approximately 4, 000 soil samples and bacteriology unit performs 2, 000 potato tuber samples analysis in order to monitor potato seed certification program.

First domestic attractant "ZİRAY" used against Mediterranean fruit fly and the olive fly has been developed by the PPCRI. "ZİRAY" is produced approximately 200 tons per year in Balıkesir facility, which has 400 tons of capacity. It provides 98% effect with bait-spray technique on about 20, 000, 000 olive trees in Balıkesir, Manisa, Izmir, and Çanakkale provinces and prevents up to 30%-65% yield losses.

Moreover, a domestic air assisted sprayer was produced and trials were completed against Sunnpest, which is a frequent pest in cereals. This sprayer has also been commercially manufactured for the first time in Turkey, and it was shown to the farmers that it was highly efficient and used less pesticide. In this context, a reduction at a rate of 1/3 insecticide used against Sunnpest can be provided by this technique.

Research activities have been carried out within the field of the collection and conservation of fauna and microflora organisms as well as taxonomy. In this context, Nazife Tuatay Plant Protection Museum is the only one within the Ministry as an insect collection in Turkey. It has 2, 000 genera belonging to 225 families in 14 insect orders and 4, 000 specimens from 40, 000 samples. Besides, the museum preserves 555 type samples belonging to 51 insect species that were identified for the first time in the world by the museum researcher. There are also approximately 6, 000 weed samples in the PPCRI's Herbarium. Besides, a live culture collection contains approximately 1, 000 isolates as plant pathogenic microorganisms.

#### Why is this institution a Resource Center?

The Institute was promoted as the "Central Research Institute" in 1998 and since then has been accepted as the institute of reference on Plant Protection.

Plant Protection Bulletin has been published quarterly since 1952 by the Institute. It contains taxonomic, biological, ecological, physiological and epidemiological studies of plant as well as researches on control methods. It is sent to 800 public institutions and universities in Turkey free of charge and 250 organizations abroad. Also articles in bulletin can be accessible on the official website of the PPCRI.

Plant Protection Technical Instructions are prepared on the basis of the research results concerning harmful organisms that cause economic loss of cultivated plants. The number of technical instructions reached 574 and they are published in six volumes.

Mesude lleri Library of the Institute was selected as Plant Health Central Library by General Directorate of Agricultural Research and Policy. There are a total of 25, 000 registered sources available.

**International Cooperation** In 1999 and 2006, two international workshops on using molecular methods for detecting plant bacterial pathogens were organized by PPCRI. Plant pathologists from Austria, France, Northern Cyprus, Poland, Romania, Slovenia, and Turkey participated to these workshops. PPCRI with international participants organized "Potato Harmful Organisms Symposium" in 2013 and "The Detection and Identification Methods of Potato Quarantine Organisms" as well as "Evaluation of Possible Risks" in 2015. 250 participants attended to these activities.

Since 2012, training programmes on integrated pest management, residue as well as toxicology have been organized by TİKA (Turkish Cooperation and Coordination Agency). Approximately 25 participants attend these training programmes each year. Moreover, in 2012, a training course on controlling against Sunnpest was given to seven participants in Turkmenistan.

Under the 6th Framework Programme funded by European Research and Technological Development, PPCRI carried out three **EUPHRESCO** projects with the collaboration of other European institutes. Within the 7th Framework Programme, the Institute carries out two COST, two ARIMNET, FP7 ERA-NET and four **EUPHRESCO** projects.



# PPCRI's Laboratory EUPHRESCO

PPCRI carried out a **EUPHRESCO** project entitled "Interlaboratory test on detection of *Clavibacter michiganensis ssp. sepedonicus&Ralstonia solanacearum* in potato tubers (EUPH03)" with the collaboration of other European institutes. This project ended in 2012. The aim of this project was to evaluate the performance of diagnostic methods including rapid screening tests and real-time polymerase chain reaction (PCR) for potato quarantine organisms known as *Clavibacter michiganensis ssp. sepedonicus&Ralstonia solanacearum*.

The result of this project can be summarized as follows: The plant health precautions are taken promptly since more reliable, rapid and sensitive methods are used; availability of reliable monitoring for potato seed certification program; verification of the performance of official tests through EU methods 2006/56/EC and 2006/63/EC.

# International Agricultural Research and Training Center (IARTC)



IARTC is one of the leading institutions on conducting training at an international level and sharing the agricultural studies, experience and knowledge on an international platform. IARTC is also a research institution carrying out activities in the coastal line of the Aegean Region and pass zones on the enhancement, preservation and efficient use of soil and water resources.

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**Introduction** The initial foundation process of International Agricultural Research and Training Center (IARTC) began in 1994. The center began operating on 9 September 1996 in Menemen as the Agricultural Hydrology Research and Training Center. IARTC was turned into the International Agricultural Research and Training Center on 2 November 2009 in order to increase productivity and quality in agricultural production, provide national and international education and training about preserving natural and genetic resources and their sustainable use and conduct researches about these training activities.

There are 39 researchers. The majority of the funding comes from the government.

**Sector & Main Activities** IARTC is involved in the agriculture, livestock and food security sector. The main activities of IARTC can be summarized as follows: Preparation, organization, coordination and implementation of training programs and projects both at the national and international level. Arrangement of meetings such as courses, seminars, conferences in accordance with national and international needs and the demands of public and private sectors, professional organizations, non-governmental organizations. Improvement of appropriate methods and technology for the efficient use of water in agriculture.

**Area of expertise** IARTC's activities have been carried out in the fields of plant nutrition and soil science, climate change and catchment, mechanization and information technologies, agricultural economics as well as agricultural irrigation.

IARTC works under the General Directorate of Agricultural Research and Policy of the Ministry of Food, Agriculture and Livestock.



## IARTC's Buildings

Achievements The Center has facilities for training programs including classrooms, library, meeting rooms and conference rooms. Conference room can provide services for up to 232 participants. There are five classrooms, each accommodating 20 to -35 people, and two seminar rooms, each accommodating up to 40 people, used in training programs. Besides, IARTC's guesthouse has two buildings; 106 rooms with 163 bed capacities in two buildings. During the last five years, 31 training sessions on 17 different subjects concerning agricultural sector were held in the Center.

In 2014, the personnel have published 21 national and eight international research studies.

"Training on Explication of Digital Aerial Photographs for Soil Mapping" organized by the General Directorate of Agricultural Reform was held in IARTC between 8-12 December 2014. 17 soil engineers working at the department of farmland assessments participated in this training course.

"World Soil Day" has been celebrated every year since 2002 to emphasize the key role of soil in ecology and human being's life. The IARTC organized this event on 5 December 2014.

Approximately 90 people of researchers, lecturers from Ege University, Directorate of Aegean Agricultural Research Institute, Directorates of Menemen and Foça Provinces of MFAL, Aegean Warm Fertilizer Inc., Garanti Seedling, farmer organizations and farmers from Menemen villages have participated in this activity.

#### Why is this institution a Resource Center?

IARTC cooperates with the United Nations Food and Agriculture Organization Subregional Office for Central Asia located in Turkey.

In IARTC, coordinatorships have been established for international training programs: African Countries Coordinatorship, Middle Asia and Far East Countries Coordinatorship, Eurasia and Balkan Countries Coordinatorship, Middle East and Near East Countries Coordinatorship.

**International Cooperation** International responsible area of IARTC covers the Caucasus, Central Asia, Middle East, Africa and Balkan countries.

The Sixth International Course on Sustainable Management of Soil and Water Resources was held at our IARTC with 23 participants from Algeria, Bosnia & Herzegovina, Bulgaria, Croatia, Iraq, Iran, Macedonia, Morocco, Pakistan, Serbia and Sudan between 27July and 7 August 2015.

"IFAD-TİKA Partnership Project" training program was held at the Center with 14 participants from Morocco, Tunisia, Sudan and Yemen between 24 and 28 November 2014.

13th General Conference of "AARINENA" (Association of Agricultural Research Institutions in the Near East & North Africa) and the International Conference on Water Management and Use Efficiency in the Near East and North Africa was organized in IARTC between 29 September and 2 October 2014. Directors General of research and specialists on extension and water from 19 member countries of AARINENA (Algeria, Cyprus, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Tunisia, Turkey, United Arab Emirates, Yemen) and also representatives of FAO, GFAR, ICARDA participated in the conference.

"The First South-South Knowledge Exchange and Coordination Workshop" organized in the framework of the partnership initiative on South-South and Triangular Cooperation for Agricultural Development and Enhanced Food Security (SSTC-ADFS) jointly supported by the International Fund for Agricultural Development (IFAD) and the United Nations Office for South--South Cooperation (UNOSSC) was held in IARTC between 22 and 24 July, 2015.

#### AQUAP

AQUAP project aims to support students in Europe to find a suitable placement company, qualified and recognized in a country of their preference.

AQUAP has established a partnership with Germany, Turkey (IARTC), Hungary, Italy, Slovakia and the Netherlands in order to develop and to test this innovation in the agricultural sector.

The AQUAP project develops a smart interface that enables students to search in placement databases of other countries. The website (www.greenplacements.eu) provides links to other websites. For example, it helps with the translation of the apprenticeship work agreement.

Moreover, AQUAP increases the number of placement companies and the number of countries and colleges participating in "green" placements.

AQUAP offers coach training (in their region) in order to support entrepreneurs to execute their placement task.

AQUAP introduced a workbook in order to help staff and students to prepare their foreign placement.

This project developed a procedure for quality control, accreditation of companies, privacy and protection of information, recognition of the achieved competencies and experience.

# **Cattle Breeders' Association of Turkey (CBAT)**



The Cattle Breeders' Association of Turkey (CBAT) is a non-governmental organization which aims to increase the contribution of breeding activities to the national economy as well as the profits of the breeders with a more cost effective and scientific way of production.

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**Introduction** CBAT was established in 1998 in Ankara. There are 217 agricultural engineers, 160 veterinary, 226 technicians working in 81 member province associations. Membership (entrance fees and annual subscription) constitutes the funding of CBAT.

Sector & Main Activities CBAT is involved in the agriculture, livestock and food security sector. Main activities of CBAT can be summarized as follows: CBAT conducts breeding programs, ear tagging and farm registration, and heifer sales. It provides health services and education to resolve the lack of knowledge on cattle breeding. CBAT supports Turkish livestock policies.



Cow's Milk Pumping Device

**Area of expertise** CBAT activities have been carried out in the fields of preventive health services, artificial insemination, herdbook and yields control studies.

CBAT has a total of 163 branch offices located in 81 provinces of Turkey.

Achievements Since 2001, Menemen artificial insemi-nation laboratory conducts progeny testing projects via the Ministry of Food, Agriculture and Livestock as well as CBAT. In this context, the number of tested bulls amounted to 87. The total stocked semen reached 1, 039 million doses.

In 2012, "supporting the quality of raw milk for breeding purposes" project has been initiated by CBAT and the Ministry of Food, Agriculture and Livestock. In 2013, five pilot laboratories have been established within this project.

This project aims to support the quality of raw milk for breeding purposes in order to produce higher quality milk, support breeders with information about rational allocation of livestock and feeding, analyze components of raw cow's milk such as fat, protein, somatic cell and lactose.

Within this project, 30 Aberdeen Angus, 1, 249 Brown Swiss, 4 Charolais, 12 Jersey, 381 Red & White Holstein, 27 Montbeliarde, 2, 402 Simmental, 196, 895 Black & White Holstein heads of dairy cows have been analyzed. The percentage of fat and protein of these different types of cow varies between 3.2 and 3.9. The highest somatic cell count (SCC) refers to the Montbeliarde cows with 600 cells/ml. The lowest SCC refers to the Charolais cows with 175 cells/ml.

According to different analyzes conducted by CBAT, dairy farm sizes vary between 8.9 and 11.5 milking cow per farm throughout Turkey.

In 2013, the shares of genotypes groups of cattle in Turkey are as follows: 16% native-breed, 42% cross-breed and 41% culture-breed.

A bull catalogue is also published by CBAT with 34 different types of bulls. In this context, GENTÜRK quality mark is given to cows and bulls with a high genetic value.

#### Why is this institution a Resource Center?

As a result of studies carried out by CBAT, the milk production level of member breeders' cows has risen above the national average.

Key partner international institutions of CBAT include the Food and Agriculture Organization of the United Nations (FAO) and the Association of Austrian Cattle Breeders (ZAR).

CBAT is a member of the International Committee for Animal Recording (ICAR), European Holstein and Red Holstein Confederation (EHRC), Word Simmental Fleckvieh Federation (WSFF).

In 2017, the World Simmental Fleckvieh Federations will organize a conference in İzmir.

#### **International Cooperation**

Herdbook for cattle and yield records are kept in the e-breeding database, which is prepared by CBAT in order to fit into the European standards. The total number of users amounts to 3, 300. The official pedigree of all cattle in Turkey is designed via the database of CBAT.

CBAT exports GENTÜRK bulls' semen to the Turkic Republics, the Balkans, the Middle East and Africa.

In 2013, İzmir has initiated breed heifer exports to Turkmenistan. In 2014, this initiative has continued between Kırklareli and Azerbaijan.

In 2015, CBAT participated in the 10th Agroexpo Eurasia International Agriculture, Greenhouse and Livestock exhibition held in İzmir with the participation of 708 companies. The exhibition has been visited by 198, 716 individuals. Moreover, there were 28 foreign participant companies from 16 countries and 5, 400 foreigners from 52 countries visited the exhibition.

## Determination of Professional Qualifications of Employees in the Dairy Farming Project

Determination of professional qualifications of employees in the dairy farming project is funded by the European Union Education and Youth Programs Center Directorate under the Life Long Learning, Leonardo da Vinci Program conducted by the European Commission.



Black and White Holstein

Through this project, statistics of cattle breeding have been collected and analyzed in three partner countries, namely, Turkey, Germany and Romania.

CBAT conducted a survey on its member farm owners in order to determine the educational status of its employees in March 2014. This study was performed with the participation of 1, 063 people working in 362 farms/ enterprises located in 36 different provinces of Turkey.

In this study, statistics concerning educational level, service duration in the sector, training received during service were determined by the face-to-face interview method. According to the survey results, 34.3% of the employees graduated from elementary school, 13.5% from secondary school, 30.7% from high school, and 18% from university.

More precisely, the educational level of dairy sector employees in Turkey coincides with the 2nd and 3rd levels of European and National Qualification Framework (EQF and NQF) by 79%.

The Federation of Romanian Cattle Breeders has 600 farms affiliated in 39 counties. They hold a livestock of 120, 000 heads of dairy cows and have a total of 2, 400 employees. According to the survey results, 48.7% of the employees graduated from elementary school, 31.3% from secondary school, 10.2% from high school, and 5.5% from university, respectively.

# International Center for Livestock Research and Training



The overall objective of International Center for Livestock Research and Training (ICL-RT) is to carry out scientific studies in order to increase animal productivity through improving genotype and environmental conditions in cattle, sheep, goat, poultry and small domestic animals. ICLRT is also entrusted with conservation of native genetic sources in Turkey.

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**Introduction** The Center was established in 1951 in Lalahan, Turkey. There are approximately 45 research staff. The Center is a non-profit, governmental research organization.

**Sector & Main Activities** The International Center for Livestock Research and Training is involved in the agriculture, livestock and food security sector. The main activities of ICLRT can be summarized as follows: Conducting fundamental and applicative researches on breeding techniques and using biotechnology in animal nutrition. Collecting data on animal breeding. Conducting training and research activities on animal nutrition and artificial insemination. Organizing scientific meetings, conferences and seminars.



ICLRT Publications

**Area of expertise** The International Center for Livestock Research and Training's activities have been carried out especially in the fields of animal breeding (cattle, sheep, angora goat, poultry), artificial insemination, embryo transfer, animal nutrition, genetics, wool and mohair.

Achievements In the artificial insemination laboratory, 700, 000 doses of frozen semen are produced annually and stocked in liquid nitrogen. This laboratory has a capacity of 2 million doses of frozen semen. The frozen semen and artificial insemination equipment are distributed monthly across Turkey. The semen production is made from Holstein, Brown-Swiss, Simmental, Jersey and Swedish Red bulls. Bulls are kept at two bull barns with a capacity of 50 heads.

There are four cow barns with a capacity of 250 heads in the cattle breeding unit. However, the cows are raised in semi-open barns in all seasons. The cows are milked by automatic milking systems (AMS) where ten cows can be milked at the same time.

Within the sheep and goat unit, sheep and goats are kept in three barns with a capacity of 800 heads. Angora purebred goats are conserved under a program named Conservation of Native Animal Genetic Resources.

Moreover, there are five poultry houses with a total capacity of 10, 000 birds per period. These poultry houses include three different housing systems, namely floor, slatted and cages.

ICLRT Embrio Laboratory

## Menagil Genetic Sources and Breeding Center in Sudan

In 2011, Menagil Genetic Sources and Breeding Center was established by ICLRT in Sudan in cooperation with TİKA, as the first genetic center of Africa. ICLRT had played a pivotal role in the establishment of the center by granting 72 laboratory equipment, renovating the premises, upgrading the conference facilities.

ICLRT conducted training courses and technical consultancy services to Sudanese staff.

A bull barn with a capacity of 20 heads has been established in Menagil Genetic Sources and Breeding Center. This capacity will increase to 60 heads in the upcoming years.

The production of 500, 000 doses of frozen semen is realized each year by the Menagil Genetic Sources and Breeding Center. 150, 000 doses of frozen semen will be produced with 60 heads of bull. The center's capacity of frozen semen stock reached 300, 000 doses.

Between March and April 2014, 3, 500 Kinanna and Butanna bulls, which represent Sudan's domestic breeds, were subjected to phenotypic selection.

Eighty-five bulls were selected and subjected to medical tests. At the end, four disease-free bulls were purchased and moved to the ICLRT's laboratory.

The Hatchery unit has a capacity of 6, 500 chicks per period. Denizli and Gerze domestic breeds are kept under the conservation program.

There are five roughage storages with a total capacity of 300 tons and four silage wells with 300 tons of capacity. There are also three barley silos with 180 tons of capacity.

There is also a wool and mohair laboratory where samples of approximately 3, 000 animal fibers are analyzed every year. Since 1959, the Journal of Livestock Research Institute (the former name of the center) has been published without interruption.

#### Why is this institution a Resource Center?

The ICLRT is the only research institution in Turkey solely specialized in animal artificial insemination and embryo transfer. It also hosts the first genetic bank of Turkey for animals.

#### **International Cooperation**

Many training programs have been organized by ICLRT to foreign veterinarians on production, stocking and distribution of frozen bull semen as well as application of new artificial insemination techniques.

ICLRT in cooperation with Japan International Cooperation Agency (JICA) and Turkish International Cooperation and Coordination Agency (TİKA) organized a training program on "dairy in Afghanistan and Central Asian countries, technical capacity on sheep and goat breeding Development" on June 2015. Trainees from Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan participated to the training program.

Two technical staff from Tajikistan made a study visit to ICLRT in January 2015. During this visit, laboratories and different units of ICLRT were shown to these technical staff.



# r ICLRT Frozen Bull Semen production facility



2016

# General Directorate of Agricultural Enterprises (TIGEM)



The General Directorate of Agricultural Enterprises (TIGEM) aims to increase and diversify Turkey's plant and animal production as well as to improve the quality of its products. TIGEM, with its genetic resources, land area and technology, constitutes the leading institution for certified seed production in Turkey.

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**Introduction** TIGEM was established in 1994 in Ankara. There are 6, 506 personnel. The majority of the funding comes from the government.

**Sector & Main Activities** TIGEM is involved in the agriculture, livestock and food security sector. Main activities of TIGEM can be summarized as follows: Undertaking plant production, livestock and horse breeding activities as well as irrigation investments. Conducting research and training activities for animal breeding and developing new varieties of plants.



#### Tractors

Area of expertise TIGEM's activities have been carried out in the fields of transferring the seeds, saplings, seedling, similar commodities, breeding animals as well as semen to the breeders.

Achievements TIGEM has a total of 360, 621 hectares of land area in its 36 farms located in different regions of Turkey. 19 of these farms have been leased long-term (30 years) to the private sector. TIGEM carries out its activities on 18 farms covering a total of 329, 560 hectares of land.

TIGEM produces certified seeds of wheat, barley, triticale, oat, forage crops and similar products and transfers these seeds to the farmers through 300 seed dealers around the country. Besides, TIGEM produces hybrid corn, sunflower, vegetables, forage crop and certified potato seeds in cooperation with the private sector seed companies.

TIGEM deals with cattle breeding with 5 breeds and a total of 14, 000 females; sheep breeding with ten breeds and a total of 75, 000 females; goat breeding with on breed and a total of 1, 000 females in order to satisfy the need for higher quality, disease-free, breeding animals.

TIGEM is also breeding and supplying purebred Arabian horses, angora goats, sheep dogs and Asian gazelles.

TIGEM also completed an irrigation project. This program consisted of increasing irrigated farming areas from 21, 000 hectares to 85, 000 hectares. As a result, there have been two crops in one year instead of one product in two years due to leaving land fallow.

TIGEM also realized livestock investments by establishing modern cattle, sheep and biogas facilities. In this context,

facilities with a capacity for 15, 200 cows and 38, 000 ewes have been constructed. In this context, there was an increase of breeding cattle capacity from 8, 000 to 15, 200 cows and an increase of breeding sheep capacity from 45, 000 to 83, 000 ewes. All these activities have been performed in modern facilities.

Moreover, seed processing plant with a capacity of 160 tons/hour, harvest store silos with a capacity of 235, 000 ton have been constructed. As a result, there has been an increase of quality and capacity concerning certified seed production.

The renewal of the existing mechanization with the state of the art technology has been realized by purchasing 548 tractors and ancillary equipment. Despite decreasing the number of tractors from 1, 254 to 747, the working capacity has been doubled.

## Why is this institution a Resource Center?

TIGEM is the only public institution in Turkey undertaking plant production and livestock breeding activities.

In 2013, TIGEM was awarded the "e-Turkey Special Award" during a ceremony held in the Grand National Assembly of Turkey by the Turkish Industrialists and Businessmen's Association (TUSİAD) and Turkish Association of Informatics. This award has been given to TİGEM for being the only farm running 561 center pivot systems used in irrigation covering 50, 000 hectares of land area under the scope of the Ceylanpınar irrigation project.

#### **International Cooperation**

Under the protocol signed with Sudan in 2006, training courses have been given to 350 Sudanese farmers. In 2007 and 2008, 5, 000 tons of wheat seeds were donated to Sudan.

Between 2008-2011, TIGEM provided practical agricultural education to Sudanese technical staff. In 2012, TIGEM has exported 9, 300 tons of certified wheat seeds to Sudan.

In 2014, TIGEM participated to the Mersin International Agriculture and Horticultural Fair where companies from more than 20 countries were present.

An agreement was signed between the agriculture ministers of Sudan and Turkey in 2014. In this context, TIGEM aims to establish pilot farms on 12, 500 hectares of land area in Sudan.

#### **Certified Seed Production**

In 2012, TIGEM has delivered a total of 76, 000 tons of certified seeds including 72, 000 tons of wheat and 3, 800 tons of barley. TIGEM has covered 90% of wheat distribution and 93% of barley distribution in Turkey.

In 2013, 153, 000 tons of wheat and 21, 000 tons of certified barley distribution were distributed by TIGEM. TIGEM has covered 36% of wheat distribution and 27% of barley distribution in Turkey. TIGEM's certified seed distribution in 2013 has increased by 128% compared to 2002. However, its share of distribution in Turkey has fallen to 35%.

There is also a demand coming from abroad to the seeds produced by TIGEM. For example, in 2012 and 2013, the amount of certified wheat seed exported to Sudan, Azerbaijan and Libya reached 9, 766 tons and 665 tons, respectively. In 2013, total revenue was \$7.5 million.

Between 2008-2013, 15 units of machines with laser technology have been installed in order to increase the purity of certified seed crops to 99.8 %.

In addition to the existing steel silos with 92, 000 tons of capacity, the construction of 116, 500 tons of crop silos has been initiated in order to maintain in better conditions the seed crops.

Since 2009, direct seeding method, automation system, vehicle tracking system, fuel management system, security system and geographic information system has been put into practice for the first time at TIGEM.



Horse Breeding

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# Nazilli Cotton Research Institute



The overall objective of the Nazilli Cotton Research Institute is to carry out national and international studies for increasing cotton productivity and yield by producing new cotton seeds. The Institute also aims to improve agricultural technology for cotton cultivation as well as to create competitive research and development of systems concerning cotton.

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**Introduction** The Nazilli Cotton Research Institute was established in 1934 in Aydın/Nazilli, Turkey. There are 26 technical staff. The majority of the funding comes from the government.

**Sector & Main Activities** The Nazilli Cotton Research Institute is involved in the agriculture, livestock and food security sector. The main activities of the Nazilli Cotton Research Institute can be summarized as: Collecting and evaluating data on cotton on a national scale. Coordinating national cotton researches. Conducting training and research activities in order to meet the quality and yield requirements of Turkey concerning cotton. Participating in national studies on conserving, evaluating and using of natural sources including genetic and bio-diversity sources. Improving laboratory and infrastructure facilities of cotton and enabling other organizations to use these facilities.



Organic Cotton Production

**Area of expertise** Nazilli Cotton Research Institute's activities have been carried out especially in the fields of cotton breeding, cotton agronomy, genetics and biotechnology, plant health, seed and fiber quality.

Until today, the Institute has carried out 50 national and international projects.

The Institute is a publicly-funded governmental research institute bounded to General Directorate of Agricultural Research and Policy, under the organization of Ministry of Food, Agriculture and Livestock.

**Achievements** The Institute has four administrative and technical buildings, two laboratories, 22 warehouses, two social facilities and a guesthouse covering 1, 144 hectares of land area. As a result of breeding studies, the Institute has developed and released 37 cotton varieties.

In the Aegean region, the most popular variety is Nazilli 84-S, developed by the Institute. Five or six years ago, Nazilli 84 and Nazilli 84-S varieties had 95% planted area in the Aegean region. Today, varieties developed by the Institute have 60% to 65% planted area in the same region.

The Institute has registered 84 Nazilli cultivars, and the cultivars have almost doubled cotton yields. Nazilli 66-100 was the first Turkish cotton cultivar developed with resistance to Verticillium wilt in 1975. Then, Nazilli 84 and Nazilli 87 with higher levels of resistance to Verticillium wilt have been developed and released by the Institute.

Between 100, 000 and 150, 000 tons of original cotton seeds have been produced annually from 80 hectares of the Institute's land area. In addition, the Institute has a saw-gin establishment, which has a 3, 500-4, 000 kg per hour capacity, and a delineation establishment with a 1, 000-1, 200 kg per hour capacity.

#### Why is this institution a Resource Center?

The Nazilli Cotton Research Institute is the only research Institute in Turkey preparing, coordinating and carrying out projects on cotton.

The first meeting of the steering committee for the implementation of the Organisation of Islamic Cooperation (OIC) programme was held on 12 May 2008 in Antalya.

During this meeting, all the six centers of excellence representing the three OIC regions have been defined as follows: Asia: Turkey (Nazilli Cotton Research Institute) and Pakistan (Central Cotton Research Institute); Arab: Egypt (Cotton Research Centre) and Syria (Cotton Research Institute); Africa: Nigeria (Ahmadou Bello University Agricultural Research Centre) and Senegal (Experimental Unit of Velingara).

Moreover, the Nazilli Cotton Research Institute has been tasked with being the coordinator of the centers of excellence by the OIC.

#### **International Cooperation**

A project entitled "Cotton Cultivation in Benin" has been launched in partnership with Turkish Cooperation and Coordination Agency. In 2013, the President of Benin, Mr. Thomas Boni Yayi, visited the Institute and expressed his satisfaction over this cooperation.

Five OIC least developed member countries (OIC-LDCs) such as Afghanistan engaged in cotton production have been selected and invited to Turkey in order to have a study visit and to see the latest technologies in the cotton production in Nazilli Cotton Research Institute.

A capacity building programme on agriculture entitled "plant protection: diseases" has been organized by Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC) in partnership with Nazilli Cotton Research Institute on 24 to 26 June 2013 in Pakistan.

Another capacity building programme on agriculture entitled "quality improvement: seed quality and preparation" was organized by SESRIC in partnership with the Nazilli Cotton Research Institute in October 2013 in Azerbaijan.

The Institute also arranged courses in various countries such as Sudan, Pakistan, Uganda and Tanzania in the fields of cotton agronomy, breeding and plant health.



#### Greenhouse Trials

#### **Biocontrol Agent Fluorescent Pseudomonad**

Between 2005 and 2009, the Nazilli Cotton Research Institute carried out a study to isolate Fluoresan Pseudomonads bacteria from root surface areas infected by Verticillium dahliae (VD).

32 VD isolates from cotton and 59 fluorescent Pseudomonas strains from cotton and weed rhizosphere were collected in the main cotton growing areas of Aydin province of Turkey.

Plants were incubated at 25  $\pm$  2°C with a 14-h photoperiod and fertilized once a week with liquid fertilizer.

Three weeks after inoculation, disease severity has been assessed for each plant on a 0 to 4 rating scale according to the percentage of foliage affected by acropetal chlorosis, necrosis, wilt, and defoliation (0 = healthy plant; 1 = 1-33%; 2 = 34-66%; 3 = 67-97%; 4 = dead plant).

Four Pseudomonas strains isolated from Xanthium strumarium (FP22), Portulaca sp. (FP23), Gossypium hirsitum (FP30) and Convolvulus arvensis (FP35) have been significantly reduced symptom expression in artificially inoculated plants.



# Health and Nutrition



# MAPPING TURKEY'S'16

# **Turkish Green Crescent Society**

GREEN CRESCENT	The Turkish Green Crescent has almost worked for almost a century in the fight against addictions. The Turkish Green Crescent Society, on the premise of human honor and respect, works to protect society and youth from harmful habits without discrimination. In cooperation with public authorities, private sector, and international organizations, it fights against addictions that destroy the younger generation's mental and physical health.	
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**Introduction** The Turkish Green Crescent was established in 1920 in Istanbul. It has a staff of 70, and receives funds from governmental bodies, development agencies, and international private institutions.

**Sector & Main Activities** The Green Crescent works in the public health sector. The main activities of the Green Crescent can be summarized as: Preventive and rehabilitative activities; trainings, seminars, symposiums and media campaigns on addiction, its types, and how to fight against it. The Green Crescent is also involved in the development of alcohol policies in Turkey.

The Green Crescent is an independent, non-governmental, non-profit organization, subject to the regulations regarding associations in Turkey.

**Area of expertise** Green Crescent activities have been carried out in the fields of alcohol, tobacco, drug, gambling, and technology addiction.

The Green Crescent has 106 branches and more than 50 representative offices in different provinces of Turkey. The number of the members of the organization is around 30.000 across the country.

Achievements The Turkish Green Crescent organized a campaign against Hookah (Waterpipe) in Turkey. The materials of the campaign were adapted into three languages. Currently 82 Green Crescent clubs exist in universities around Turkey. Through Youth Green Crescent, youth involvement in the activities of the Green Crescent is ensured. The Youth Green Crescent organizes camps, bicycle tours and photo exhibitions. They take action against unhealthy lifestyles and conduct public awareness campaigns against addictions.

"The Green Crescent is looking for its Youth Leaders" educational project has been launched through the Green Crescent clubs in 967 secondary schools in Istanbul. Up to 2014, 5, 000 students have been educated as Green Crescent leaders.

Green Crescent developed the Addiction Prevention Training Program of Turkey (TBM) in 2013. TBM has an interactive content, and a Distance Learning System has been implemented. So far, Green Crescent field experts have trained 500 School Counsellors as TBM Trainer of Trainers.

Through the Ministry of National Education, 28, 000 School Counsellors have been trained as TBM Trainers within the scope of a three-day In-service Training program. The program's website is tbm.org.tr/



Addiction Prevention Training Program

Yeşilay stepped in rehabilitation processes with its YEDAM project in 2014. YEDAM aims at giving counseling and social support services to individuals. The 444 79 75 support line is used to inform addicts or their relatives. Psychologists try to convince the addicts to receive treatment. More info can be found at www.yedam.org.tr/

The Turkish Green Crescent has a scientific journal titled as "Addicta: The Turkish Journal on Addictions". Addicta is the official international journal and publishes peerreviewed research reports on addictions, bringing together research conducted within various disciplines. Three issues have been published so far. The journal can be accessed at addicta.com.tr/



#### The Turkish Journal on Addictions

#### Why is this institution a Resource Center?

The Green Crescent is a member of European Against Drug (EURAD), European Alcohol Policy Alliance (EUROCARE), Vienna NGO Committee on Drug, International Drug Policy Consortium, International Silk Road Medical Research Center, and the International Society for the Study of Drug Policy (ISSDP). It is also the president of the Addiction Working Group, consisting of doctors from many countries, within the body of the Federation of Islamic Medical Associations (FIMA).

The Turkish Green Crescent Society is a member of the Civil Society Task Force charged with empowering civil society engagement in the preparatory process of the United Nations General Assembly Special Session (UNGASS) on drugs in 2016.

**Health and Nutrition** 

The Turkish Green Crescent Society is an Organization in Special Consultative Status with the Economic and Social Council of United Nations since 2013.

The Turkish Green Crescent Society qualified for the "Decisiveness in Excellence" certificate from the European Quality Management Foundation in March 2014, and was the fastest organization to reach this in Turkey.

#### **International Cooperation**

The Turkish Green Crescent Society is leading the Country Green Crescents in 20 countries such as Bosnia Herzegovina, Palestine, Montenegro, Malaysia, Thailand and Lebanon.

The Turkish Green Crescent Society held the first symposium on alcohol policies in Turkey co-sponsored by the World Health Organization in 2013. More than 1, 200 leading experts from 53 countries, including representatives from the World Health Organization attended the symposium.

# International Symposium on Drug Policy and Public Health

In 2014, the Turkish Green Crescent organized an "International Symposium on Drug Policy and Public Health" in Istanbul. Sharing knowledge and experience in drug prevention, treatment, rehabilitation, advocacy, capacity building, media campaigns, drugs and youth, monitoring and evaluating from many different countries.

Attendees at the symposium included 85 speakers and chairs from different countries, eight focal points of Council of Europe, Pompidou Group from European Region, Country Green Crescent representatives from 20 countries, six Representatives from the Federation of Islamic Medical Association (FIMA) member countries, 15 focal points of the OIC Member Countries and representatives from Turkey.

This symposium has increased the international coordination among 1, 270 participants from 65 countries on drug policy, expanded the capacity of the civil society in national and international levels.

# **Doctors Worldwide Turkey (DWWT)**



Doctors Worldwide is an NGO founded in the UK in 2000 by a group of doctors, including Turkish doctors. In 2004, the Turkish branch officially started in Istanbul. The main functions of Doctors Worldwide Turkey (DWWT) are to provide medical aid as well as to create short/medium/long term projects to people in need of health service anywhere on earth regardless of race, ethnicity, age, gender, religion or ideology.

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**Introduction** DWWT was established in 2004 in Istanbul. There are 159 professionals with 34 experts working in headquarters and 7750 volunteers that 63 percent of them are health professionals. Donation constitutes the funding of DWWT.

**Sector & Main Activities** DWWT is involved in the health sector. The main activities of DWWT can be summarized as: disaster and emergency response, medical treatment, preventative healthcare services, education and capacity building. Doctors Worldwide Turkey, which manages its own annual operating plan independently of the UK-based headquarters, works jointly with the Ministry of Health in Turkey and Turkish Red Crescent.

**Area of expertise** DWWT activities have been carried out in the fields of health projects that are either therapeutic or preventative in nature such as food aid, nutrition health, qurbani and circumcision as well as health education projects.

Achievements The manual MODP (School-Based Support Program for Refugee Children) was prepared by the team of DWWT Psychosocial Support as a guideline for the teachers. This structured, short-term, evidence based and culturallyappropriate psychosocial intervention manual was applied as a pilot study in a Syrian School in Istanbul and found to be effective on students' psychological wellbeing.

In order to eliminate language problems and possible cultural differences, management of the therapy groups was conducted by the Syrian teachers trained previously. The training manual was given to the voluntary teachers by the project educators.

After the revision of the MODP manual through the evaluation of pilot study application, the program is enhanced both at 1 school in Istanbul and 14 schools in Gaziantep. Although the pilot study and current application in Istanbul are based on training of teachers, application in Gaziantep will be based on training of psychologist to measure the effectiveness of the MODP.

## Why is this institution a Resource Center?

DWWT is the first institution to send doctors from Turkey to remote areas. It is also the first institution doing surgery, opening hospitals and organizing educational activities and training programs for medical students in different world regions.

DWWT's carries out joint projects with World Health Organisation (WHO), UNICEF, Organisation of Islamic Cooperation (OIC), Fiqi Foundation, Benadir University, RADEM (Recherche et Action pour un Developpement Multisectorial), FIMA (Federation of Islamic Medical Associations), Global Medic, Chad Red Cross, Gaza As-Salama Charitable Society, Mercy Malasia, Hand in Hand for Syria. DWWT coordinated the activities of a civil society forum within the framework of the Fourth United Nations Conference on the Least Developed Countries (LDC-IV) held in İstanbul.

## **International Cooperation**

Doctors Worldwide Turkey provided medical service for over 40 countries such as Palestine, Niger, Syria, Afghanistan,

Yemen, and Sudan. DWWT sends 35 to 40 teams to disaster zones a year in order to provide clean water and getting toilets or similar places ready to use in the shortest time possible. In Africa, DWWT operates in the Democratic Republic of the Congo, Kenya, Ghana, Sierra, Leone, Niger, Guinea-Bissau and Somalia. Until today, DWWT have treated around 2 million people, performed the circumcision of 150, 000 children and operated on thousands of people.

DWWT has contributed £2 million sterling to the Democratic Republic of the Congo through the services they have carried out, including health screenings, establishing mother and child health centers and treating tens of thousands of people. Also, Hewa Bora Hospital was constructed with a 60-bed capacity, six clinics (gynecology and obstetrics, paediatrics, otorhinolaryngology, eye and dental clinics). In addition to these projects, DWWT has contributed US\$ 250, 000 to maternity clinics in rural areas for the rehabilitation of them.

Also, DWWT recently opened a physical treatment and rehabilitation laboratory in Gaza and a physical treatment and rehabilitation center in Khan Yunis as part of its joint project with Turkey's Cooperation and Coordination Agency (TİKA). Established in only six months at a cost of around US\$ 311, 000, the two new centers are equipped with state-of-the-art rehabilitation technology and will provide free health services to 10, 000 patients within two years. The high tech center can provide services for up to 450 people. Homecare services and training sessions on physical treatment were provided to 280 patients and their families with 38 experts up to now.

In addition to health service activities in Gaza, Doctors Worldwide offered advanced diagnosis and treatment training sessions on physiological trauma to mental health experts based in Palestine. Doctors Worldwide has focused on emergency health services due to the continuous violence in the region and rehabilitation after the attacks. From 2007 to 2015, 16 volunteer health service groups were active in Palestine, and nine of them were based in Gaza. In these camps, 662 operations and 2, 280 physical examinations were carried out by 108 physicians and 131 volunteer health professionals in the fields of plastic surgery, general surgery, brain surgery, orthopaedics and otorhinolaryngology. In 2014, Doctors Worldwide, in cooperation with the Federation of Islamic Medical Associations (FIMA), sent 22 trucks loaded with medical equipment and medicine to Gaza via Egypt. The medicine and medical equipment were delivered to 13 hospitals and 54 clinics operated by the Palestinian Ministry of Health. The First Palestinian-Turkish Conference of Surgery and the 4th Annual Conference of Surgery in Palestine was held between 26 and 28 March 2015 in Gaza Strip-Palestine. The Conference had a wide attendance from local and international leading personalities such as the Palestinian Prime Minister, the Minister of Health, the Minister of Public Work, the Minister of Women's Affairs, surgeons, journalists and public figures.

Moreover, DWWT has been conducting medical training project in Habib Medical School in Uganda, postgraduate medical program with Benadir University and health professions program in Ibn-i Sina Medical School in Somalia. DWWT has provided training services to 282 students up to now.

#### Somalia Projects

Somalia projects started after the Horn of Africa crisis in 2011. The Shifa Hospital was constructed with a 66-bed capacity, 74 personnel, one ambulance, seven clinics (gynecology and obstetrics, eye diseases, otorhinolaryngology and emergency). More than 8, 000 people were treated in three nutritive health centers of Doctors Worldwide. In 2012, DWWT has also opened an education assistant program in Somalia where ten assistants have been employed.

More than 15 teams of medical volunteer have been sent to Somalia. Around 600 surgeries and 80, 00 medical examinations were conducted by these teams. Until the end of 2013, more than 40.000 people were given free treatment and approximately 1000 people had free operations. After 2014, Somalian people continued to have free therapies.



Medical Education Program in Somalia

# **Cancer Early Diagnosis, Screening and Training Centers (KETEMs)**



The Cancer Control Department in Ministry of Health is the institution in Turkey for planning, organizing activities on cancer, collecting statistics and implementing necessary measures in the fight against cancer. Cancer Early Diagnosis, Screening and Training Centers (KETEMs) provide basic health services for cancer in line with the policies and objectives of the Ministry of Health.

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**Introduction** KETEMs were established in 2002 in Ankara within the Turkish Public Health Agency through the Health Transformation Program. So far, seven mobile KETEMs screening units have been launched in Turkey to provide direct healthcare services to the citizens. In total, 126 KETEM centers have been established in Turkey, with at least one in each province. Each KETEM has one doctor, two nurses, midwives and one roentgen technician. The majority of the funding comes from the government.

**Sector & Main Activities** KETEMs are involved in the health sector. The main activities of KETEMs can be summarized as: Providing cancer screening services. Preparing numerous training materials in order to raise awareness of the fight against cancer. Determining the national cancer screening standards and guidelines.



KETEM Building

**Area of expertise** KETEMs activities have been carried out in the fields of protective cancer services, breast, cervical and colorectal cancer screenings.

KETEMs are serving within the body of Community Health Centers affiliated to the Public Health Institution of Turkey.

Achievements Women are invited by different methods such as phone calls, letters in order to make the necessary medical examinations and tests for breast and cervical cancer screenings. Through KETEMs, in 2013, breast cancer screenings in Turkey increased by 9% compared with 2012.

According to the latest research, 47.6% of breast cancer cases are diagnosed in the first and second phases. This rate reached 80% through KETEMs.

In 2013, there have been 240, 771 breast cancer screenings, 297, 140 cervical cancer screenings and 94, 504 colorectal cancer screenings through KETEMs. In this context, cancer screenings conducted by KETEMs in 2013 amounted to 632, 415.

In 2012, the national cancer screening standards have been revised as follows: Breast cancer screening every two years from the age of 40; colorectal cancer screening, by using immunological faecal occult blood testing for all people aged between 50 to 70, and also in conjunction with colonoscopy in 51 years and 61 years; cervical cancer screening implementing human papillomavirus (HPV) DNA testing. Turkey is among the countries that first switched to HPV DNA tests in cervical cancer screenings. In this context, two HPV laboratories have been established in Ankara and Istanbul. Within three months, approximately 100, 000 individuals have undergone HPV cervical screening tests.

Also, since 2014, the Public Health Information System (PHIS) has been used for online tracking cancer screening in primary care. In 2014, 5, 570 training activities with 49, 988 technical staff participants have been organized by KETEMs. Also, in 2014, 56, 161 training courses, with 973, 410 participants in total for raising awareness of the society were carried out.

#### Why is this institution a Resource Center?

Through its Cancer Control Department in the Ministry of Health Turkey is a member of the Middle East Cancer Consortium (MECC), Union for International Cancer Control (UICC), International Protection Researches Institute (IPRI), and the Asian Pacific Organization for Cancer Prevention (APOCP).

Turkey is also among 24 members of the International Agency for Research on Cancer (IARC) which is the largest and most significant agency carrying out research on cancer in the world. Besides, Turkey took place in the "World Cancer Report 2013" published by the IARC with its cancer control programs. As a result, Turkey has been credited with having some of the best programs in the World Cancer Leaders Summit.

#### **International Cooperation**

Each year, "World Cancer Day" is celebrated on 4 February, increasing the level of awareness and consciousness in the fight against cancer.

During the cancer week activities held from the April 1st to April 7th, the "national cancer awareness and screening trainings" have been organized in cooperation with different universities in Turkey, - MECC, American Society of Clinical Oncology (ASCO), IARC, and the Cancer Hope Foundation.

An international symposium on "breast reconstruction awareness day (BRA Day)" with 300 participants was organized in cooperation with the Turkish Plastic Reconstructive and Aesthetic Surgery Association in 2013. Moreover, European Union criteria are adopted in all cancer screening processes and audits are carried out in cooperation with relevant non-governmental organizations.

#### **Cancer Control Programs in Turkey**

Turkey's national cancer control program has been prepared and initiated in cooperation with national and

international organizations in order to decrease the number of cancer-related deaths.

This program consists of four main pillars: cancer registry activities, cancer prevention, cancer screening and early diagnosis, cancer treatment and palliative care. There are 15 active cancer registry centers in 15 cities of Turkey. Currently, four of the active registry centers are accredited by the IARC. In 2013, the Izmir Cancer Registry Center became the second IARC Regional Hub for cancer registration within the framework of the Global Initiative for Cancer Registry Development (GICR).

Training activities at both the basic (basic cancer registration courses) and advanced (quality control of cancer registration data, use of cancer registration data in research, cancer epidemiology) levels have been organized by the lzmir Hub for national and international experts. Site visits have been also carried out by the lzmir Hub and IARC as well as regional experts to several cancer registry centers in the Hub region such as Jordan, Lebanon, Morocco, Egypt and Algeria.

The implementation of active registration centers in 81 provinces, with a 100% coverage rate, is planned for completion by the end of 2015.

Cancer prevention in Turkey is managed under certain programs such as the national tobacco control program. This program started in 2008. Tobacco consumption rates decreased from 33, 6% to 27, 5% and Turkey became the first country in the world to implement all the tobacco control measures of MPOWER [1–3].

Turkey aims to implement a population-based palliative care system based on family doctors and home care teams supported by more than 200 palliative care units over the next five years.



KETEM Cancer Screening

# **Turkish Red Crescent**

TÜRKKIZILAYI	As an organization that is closely interested in public health, the Turkish Red Crescent undertook the mission of establishing and developing blood centers in Turkey. The Turkish Red Crescent, which established its first blood centers in Ankara and Istanbul in 1957, meets Turkey's blood requirement to a great extent today. It has continually developed it mission to achieve international standards.
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**Introduction** The Turkish Red Crescent, established in 1868, is a national society that works for public interest with approximately 2, 385 experts. Donations constitute the funding of the Turkish Red Crescent.

**Sector & Main Activities** The Turkish Red Crescent is mainly involved in the health sector. Besides, being the leader in many fields and taking on tasks such as establishing social solidarity, contributing to enhancement of social welfare and health aid to people in need, the Turkish Red Crescent provides various services in blood, disaster response, health, social relief, youth and education with approximately 4, 169 staff.

The main activities of the Turkish Red Crescent can be summarized as: raising blood donation awareness in society; organizing blood donation campaigns with the support of the universities, private and public institutions; training of the volunteers who took part in the blood donor recruitment program in 81 provincial branches and carrying out various blood banking activities and data processing at the central level.

**Area of expertise** In addition to disaster management, the Turkish Red Crescent activities have been carried out in the fields of blood-related services.

Being an autonomous and universal organization, Turkish Red Crescent provides services to its entire national geography through 683 branches.



## Turkish-Type Tent

**Achievements** The most striking difference between the Turkish Red Crescent and other institutions working in the blood sector is that the Turkish Red Crescent provides blood voluntarily.

The Turkish Red Crescent has been continuing its bloodrelated services with 81 service units (17 Regional Blood Centers and 64 Blood Donation Centers). It has also numerous mobile blood donation vehicles containing the necessary equipment for the blood donation procedure.

The Turkish Red Crescent, which attaches great importance to the supply of "Safe Blood", conducted the National Safe Blood Supply Project in 2005. Today, the Turkish Red Crescent covers approximately 80% of the blood needs throughout the country. Standard practices have also been introduced in all Blood Centers in order to standardize blood

## **Health and Nutrition**

services and ensure total quality management. Within the scope of community education, in 2014, the number of training sessions provided by the Blood Donation Centers for the recruitment of the blood donors was 2, 412 and the number of people who have been informed about the training sessions was 583.367.

Also, the "Target 25" project was initiated in 2005 in order to raise youth awareness in the universities and to recruit volunteers and safe blood donors. In total, 142, 804 units of blood donation were accepted within 3, 665 blood donation activities performed in universities in accordance with the project in 2014.

With the systems it developed in the field of blood services, the number of blood donation units collected by the Turkish Red Crescent increased from 305, 324 in 2004 to 1, 860, 258 as of the end of 2014. It aims to receive 2, 032, 000 units of blood donation by the end of 2015.

Also, in order to create a Bone Marrow Bank for patients requiring haematopoietic stem cell transplantation treatment in Turkey and to find donor wanting to donate bone marrow or peripheral stem cells to the bank, a coordination protocol was signed between the Ministry of Health and Turkish Red Crescent in November 2013 within the scope of TURKÖK (Turkey Stem Cell Coordination Center) Project.

With this protocol, Turkish Red Crescent undertook the duty of "Acquiring Stem Cell Donors." 12 donation centers were established by the Turkish Red Crescent throughout the country.

### Why is this institution a Resource Center?

The Turkish Red Crescent blood banking activities have been carried out under the "TS EN ISO 9001:2008 Accreditation of Quality Management System Standard" since 2006.

The Central Anatolia Regional Blood Center received the Joint Commission International (JCI) Accreditation, which determines both clinical and organizational management in 2007, and became the only Blood Center accredited with JCI in the world.

The Turkish Red Crescent has received the Turkish Grand National Assembly (TBMM) Distinguished Service Award, the Presidency of Turkey's Peace Award, the Journal of Ekovitrin- Stars of the Year Award (2006-2008) and the NGO of the Year Award (2012).

International Cooperation The Turkish Red Crescent, an active member of International Red Cross and Red Crescent Movement, was established as the first Red Crescent Society in the world. It also gave the "Red Crescent" emblem to the international movement.

Moreover, the Turkish Red Crescent has served in 44 countries all around the world and still carries out its activities in five countries.

## Turkey Stem Cell Coordination Center (TÜRKÖK) Project

In order to create a bone marrow bank for patients requiring haematopoietic stem cell transplantation treatment in Turkey and to find donor candidates who want to donate bone marrow or peripheral stem cells to the bank voluntarily, a protocol was signed between the Ministry of Health and Turkish Red Crescent in 2013 within the scope of the TÜRKÖK Project.

The stem cell donations are accepted at 12 different points in Turkey. These donations aim to end dependency on other countries and provide stem cell transplants to all patients in need.

Moreover, 33, 650 stem cell donations have been made in the first half of 2015, so far.

Thirty-six percent of donors donated blood through the Turkish Red Crescent and most of the donors were aged between 18 and 25.

Until today, TÜRKÖK has established Regional Coordinating Centers for stem cell donations in 29 health zones in Turkey.

Since 2013, TÜRKÖK has been working on increasing stem cell donations in cooperation with international partners such as the USA and Germany.



Turkish Red Crescent Blood Centre

The National Nanotechnology Research Center (UNAM)		
unam	Since its establishment, UNAM has been driven by excellence in science and technology at Bilkent University and has been serving numerous scientists, researchers and students – the figure is currently over 800 - both for on-campus and out-of-campus R&D communities in the fields of nanoscience and nanotechnology. With a strong group of faculty members, with Principal Investigators numbering 35, at its Institute of Materials Science and Nanotechnology, UNAM educates and trains quality researchers and experts through multidisciplinary graduate programs with a strong focus on MS+PhD and integrated PhD degrees. With world-class infrastructure, UNAM provides an open R&D environment to facilitate and incubate cutting-edge innovative technology development.	
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**Introduction** UNAM was established at Bilkent University in Ankara, which is one of the top ranking research universities in Turkey, in 2007. With close to 40 Bilkent research groups using facilities at UNAM supported by a professional technical support staff (a total of 15 UNAM and project engineers and five lab technicians) and a professional administration support office, with seven specialists and a coordinator. UNAM has mainly been supported by the Ministry of Development of Turkey, with additional national and international supports, and is managed by Bilkent University.

It is a multidisciplinary organization and houses over 70 laboratories active in nanoscience and nanotechnology research, along with a shared facility and lab infrastructure (with a total lab space of 9200 m2 and a cleanroom environment of 400 m2). UNAM attracts a large volume of competitive external funding locally and internationally along with national and global collaborators. With and for national and international partners, UNAM offers:

- excellence in science and technology,
- world class R&D environment and infrastructure, and
- PhD degree with global opportunities.

**Sector & Main Activities** UNAM is involved in R&D activities in a wide variety of disciplines (materials science, energy research, optics, photonics, electronics, mechanics, health, etc.).

UNAM carries out professional research targeting to develop new technologies, and trains researchers and experts through the Materials Science and Nanotechnology - MSN Graduate Program. UNAM organizes national and international workshops and conferences. UNAM creates a platform for the exchange of know-how and joint work with Turkish and international scientists abroad. As part of outreach work, UNAM also contributes to the preparation of public media programs, and scientific magazines and newspapers for public education about nanoscience and nanotechnology.



A European Research Council (ERC) project hosted by UNAM

**Area of expertise** UNAM specializes in nanomaterials, computational nanoscience, nanophotonics, optics and lasers, energy, supramolecular chemistry, nanotextile,

nanobiotechnology and synthetic biology.

Achievements UNAM offers Master of Science (MS) and Doctor of Philosophy (PhD) degrees under the MSN program at Bilkent University. As of 2015, MSN program has 54 PhD students, 50 MS students, and 40 post-doctoral fellows. Additionally, 155 research students from other degree programs are also working at UNAM.

Currently, there are over 15 companies using the UNAM infrastructure on a regular basis. The total number of users exceeds 800 as of 2015, 250 of which users were from industry. Over the past five years, UNAM researchers have published more than 700 articles in peer-reviewed scientific journals including Nature Materials, Nature Photonics, Nano Letters, PNAS, Angewandte Chemie, Advanced Materials, ACS Nano, Lab on a Chip, Nanoscale, Small, and Advanced Functional Materials. In 2015, UNAM published over 150 SCI journal articles.

Thus far, UNAM has completed 149 projects with a total funding of over US\$ 40 million. As of 2015, there are 58 active projects running at UNAM with a total budget of around US\$ 25 million. Through these competitive projects, UNAM has trained over 450 highly qualified experts. Also, establishing an online reservation system, UNAM-IS (information system), the facility has been made available 24/7 to internal/external users.

### Why is this Institution a Resource Center?

UNAM is the first nanotechnology research center of Turkey. UNAM has rapidly established itself as the most prominent nanotechnology-focused academic institution in the region. It is also in a Cyberpark zone with tax incentives for incubated companies.

Since its establishment, UNAM has earned 30 patents and 61 awards. To name a few, these include: the Islamic Development Bank's Prize for Science and Technology in 2015; the Cyberpark "The company with the most funded project" Award in 2014; the National UNESCO-L'Oréal Award; and the Scientific and Technical Research Council (TÜBİTAK) Awards. The number of UNAM-based patents and the high-level publication track record of UNAM demonstrate its contribution and potential to be a primary hub of excellence for original contributions in the fields of nanoscience and nanotechnology.

### **International Cooperation**

UNAM organized the 5th International Workshop on Applications of Nanoscience and Nanotechnology -Growth and Synthesis of Functional Nanoscale Materials between 15 June and 26 July 2015. The workshop was a collaborative initiative of United Nations Industrial Development Organization (UNIDO) and UNAM and was supported by the Turkish Ministries of Science, Industry and Technology and of Development and the Turkish International Cooperation & Coordination Agency (TİKA). 39 participants from 14 countries received their certificates after completing the lecture/seminar and practical handson laboratory sessions.

Between 11 and 13 June 2014, UNAM organized a training school financially supported by European Cooperation in Science and Technology for bioinspired composite materials and innovative industrial applications. Nearly 50 participants (experts, postdoctoral fellows and PhD students) from 18 countries attended the training school.

## **Cell culture facilities at UNAM**

Currently UNAM is hosting research groups working on diverse topics in biomedical research. They are carrying out multidisciplinary research on developing; peptidebased biomaterials for tissue engineering and regenerative medicine, synthetic genetic circuits to program cellular systems for biomedicine and therapeutics and diagnostics for cardiometabolic syndrome and understanding the cellular and synaptic changes in the aging brain, characterization of mutations and mechanisms that lead genetic disorders, and microfluidic systems for point-of-care applications in medicine.

A new method to increase drug delivery to cancer cells

UNAM has developed a new drug delivery platform for anticancer drugs. MCF7 breast cancer cells were treated with anticancer drug containing peptide conjugated liposomal systems and enhanced drug activity was observed. The work supported by TÜBA-GEBIP (Turkish Academy of Sciences Outstanding Young Scientist Award Program) and TÜBITAK was published at the Faraday Discussions. The manuscript was one of the most downloaded 10 articles in 2013 on the journal's website.

## Hacettepe University Cancer Institute



Hacettepe University (HU) Cancer Institute is the major referral center for complex oncology cases. The main goals of the Hacettepe University Cancer Institute are to cure cancer, share experiences, expertise and knowledge and use its resources to fight against cancer and to ensure that cancer patients gain access to the best modern treatment and care.

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**Introduction** Hacettepe University Cancer Institute was established in 1982 in Ankara as the first cancer institute of Turkey. The Institute is one of the leading Cancer Institutes at the national level for the research, education and the application of the newest technologies for the diagnosis and treatment in the field of basic and clinical oncology as well as in cancer epidemiology and prevention. Currently, the Cancer Institute is functioning as a "Comprehensive Cancer Center" serving not only Turkey but also patients and students from Middle East, Asia and Africa.

Cancer Institute is directly affiliated with the Hacettepe University Faculty of Medicine. In addition, it supports the patient services of Hacettepe University Oncology Hospital. Having provided the patients who apply from all over the country with the top-notch professional health care services, Oncology Hospital is one of the leading cancer treatment centers of Turkey. The majority of the funding comes from the government.

The Institute maintains three academic departments, which are Clinic Oncology, Basic Oncology and Preventive Oncology, and several graduate programs connected to the departments. These programs are designed to include the most recent technological advances, in basic and clinical research experiences in the field of oncology.

**Sector & Main Activities** Hacettepe University Cancer Institute is involved in the health sector. The main activities of the Institute can be summarized as follows: Supporting patients in the Oncology Hospital and educating graduate students enrolled in the Institute's departments. The Cancer Institute provides graduate training programs, postgraduate courses, symposia and conferences on cancer. The Institute offers 9 graduate programs, which are designed and revised frequently to include the most recent technological advances, basic and clinical research experiences.

The academic staff of the Institute holds joint appointments in the Faculty of Medicine and also plays an active role in undergraduate education of the medical students. **Area of expertise** The Cancer Institute has been established as a full-scope cancer center. Its activities have been carried out especially in the fields of medical oncology, basic oncology as well as preventive oncology.

Approximately 80, 000 patients are provided with inpatient and outpatient care services through Medical Oncology, Radiation Oncology, Pediatric Oncology, Basic Oncology, Preventive Oncology, Bone Marrow Transplantation Unit, Intensive Care Unit, Apheresis Unit, Outpatient Treatment Unit, Smoking Cessation Unit, Radiology, Nuclear Medicine, Nutrition and Diet, Oncology Pharmacy and relevant specialized laboratories (Bronchoscopy, Biochemistry Cytogenetic, Tissue Typing, Tumor Pathology and Molecular Diagnosis Laboratory) at Hacettepe University Oncology Hospital. Approximately 1250 patients are administered chemotherapy in the Outpatient Treatment Unit on a monthly basis.

**Achievements** Hacettepe University Cancer Institute, along with the Oncology Hospital, pioneers several training and research programs on cancer.

## **Health and Nutrition**



### HU Oncology Hospital and Cancer Institute

The institute is the leading center in Turkey in terms of publishing scientific cancer research. It publishes about 50 scientific research articles per year. Annual Cancer Institute Symposium has been performed by the Cancer Institute at the end of November ever year with substantial participation. Moreover, monthly conferences are organized and given by successful, well-known scientists, writers etc. at the Institute.

Graduate programs of the Institute are composed of six Master of Science programs and three PhD programs and one MD/PhD program. The Institute has 23 Master, 19 PhD and 12 MD/PhD graduate students by Fall 2015 term. Through its collaboration with Hacettepe University Faculty of Medicine, the Institute contributes to the fellowship programs in Medical and Pediatric Oncology departments.

## Why is this institution a Resource Center?

The Cancer Institute is a flagship institute in the prevention and effective treatment of cancer. In this context, Prof. Dr. Tezer Kutluk, one of the academicians in the Cancer Institute, was elected as President of the Union for International Cancer Control (UICC) in December 2014. He is also the President of the Turkish Association for Cancer Research and Control Foundation. Dr. Kutluk became the new Associate Editor for the Journal of Global Oncology (JGO) in 2015. Also, Prof. Dr. Emin Kansu, one of the retired academicians in the Cancer Institute, is the President of the International Society of Hematology (ISH).

Furthermore, the Institute collaborates with several cancer centers in USA and Europe. MD Anderson Cancer Center, Memorial Sloan-Kettering Cancer Center and the University of Pittsburgh Medical Center are some of these institutions. In this context, Hacettepe University Cancer Institute and MD Anderson Cancer Center signed a Sister Institution Agreement in 2012. Hacettepe and MD Anderson are engaged in collaborative research in the areas of cancer therapeutics and therapeutic delivery.

**International Cooperation** The Institute has strong international involvement for education, research and organizations in the field of oncology. Several international organizations have conducted events at the Institute. Hacettepe University Cancer Institute and MD Anderson Cancer Center organized a workshop on 15 and 16 July 2013, in the area of medical oncology, basic oncology, and experimental therapeutics. There were 20 speakers and 200 attendees.

In addition, a foundation course in palliative care in oncology for nurses was organized by Hacettepe University Cancer Institute through Middle East Cancer Consortium (MECC) and Oncology Nursing Society (ONS) partnerships. There were 100 attendees, including 18 faculty members and 75 nurses (Turkish, Iranian and Iraqi), who participated to this course between 14 and 17 July 2014. The International Joint Oncology Symposium of the Hacettepe University Cancer Institute & the MD Anderson Cancer Center was held at the Institute on 14 and 15 May 2015.

### **Cancer Registration System**

The National Cancer Program has been initiated in cooperation with WHO, IARC (International Agency for Research on Cancer), IACR (International Association for Cancer Registry), UICC (International Union Against Cancer), NCI (National Cancer Institute), APOCP (Asian Pacific Organization for Cancer Prevention), MECC (Middle East Cancer Consortium), NHS (National Health Service). This program focuses on the prevention and screening of cancer.

The Cancer Registration System constitutes the first step in the National Cancer Program. In this context, Hacettepe University has established a cancer registry system. This database provides reliable information about the incidence of cancer in the population. Within this system, Hacettepe University collects data from every department that deals with oncologic patients such as medical oncology, radiation oncology, and pediatric oncology. Facts and figures about cancer incidence in Turkey can be achieved only by establishing cancer registry system. The most common types of cancer for men and women in Turkey are of the lung and of the breast.



# Technical and Vocational Education and Training and Employment



# MAPPING TURKEY'S '16

## Istanbul Metropolitan Municipality Lifelong Learning Center (ISMEK)

	SMEK *	Istanbul Metropolitan Municipality Lifelong Center ISMEK is a public university that gives training courses in the field of adult education. Since 1996, it has been providing free vocational and arts education to Istanbul residents.
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**Introduction** ISMEK was established in 1996 in Istanbul. More than 3500 trainers are working in ISMEK. ISMEK is funded by the Metropolitan Municipality of Istanbul.

**Sector & Main Activities** İSMEK is involved in the technical and vocational education and training sector. Main activities of İSMEK can be summarized as follows: Providing free of charge training courses. Giving services of guidance and counseling in order to enhance the employability of its trainees after completing their trainings. Organizing exhibitions, seminars, symposiums, and competitions. Publishing art albums, catalogues, books, magazines and symposium papers. ISMEK is an adult education and training organization that provides free of charge vocational courses for anyone including who cannot afford to acquire a profession with formal educational institutions or want to improve their skills and competencies in their current jobs.



Food and Beverage Services

**Area of expertise** ISMEK activities have been carried out in more than 30 main fields of vocational technical trainings, including computer technologies, handicrafts, Turkish – Islamic arts, music training, language courses, sport trainings, social and cultural trainings.

Achievements Starting with 141 participants in three branches in three course centers, ISMEK's training courses are now given in 239 course centers under 430 branches. Over 2 million people have benefited from İSMEK trainings so far.

The length of training courses varies from 80 hours to 2000 hours depending on the branch chosen.

ISMEK also provides free fitness activities for Istanbul residents in 21 Sports Training Centers.

ISMEK also organizes seminars for the trainees and open public seminars. Until today, 370, 000 participants attended to these seminars.

ISMEK provided also training courses to disadvantaged groups in four hospitals and rehabilitation centers, two nursing homes, seven penal institutions, and three disabled education centers in Istanbul.

## Why is this institution a Resource Center?

ISMEK has become the world's biggest training provider in terms of number of the trainees and courses, the diversity of the training programs and the high-class productions resulting from such programs. Today, ISMEK is regarded as a model institution for vocational education in the world. Numerous competitions have been organized by ISMEK such as "Mevlana", "2010 European Capital of Culture Istanbul". "2010 European Capital of Culture Istanbul" competition has been recognized by many art lovers and enabled ISMEK to prepare an important artistic archive. Handicrafts magazine, handicrafts album and design books correspond to some publications carried out by ISMEK.

## **International Cooperation**

Committees from all over the world more than 50 countries have visited ISMEK.

ISMEK and Statistical, Economic & Social Research and Training Centre for Islamic Countries (SESRIC) organized a workshop on "Strengthening the Vocational Education with Local Vocational courses: ISMEK Experience". Representatives from nine IDB Member Countries participated to this workshop.

Seventeen ancient cities from 15 countries participated in the traditional handicrafts symposium and exhibition, organized by ISMEK.

ISMEK's master trainers give training in any given field of education of ISMEK, including Jewellery Ebru (Marbling), Fabric Painting, Wood Painting, and Ornamentation for different occasions in different situations to the trainers of training institutions in the world.



Sports Training Centers

## **ISMEK Master Trainer Programme (IMTP)**

ISMEK Master Trainer Programme (IMTP) is a programme developed jointly by SESRIC and ISMEK within the framework of the Vocational Education and Training Programme of the OIC Member Countries (OIC-VET) in

order to provide intensive free training courses to high level managers and master trainers from competent authorities and implementing agencies striving with Vocational Education and Training (VET) of the OIC Member Countries.

Each training course is planned for a time period of 80 training hours (15 training days). Timing of the courses can be arranged according to the demand for the courses in the respective branches.

ISMEK has provided training courses in nine categories such as wood technologies; child raising and education; handicrafts; cloth-textile technologies; patient and elderly people services; jewelry technology; art and design; ceramics and glass; and food and beverage services. However, participants can participate in any of the 430 different training branches undertaken by ISMEK.

Between 2011-2015, a group of seven to ten master trainers from Cameroon, Pakistan, Azerbaijan, Senegal, Guinea and Palestine completed their training on different branches such as marbling, filography, wood shaping, sewing for ladies clothing, glassworks and ceramic styling under the IMTP. The five to ten day training programmes were hosted by ISMEK and participants were rewarded with certificates.



Turkish Handwork

## Turkish Employment Agency

<b>i</b> şkur	The Turkish Employment Agency (İŞKUR) matches labor supply and demand accord- ing to the needs of the market, facilitates and enhances employment through labor market programs, provides temporary income support to individuals who have lost their jobs and implements regulatory policy reforms on employment.
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**Introduction** The Turkish Employment Agency was established in 1946, and took its current name in 2003 through the law no. 4904. It aims at creating an effective labor market information system. There are 549 staff in the head office and 7582 staff in the provincial directorate. In total, Turkish Employment Agency provides services with its 8131 staff.

Government and self-funding constitute the source of funding.

**Sector & Main Activities** İŞKUR is involved in the technical and vocational education and training and employment sector. Main activities of İŞKUR can be summarized as follows: Ensuring employment protection and unemployment insurance benefits, preventing unemployment. Conducting training activities for individuals looking for employment.

**Areas of expertise** İŞKUR's activities have been carried out in the fields of employment services, active labor market programmes, business and professional consulting, and labor market statistics.

**Achievements** İŞKUR had mediated the employment of 65, 000 unemployed persons in 2003, 672, 000 persons in 2013 and approximately 700, 000 people in 2014 (see, Figure 1).

In 2014, İŞKUR provided counseling services to approximately 2, 500, 000 persons about guidance to jobs and professions. In the scope of the counseling service provided for

employers, approximately 410, 000 workplaces were visited in 2014. Employers were provided with counseling service about many issues such as vocational training, on-the-job training and eliminating labor force deficit. In total, 1, 736, 000 labor force demands were received from workplaces.

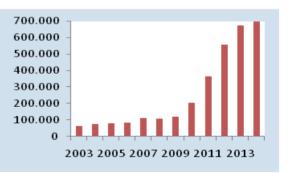


Figure 5.3: İŞKUR's Job Placement (Source: İŞKUR, 2014)

The number of applicants to i §KUR for job searching amounted to 2, 359, 304 in 2013. This figure reached 2, 375, 583 in 2014.

In 2013, 671, 578 people were placed in jobs through İŞKUR's programs. In 2014, this number jumped by 4.4% reaching 701, 435 individuals placed in jobs by İŞKUR.

Moreover, in 2014, İŞKUR mediated the employment of 26, 350 disabled people, as well as 384 people who served time due to previous convictions.

By the mediation of İŞKUR, the placement of 211, 498

women in the private sector was realized. In addition, in 2014, 30 job fairs and 174 career days were held in Turkey. In respect to Active Labour Programmes in 2014. there were 5552 vocational training courses with the participation of 109, 666 people, 1, 229 entrepreneurship training programs with the participation of 31, 648 people and 26, 283 on job training programs with the participation of 59, 456 people. On-the-job training programs target unemployed people to give them job experience. Also, 5, 188 public works were undertaken with the participation of 216, 108 people. In the first six months of 2016, 4, 565 vocational training courses with the participation of 101, 543 people, 683 entrepreneurship training programs with the participation of 17, 651 people and 28, 769 on job training programs with the participation of 65, 192 people were realized. Also, İSKUR places importance on using web applications for providing employment services.

### Why is this institution a Resource Center?

İŞKUR has been a member of World Association of Public Employment Services (WAPES) since 2003 and has been elected as a Managing Board Member for three years in 2012. İŞKUR has been also elected as the President of WAPES for the term of 2015-2018 during the General Assembly, held on 5 May 2015 in Istanbul.

Turkey acknowledges the importance of WAPES and other international organizations, manifesting its determination to build up shared global norms, values, principles and structures for a better world. In this regard, Turkish Employment Agency (İŞKUR), president of WAPES, has been an ardent defender of the principles and goals internalized in the Association that promotes national employment policies through knowledge sharing and multilateral cooperation. İŞKUR adopts a proactive and constructive role at international stage.

IŞKUR, in collaboration with SESRIC, organized a workshop on "The First Meeting on Public Employment Services in OIC Member Countries", on 29-30 April 2014. In this context, OIC Public Employment Services Network (OIC-PESNET) was established as one of the means to contribute to the achievement of the aspirations of the OIC Framework for Cooperation on Labour, Employment and Social Protection.

In addition, Turkic Republics Public Employment Services Workshop was held in Ankara, on 17-18 September 2015, with the cooperation of İŞKUR and TİKA. This meeting aimed to build a common floor for forming and developing abovementioned cooperation fields between Turkic Republics.

İŞKUR is also a member of the Centre of Public Employment Services of Southeast European Countries (CPESSEC) which aims to exchange more easily information and experiences of activities related to providing services to employers, job seekers and to improving the capacities of public employment services in Southeast Europe. Turkey which held the presidency of G20 for a year, organized the G20 Leaders Summit in Antalya on 15-16 November 2015. The first G20 Employment Working Group (EWG) meeting was held in Antalya on 26-27 February 2015. IŞKUR provides its expertise and secretarial support to EWG.

International Cooperation In the context of instrument for pre-accession assistance, under the scope of youth employment and social support operation through partnership of with the EU, five youth employment action plans were prepared as a road map for relevant authorities. In this context, 2, 497 people have been employed, 218 individuals have started their own business, 6, 176 participants have received a vocational certificate from ISKUR, 2, 768 young persons have found an internship opportunity, and 5, 655 young people have benefited from special counseling and guidance services. Operation for the support of employment of woman was applied between 2009-2013. Its budget was approximately €26.8 million. As a result of this project, 914 women were employed, 9, 554 women took certificates, and 780 women participated in the entrepreneurship courses.

# Specialized Vocational Training Centers Project (UMEM Skills' 10)

In order to solve the unemployment due to a supply and demand mismatch in the labor market, UMEM Skills'10 has been initiated in 2010 between İŞKUR, Union of Chambers and Stock Exchanges of Turkey (TOBB), the Ministry of National Education (MONE) and TOBB University. UMEM Skills' 10 is a unique example of public-private-university partnership where local labor market analyses are being conducted for the first time in Turkey. In all 81 provinces of Turkey, US\$ 57 million has been invested in the infrastructure of 140 vocational high schools.

19, 649 courses have been opened for 194, 736 trainees between 2011 and 2015. 134, 310 persons of total trainees have been employed. In 2014, 1981 courses have been opened for 24, 120 trainees and 17, 197 of total trainees have been employed.

## Farmer Training, Dairy Science and Technology Centers of SÜTAŞ



Sütaş Group, through its integrated business model, "From Farm to Table" safeguards the quality and naturalness of its products. This model consists of Farmer Training, Dairy Science and Technology Centers, Quality Feed Production, Dairy Cattle Breeding Farms, Livestock Selection and Certification Centers, Milk Production Facilities and Distribution Network. This model acts as an abundant source for indirect employment and also for regular income employment

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**Introduction** Established in 1975, Sütaş offers over 70 various dairy products to Turkey's dairy market. Boasting an annual milk processing capacity of 750 million liters with 40 years of expertise and dedication, Sütaş provides direct employment to some 5, 000 people. Turkey's 10-year leading brand in dairy Sütaş ranked 51th among "Turkey's Top 500 Industrial Enterprises–2014" according to Istanbul Chamber of Industry (ICI). It is a global corporation as of 2014, operating two facilities in Turkey and one in Macedonia. It is a private company.



Sütaş Integrated Dairy Facility

**Sector & Main Activities** The main activities of Sütaş can be summarized as: Processing 2, 000 tons of milk collected daily from 28, 000 producers. Sütaş provides 70 varieties of dairy products to consumers and delivers them to 122, 500 sales points throughout Turkey with 1, 700 vehicles and 1500 distributors. It reaches 80% of households in Turkey.

Sütaş produces forage in 5, 000 square meters land. It also produces annually 180, 000 tons of natural, non-GMO, high quality feed. It manages five dairy cattle breeding farms where around 12, 000 cattle are bred to create best practices and to supply the milk producers with quality livestock.

Sütaş provides free training to milk producers in order to increase the quality and production of raw milk. Sütaş also produces renewable energy from the organic wastes of its entire facilities such as natural fertilizer and waste products to be used to supply own electricity need. Sütaş recycles waste water as irrigation water.

**Area of expertise** Since its establishment, Sütaş has been operating in the dairy sector with an integrated business model, "From Farm to Fork, " that covers feed agriculture, dairy husbandry, training, production and distribution.

Vocational training, which is the core part of the entire model, is being facilitated as a social responsibility project. With this training initiative, Sütaş aims to increase the welfare of milk producers and secure high quality dairy products.

Achievements Sütaş believes that vocational training is the first step towards sustainable development for the dairy sector. Because of this, Sütaş establishes training and technology centers, and cooperates with universitiescolleges to provide the best functioning training facilities in the sector. Up to now, Sütaş has trained more than 19, 000 milk producers and students through free, four-day courses and provided consultancy on the dairy business to 27, 000 milk producers and entrepreneurs.

An evaluation study was carried out in 2013 to assess the outcomes of Sütaş' education initiative by an independent research firm.

The research was conducted with a total of 400 people, made up of students, graduates, milk producers and entrepreneurs.

Of the participants, 89% experienced a positive change in their dairy production. A further 99% were happy with the training and would like to join new programs. Some 86% of the students plan to work in the area after graduation and after training. Sixty-four percent of graduates have a job and around 50% are actively working in an occupation relevant to dairy farming.

Moreover, 45% of farmers stated that the reason for participating in the training was to improve their knowledge of dairy husbandry, while 32% intended to improve their vocational expertise and learning environment. Sixty-nine percent stated that the milk productivity of their farms increased after the training and 45% said that their income and profitability increased after the training program.

### Why is this institution a Resource Center?

Sütaş' education initiative was first recognized in 2009 when Sütaş won an FAO award for its contribution to agriculture.

In 2013, Sütaş' initiative was elected among the best practices to be published internationally for UNDP and IICPSD's project on the role of private sector in vocational training.

Sütaş' education initiative was granted a Silver International Stevie Business Award in "Corporate Social Responsibility Program of the Year in Europe" category and World Dairy Innovation Award in "Best Social Responsibility Project" category in 2014.

**International Cooperation** In May 2012, a protocol has been signed between Sütaş and Kold College of Denmark, which is one of leading dairy training institute in Northern Europe. The 4th Symposium on Dairy was organized in Karacabey in partnership with Uludag University, Aksaray University and Kold College. On May 2013, Macedonian dairy farmers visited Sütaş and learned about the "From Farm to Table" business model.

In 2014, Macedonia Ministry of Labour and UNDP Macedonia visited Karacabey training center as an exemplary model to reduce the unemployment. Macedonian Ministry demanded from Sütaş to carry the model to Macedonia too.

# Sütaş Farmer Training, Dairy Science and Technology Centers

Sütaş education initiative is the first and exemplary model in the university-industry cooperation in dairy sector. Sütas vocational education and training initiative started in 1998 with the signature of the University-Industry Partnership protocol with Uludag University. The first Sütaş Farmer Training, Dairy Science and Technology Center was founded in 1998 to offer applied training to the students of Uludag University Karacabey Vocational College. In accordance with the partnership protocol, the center started operating near the Sütaş milk factory in Karacabey. In 2000, a protocol was signed with the Ministry of Food. Agriculture and Livestock (MFAL) to also train cattle breeders, cattle keepers and technical personnel at this center, In 2010, the Aksarav Farmer Training, Dairy Science and Technology Center was established within the scope of Sütas Middle Anatolia Dairy Farming Project. As in the first case, a protocol for partnership in education was signed between Sütas and the Aksarav University Presidency to provide applied trainings and internships to Aksaray

Vocational College students at this center. Dairy farming training was also provided to producers.

In 2012, this initiative acquired an international dimension as Denmark's Kold College was added to the education partnership protocol between Sütaş and Uludag University. In 2014, Sütaş started training activities in Bingöl with Bingöl University as the first step of its planned investment in East Anatolia.

The Sütaş Farmer Training, Dairy Science and Technology Centers are one of the most successful and inspiring examples of university-industry partnerships. Sütaş is also expected to spur the interest of successful vocational school students in the dairy breeding sector and increase the availability of qualified human resources in the sector.

## Vocational Qualifications Authority (VQA)



The Vocational Qualifications Authority (VQA) is the only authorized body to determine the principles of national qualifications in technical and vocational fields. The main role of the VQA is to build and operate the National Qualifications System in line with the European Union in order to perform activities concerning assessment, evaluation, certification, education accreditation and authorization.

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**Introduction** The VQA was established in 2006 in Ankara. It has 11 experts and 12 assistant experts. The majority of the funding comes from the government.

Sector & Main Activities VQA is involved in the technical and vocational education and training and employment sector. VQA is a young institution established under the Ministry of Labour and Social Security. The VQA's main activities are to set principles for national vocational gualifications based on national and international standards; to build and operate National Qualifications System required for undertaking audit, assessment and evaluation and certification activities; to promote lifelong learning; to build and govern Turkish Qualifications Framework (TQF). TQF, which covers all quality assured qualifications achieved in all learning context at all levels within Turkey's education and training system, is designed in collaboration with the Ministry of National Education, the Council of Higher Education and other relevant bodies and institutions. Draft Turkish Referencing Report was prepared with the support of international experts.

**Area of expertise** The VQA's activities have centered on the fields of development of national occupational standards and national vocational qualifications; building and operating the assessments; evaluation and certification system; the accreditation of education and training providers; and quality assurance of all qualifications concerning vocational and technical education, development and updating of the Turkish Qualifications Framework.

These activities are undertaken as per Law No. 5544 on VQA, and are documented in line with the principles of transparency, accountability and quality assurance. E-MIS (Education Management Information System) Portal is used by the stakeholders including occupational standard and qualification developers and authorized certification bodies.

VQA aims at strengthening the link between education/ training system and employment, helping individuals to achieve knowledge and skills that are relevant to the labor market, standardizing the quality of education and proving knowledge and skills at the international level through qualification certificates.

**Achievements** As of October 2015, 611 national occupational standards were published in the Official Gazette and 310 national qualifications were approved and published. Certification activities continued with 37 authorized certification bodies for 159 national qualifications, of which 106 are in heavy and dangerous work.

## Why is this institution a Resource Center?

The VQA is the only authority in Turkey to determine the principles of national qualifications in technical and vocational fields. The VQA has been assigned as the National Coordination Point for European Qualifications Framework (EQF) in Turkey. The VQA represents Turkey in the EQF Advisory Group and joins the meetings held in terms of EQF.

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The VQA has also become the National Europass Center (NEC) of Turkey as of 2008.

The NEC coordinates the management of the Europass documents (Europass Curriculum Vitae, Europass language passport, Europass mobility, Europass certificate, Europass diploma supplement), and introduces Europass and documents. As of July 2015, 1.058.592 Europass CVs were completed in Turkish. The number of mobility documents was 5.088, that of language passports was 7.716, and diploma supplements carried out by the universities was 1.12 million in total. Also, certificate supplements prepared by VQA numbered 168.

**International Cooperation** VQA cooperates with similar organizations and institutions in other countries in order to develop and implement projects, conferences, seminars and study visits. Ongoing projects of VQA are Europass, Referencing TQF to EQF, Turkish Qualifications Database, and Direct Grant for Certification. Completed projects were "Strengthening the Vocational Qualifications Authority and the National Qualifications System (UYEP)" and one of its components named VOC-Test Centers Grant Scheme.

The VOC-TEST Centers Grant Scheme was implemented between 2011 and 2013 with 26 grant beneficiaries from the following sectors: automotive, tourism, construction, transport, energy, metal industry, plastic and chemicals industry, information and communication technologies, printing and publishing, machinery and manufacturing, textile/ready-made-clothing and leather.

I JY EP

It is planned to implement the VOC-Test Centers-II Grant Programme by the beginning of 2016 including the following sectors: agriculture, hunting and fishery; business and management; culture and art; education; electric and electronics; environment; finance; food; glass, cement, and soil; health and social services; justice and security; mining; social and personal services; trade (sales and marketing); woodworking, and paper and paper products. The VOC-Test Centers-II Grant Programme is one of the components of "Strengthening National Vocational Qualifications System and Implementing the Turkish Qualifications Framework (UYEP II) Project".

# Strengthening the Vocational Qualifications Authority and the National Qualifications System (UYEP)

UYEP was financed within the framework of the Instrument for Pre-Accession Assistance of European Union. The overall objective of UYEP is to ensure the provision of formal and non-formal vocational and technical education and training according to labor market needs, supporting lifelong learning, strengthening the relation between education and employment, and facilitate harmonization with EQF. By the end of the UYEP, the following results had been achieved:

The Turkish Qualifications Framework was developed and promoted at the international conference held in Istanbul in April 2013.

Capacity-building activities were conducted for VQA staff and managers. Within this scope, 89 trainings and workshops were organized. Five study visits were organized to EU member states.

Within the scope of capacity-building activities in occupational standards development, 94 occupational standards were prepared and 11 standards were revised. Occupational standards were translated into English and published. Four sector maps were prepared.

Capacity has been built in Qualifications Development, Quality Assurance and E-MIS (Education Management Information System). 118 qualifications were developed. VQA Quality Assurance Model was drafted and related guides were prepared. In total, 23 training sessions and two briefings were conducted on qualifications development, quality assurance, assessment, and external verification. External verification visits were organized to 15 VOC-Test Centers.

Studies were conducted regarding Vocational Knowledge and Skills Testing and Certification Centers (VOC-Test Centers) Grant Scheme. Continuous support and necessary documentation were provided to grant beneficiaries by the VQA experts, Grant Experts, and VQA sectoral experts. Regular monitoring visits and on-the-spot check visits were conducted for 26 grant beneficiaries. A technical workshop was conducted for evaluation of the Grant Scheme, Best Practices and Final Reporting with the participation of all grant beneficiaries.

## Social Security Institution (SSI)

SGCK	The Social Security Institution (SSI) was established with the objective of creating a social security system at contemporary standards that will provide individuals with social insurance and universal health insurance in an effective, equitable, easily accessible manner. SSI aims at providing the continuance of the social security system that includes the entire population in Turkey.
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**Introduction** The SSI was established in 2006 in Ankara. In total, there are 544 experts. The majority of the funding comes from the government.

Sector & Main Activities The SSI is involved in the employment sector. Its main activities can be summarized as: Implementing the social security policies by taking into consideration the national development strategies and policies as well as informing the natural and legal persons for whom it serves with regard to their rights and obligations. Conducting training activities for occupational and personal development.

**Area of expertise** SSI's activities have been carried out particularly in the fields of retirement services, insurance premiums and general health insurance.

Moreover, one of the most important of all the reforms made in recent years concerns social security reform, which was put into effect on 1 October 2008.



SSI Building

**Achievements** In order to inform Turkish insurance holders working abroad about the social security legislation and to enable them to make and follow their own transactions, an advisory unit named "Yurt-Danış" has been established.

This unit consists of eight personnel and answers between about 4, 500 and 5, 000 calls a month. Electronic prescription (e-prescription) was implemented in Turkey through MEDULA system. MEDULA is an integrated system between SSI and health-care providers to collect prescription data and pay electronically applications for reimbursement of treatment costs from hospitals, opticians, pharmacies and individuals. In this context, e-prescription is a new application that has been integrated into the MEDULA pharmacy application, in which prescriptions are electronically recorded and invoiced.

This application serves 120, 000 doctors, 24, 000 pharmacies and 4,000 hospitals, 22, 000 family physicians and almost all the Turkish population having a right to health care.

While 39.25 % of the prescriptions recorded in the system were electronic in August 2012, the percentage doubled to 79.28% by January 2013.

Also, a biometric identity verification system was established in Turkey. The main objective of this system was to provide health care services through a secure electronic infrastructure in private and university hospitals. First, this new system was put into practice in 20 provinces between 15 September and 15 October, 2012. Implementation continued in the other provinces between 15 November 2012 and 1 April 2013. With the establishment of a "Social Security Institution Data Bank", a simple interface supported by a special research engine in which answers are updated, shared quickly, and regularly, was created in order to answer questions from the public and partners in 2009. Since the practice has started, 594, 773 people visited the website (a monthly average of 74, 347. The website has had a total number of 33, 130, 420 clicks, with a monthly average of 4, 141, 303.

## Why is this institution a Resource Center?

In Turkey, SSI is the only institution in the social security field. SSI is a member of the European Region of International Social Security Association (ISSA), which brings together 350 social security institutions and organizations from more than 150 countries. SSI organized the 6th International Symposium on Social Security on "Strategic Human Resource Policies, Issues and Good Governance" with the support of the ISSA Technical Commission on Organization, Management and Innovation which was held in Izmir between 6 and 8 October 2015. SSI received an honorable mention award and five awards of merit in the "Ceremony of Regional Good Practices Awards for Europe" which was held in Istanbul between 28 and 30 May 2013 within the framework of International Social Security Association (ISSA) Regional Social Security Forum for Europe.

SSI has signed a protocol with SESRIC about collaboration on serving training and capacity building activities for the Organization of Islamic Cooperation member countries.

International Cooperation SSI has made a step towards a cooperation agreement with Mexican, Maltese and Finnish Social Security Institutions. Also, a cooperation protocol was signed with the Main Association for German Social Accident Insurance Institutions (DGUV) in 2013. Also, as a result of social security agreements having been concluded with various countries, Turkish citizens have the opportunity to avail themselves of their social security rights in other countries. In this context, in addition to the insured person, family members living in the country of employment as well as family members living in Turkey can benefit from these rights.

In 2014, of the 23 social security agreements concluded with countries including England, German, Holland, Belgium, Austria, Switzerland and France, nine cover long term insurance and 14 include provisions on both long and short term insurance.

## Promoting Registered Employment through Innovative Measures

Since 2010, the SSI has conducted a project entitled as "Promoting Registered Employment through Innovative Measures" financed by the European Union. The main aim of the project is to increase the registration rate and combat unregistered employment using preventive and informative approaches rather than punishments. The comprehensive approach used within this project includes training, grants, IT solutions, working groups of public and private sector representatives, academic support, and field studies.

Until today, 1, 456 staff from SSI, relevant institutions and social partners have been trained. More than 1, 000 opinion leaders from different stakeholders attended awareness raising conferences. Several events targeting children, including the distribution of 10, 000 comics and broadcasting cartoons on local TV channels have been organized. Three different working groups composed of experts from more than 20 institutions have been set up in order to discuss solutions regarding the informality problem. A strategy paper containing concrete proposals for solving the informality problem has been prepared.

Moreover, through the Grant Scheme, 42 local projects have been supported and €10 million have been distributed. Seven thousand persons had vocational training. Of these, 3, 600 got their first job with social insurance. More than 500 awareness-raising events were organized. The rate of unregistered employment fell by more than three points in the regions where grants have been implemented.

Forty-three Guidance Centers were established in 43 provincial directorates in order to ensure the sustainability of guidance activities as well as to improve quality.

A risk evaluation and continuous monitoring department was established at the central level. Also, cross checks between data coming from different institutions and SSI's data became available.

This comprehensive approach supports social partners' involvement and boosts guidance mechanisms, offers a comprehensive and innovative solution package to all social security institutions around Europe and elsewhere which face the problem of unregistered employment.



# **Transport and Communications**



# MAPPING TURKEY'S '16

Post and	Telegrap	h Corporation	h (PTT)

Ptt	The Post and Telegraph Corporation (PTT) offers postal, financial, and logistics ser- vices, providing universal postal services throughout Turkey by taking into account customer satisfaction and global changes. While being one of the oldest institutions in Turkey, PTT nevertheless continually introduces innovation with its postal, cargo and logistics services.
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**Introduction** The PTT was established in 1840 in Ankara, and has been providing postal services for 175 years. It offers domestic and international letter, parcel, money orders and philately services, with the biggest distribution network. PTT has approximately 40, 000 employees throughout Turkey. Since 2013, PTT has been a corporation. It is a 100% state-owned enterprise.

**Sector & Main Activities** The PTT is involved in the communication sector. PTT combines traditional services with new technology and offers useful services such as registered e-mail, e-commerce and hybrid mail.

The main activities of PTT can be summarized as: Ensuring the provision of postal items and telegraph services as well as cargo and logistics activities. Providing banking activities and the PTT shopping mall.

**Area of expertise** The PTT is the unique company that serves rural areas not served by other companies. PTT's activities have been carried out especially in the fields of domestic and international letter, money order as well as philately.

**Achievements** By the end of 2014, PTT Corporation has 4, 482 post offices and 2, 838 vehicles throughout Turkey. Revenue of approximately US\$ 540 million was raised from 919, 701, 000 pieces of letter mail items in 2014.

Also, postal distribution centers have been established in order to deliver the items to the addressees as quickly as possible and the numbers have reached 21 Postal Sorting Centers, and 60 Postal Distribution Centers throughout Turkey.

Moreover, telegraphs are accepted from PTT offices all over Turkey from 28 Fakstel services and on Internet via "Telegraph Control" unit at Ankara Telegraph Center. In this context, revenue of US\$ 2, 356, 250 was raised from 747, 000 telegraphs in 2013, and revenue of US\$ 2, 188, 000 was raised from 525, 000 telegraphs in 2014.



## Postal Box

ePTTAVM (ePTT Mall) has been carried out since 2012 in the area of e-commerce by making national and international sales of the products through the internet. It is the first 3-D shopping site of Turkey. In this respect, ePTTAVM has nearly 530, 735 subscribers. Agreements with 726 companies have been made and a total of 1, 575, 000 products are being exhibited on pttavm.com for sales purpose as of November 2015.

Registered Electronic Post Project (KEP) is a project that moves the current PTT technology forward and transports the traditional postal stamp system into the electronic environment. Registered Electronic Mail (KEP) is an advanced form of email that enables electronic messages to be transmitted safely according to international standards by Registered Electronic Postal Service Providers (KEPHS). KEP also provides legally valid evidence for transmission, delivery and use of electronic messages. The KEP service was made available to the public in 2013. This project began as a pilot application in the ULUS PTT Center. Then, the registered service began to be provided in all PTT Central Offices and some branches of the total 1, 050 offices from April 2013. The number of users with a KEP account from PTT Corporation was 51, 723 by the end of 2014.

## Why is this institution a Resource Center?

The corporation has received various certificates. To name a few, these include: TS EN ISO 9001:2000 Quality Management System Certificate was obtained in 2005 due to the quality of service of PTT. PTT was entitled to receive the B level Quality of Service Management System Certificate by Universal Postal Union (UPU).

Besides, PTT has been awarded several prizes from international stamp competitions. It is also a member of the International Postal System (IPS).

The PTT will host the 26th UPU Congress in 2016 in Istanbul. Thirty-nine personnel were trained with Internal Inspection Implementation Training and 325 people were trained with Quality Circles Training.

The PTT also organizes an international postal symposium every year since 2008 in order to reciprocate its experiences with the participation of different countries.

The PTT and SESRIC have launched "Training Needs in the Postal Sector" Project aimed at 57 SESRIC member countries.

**International Cooperation** PTT is organizing every year the "Postman Fast Walking Competition in Balkan Countries" which constitutes a unique event in the world.

PTT Corporation has provided all kinds of training opportunities for countries such as Kosovo, Moldova,

Ghana, Palestine, NCTR, Afghanistan, and Albania. In terms of international mail items, the transfer of information is carried out via IPS (International Postal System) for express mail items with 91 postal operators, for parcels with 125 postal operators, and for letter mail items with 88 postal operators.

Moreover, PTT aims to establish an international Postal Hub in Istanbul and desires to extend the ePTTAVM Project to several developing countries such as Kosovo, Jordan, Albania and Iran.



## PTT Cargo Hybrid Mail Service

The Hybrid Mail Service is delivered using a combination of electronic and physical delivery. Usually, it involves digital data being transformed into physical letter items at distributed print centers located as close as possible to the final delivery addresses.

Hybrid Mail Service been operating since January 2010 and in five separate provinces such as the Istanbul, Ankara, Izmir, Mersin, Erzurum Printing Centers

In the Hybrid Mail Service, 69, 044, 660 mail deliveries were made in 2010, 156, 906, 898 in 2011, 147, 739, 547 in 2012, 165, 613, 123 in 2013, and 159, 449, 706 pieces in 2014. In total, 698, 753, 934 deliveries have been made. In addition, in order to increase the customer portfolio within the scope of Hybrid Mail Service, negotiations continue with new customers.

## **EGO**

|--|

EGO meets the transportation needs of all the citizens living within the boundaries of Ankara Metropolitan Municipality. In this context, EGO undertakes the tasks of managing, planning, designing, and constructing as well as operating facilities in the area of transport based on modern technology. Also, it provides the most reliable, most economical, most comfortable, most satisfying and fastest transportation services in Ankara.

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**Introduction** EGO was established in 1942 in Ankara (all over the city). In total, there are 835 experts. EGO is self-financed.

**Sector & Main Activities** EGO is involved in the public transport sector. The main activities of EGO can be summarized as: Conducting public transport services. Planning, coordinating and implementing the Transportation Master Plan. Collecting statistics and information concerning urban transport. Organizing transport-related meetings, seminars, and conferences.

**Area of expertise** EGO's activities have been carried out in the fields of bus services, rail services, transportation services and cable car services. In the past, EGO has also provided electricity, gas and natural gas in Turkey.

Achievements Transport services are delivered with 1, 215 buses per day (working days) through 313 bus lines. In 2014, 2, 904, 668 bus journeys provided public transport services to 229, 818, 961 passengers.

In 1996, the light rail system, "Ankaray" and in 1997, the heavy rail system, "Ankara Metro", were put into service. "Ankaray" carries an average of 102, 000 passengers daily. The second stage (Kızılay-Çayyolu) and third stage (Batıkent-Sincan-Törekent) of "Ankara Metro" were inaugurated in 2014. "Ankara Metro" transports approximately 220, 000 passengers per day.

Moreover, EGO equipped the roads with direction signs, traffic signaling and road marking. In this context, between

2, 000 and 2015, 81, 053 standard signposts were constructed in various parts of the city. In addition, the city of Ankara has established the first "Green Wave" in 20 arterial roads and 102 crossroads. In order to facilitate the transportation of pedestrians and disabled citizens and help them move faster while they use "Ankaray" and "Ankara Metro" stations, the construction of 78 escalators and 15 elevators were completed in 2014. In addition, EGO has created accessibility for disabled citizens by equipping 940 buses with ramps.

EGO is the first organization in Europe to have buses that run on CNG (Compressed Natural Gas). The total number of buses running on CNG amounts to 1, 290. All buses are air-conditioned, have low floors and elevators suitable for disabled use and also equipped with camera and GPS tracking systems.



EGO Building

The newest form of public transportation in Ankara is Turkey's first and only cable car system. This system has been completed in 2014 and runs from Yenimahalle to Sentepe. Its carrying capacity is 2, 400 people in one direction per hour.

Ankara Traffic Intensity Map (ABB Traffic) provides its citizens with a real-time traffic details. By this way, it is aimed at ensuring travel by the shortest way, preventing traffic jams by determining alternative ways, reducing travel time, and saving fuel.

In addition, on the density map, 55 cameras are located on 26 main roads in order to determine the higher intersection density.

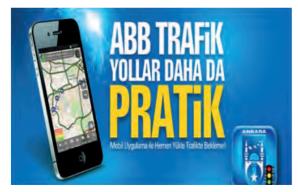
### Why is this institution a Resource Center?

EGO is the first organization to introduce the use of natural gas in a public transit fleet.

During the International Public Transport Union (UITP) 60th World Congress in Geneva, organized between 26 and 30 May 2013, EGO was awarded the prize for "Europe's most environmentally friendly bus fleet" in the category of sustainable development.

"EGO in Pocket" Mobile project won "the most promising e-Government Award" from the World E-Government Organization's (WeGo) competition held in China.

TS EN ISO 14001:2004 and 9001:2008 Quality Management System Certificates were obtained in 2012 due to EGO's capacity to control the environmental system as well as the quality of goods and services provided by EGO covering intracity public transportation and conveyance services (subway, bus and o-bahn).



EGO in Pocket Advertisement

## EGO in Pocket

Applied for the first time in Turkey, the "EGO in Pocket" mobile project is an application to obtain up-to-the-minute bus line information. EGO's new slogan is "no more waiting at the bus stop".

This application has been shown as an outstanding project in the public transportation sector and in the related IT sectors of Turkey.

Individuals who do not possess smart phones, can enter into the system with their computers.

In addition, by calling 153 and telling the bus stop number, passengers can be informed about bus arrivals.

There are approximately 1.5 million citizens every day who are transported 700.000 times using 7, 000 bus stops in Ankara.

Surveys conducted at these bus stops show that the success rate for this application is above 95%.

Besides, applications such as "Where am I? How can I go? What are the important places?" can be conducted in a comfortable manner by using "EGO in Pocket".

In addition, information concerning the type of bus (solo or bellows), if the bus is suitable for disabled passengers or not, the availability of bus, passenger capacity, the bus model can be also access using "EGO in Pocket".



Cable Car System

## TURKSAT

<b>TURKSAT</b>	TURKSAT Satellite Communications Cable TV and Operation Inc. offers communi- cations and IT services in its region with its high-tech infrastructure and experienced staff. TURKSAT also provides ICT solutions for the digital transformation of govern- ment agencies.
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**Introduction** TURKSAT was established in 2004 in Ankara. It is a state-owned enterprise. There are 999 employees working at TURKSAT. In the Corporate Tax rankings, the Company ranked high in Turkey.

**Sector & Main Activities** TURKSAT is mainly involved in the communication sector. The main activities of TURKSAT can be summarized as: TURKSAT is the authority for the management and operation of satellite orbit positions within the scope of the national sovereignty. It operates the telecommunication and communication infrastructure through national and foreign operators' satellites. TURKSAT is providing services for voice, data, internet, TV and radio broadcasting through satellites with a footprint extending from Europe to Asia, cable broadcasting services, as well as for its domestic subscribers through its existing cable infrastructure.

TURKSAT is also providing uplink/downlink services for TV and radio broadcasts, data communication services regardless of geographical conditions, professional and managed IT infrastructure services, geographic information technology services, e-government gateway development and administration, IT consultancy and project management services to governmental organizations such as ministries, institutions and universities.

**Area of expertise** TURKSAT gained experience in satellite project development from design to launch by building technology transfer teams who participated in all phases

of the satellite design and development processes. The TURKSAT-6A communication satellite will be domestically manufactured with the utilization of expertise. TURKSAT-6A satellite will be manufactured and tested in the AIT center established in Ankara in partnership with Turkish aerospace industries, research institutes, defense companies and universities.

TURKSAT also has a wide range of experience in ICT projects from requirements analysis to software development, project implementation to system administration, hosting to location based services. Since 2014, TURKSAT ICT has been providing IT services to customers with more than 50 projects through eight departments. TURKSAT provides TV, high speed internet, Voice, over-the-top (OTT) services, e-mail, central antivirus services and radio broadcasting services through the cable TV infrastructure located in 23 provinces. Cable TV service is offered to 3.3 million home passes and cable TV services are provided to 1.2 million subscribers. Internet services are also provided by the cable TV services.

**Achievements** TURKSAT satellites broadcast 744 TV and radio channels, and 93 of them are from abroad and 96 of them are HD. Uplink services capacity rose to 190 TV channels, 63 digital radio and 13 broadcast data. VSAT services started in 2005; the number of corporation terminals also increased during this time. Tooway service, which is provided with 3, 717 terminals by Eutelsat, is being used by the Ministry of National Education.

Under the scope of cable TV network digitization and management project, all application and infrastructure maintenance is performed on the web, all the drawing network and project applications are performed on remote desktop, and 69% of the troubleshooting installation operations are performed on mobile systems.

The archiving and digitizing of customer documents is streamlined through the TURKSAT cable archive center. Five million documents are archived each month. Moreover, KODSIS refers to the cable TV automation systems and it was developed by in-house programmers. This system manages subscriptions of 1.2 million customers, producing US\$ 10 million revenue every month. The Long-Range Identification and Tracking (LRIT) system provides the global identification and tracking of merchant vessels. LRIT allows Contracting Governments (CG) to track their vessels all over the world. Turkey National Data Center (NDC) has been implemented and maintained by TURKSAT and Iran National Data Center has been developed and operated successfully by TURKSAT since 2011.

UUP (National Transportation Portal) has been working since 2011 on http://www.ulasim.gov.tr web address and UUP is serving in five different languages. UUP has also mobile applications (IOS and Android).

BELGENET<sup>™</sup>, electronic document management system is used to track and store documents within an electronic environment. TURKSAT provides services to 21 governmental agencies with approximately 150, 000 users. This system has reduced the operating costs along with increased document security.



A Turksat Satellite

### Why is this institution a Resource Center?

TURKSAT is the sole satellite and cable TV operator in Turkey. It is a member of, and cooperates with, the European Space Agency (ESA), European Telecommunications Satellite Organization (Eutelsat), International Tele- communication Union (ITU), International Telecommunications Satellite Organization (Intelsat), European Satellite Operators Association (ESOA), International Organization for Standardization and Turkish Standards Institution (TSE).

International Cooperation The main objective of the EMYNOS (nExt generation eMergencY commuNicatiOns) project is the design and implementation of a Next Generation platform capable of accommodating rich-media emergency calls that combine voice, text, and video, thus constituting a powerful tool for coordinating communication among citizens, call centers and first responders. The European EMYNOS project is co-funded by the European Union with 11 partners with complementary expertise. GEN6 (Government Enabled IPV6) project aims at raising awareness and creating enthusiasm for Internet Protocol version 6 (IPv6) within IT professionals in both public and government institution. It also aims to achieve security and capacity growth within the European Union. TURKSAT and national authorities agreed on enabling IPv6 on the e-Government gateway of Turkey.

The secure identity across borders linked 2.0 (Stork 2.0) project contributes to the realization of a single European electronic identification and authentication area. It is co-funded by the European Union with participating countries and partners. This project involves pilots in e-learning & academic qualifications, e-banking, public services for business and e-health.

### **E-Government Gateway**

The e-Government gateway, established in 2008, is a national web portal with a single point of access to public services for citizens in Turkey and living abroad, companies, public agencies and different countries.

TURKSAT is responsible for setting up, operating and managing the e-Government gateway under the coordination of the Ministry of Transport, Maritime and Communications. As of 2015, the portal has more than 25 million registered users. All government agencies must be connected to the system. The gateway covers citizen portal (www.turkiye.gov.tr), government-to-government (G2G) portal (kamu.turkiye.gov. tr), and mobile apps on mobile platforms. Services offered to the citizens through the e-Government gateway can be grouped as: information services; e-services; payment transactions; shortcuts to agencies and organizations; information updates and announcements; and messages to citizens from agencies.

## Turkish State Railways (TCDD)



TCDD, the country's vertically-integrated railway company, has eight regional directorates around the country. In addition to operating and maintaining the railways, TCDD also has an extensive manufacturing capability in both rolling stock and track components. In brief, TCDD's railway projects bolster Turkey's ambition to be a major transport corridor.

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**Introduction** TCDD was established in 1856 in the Ottoman Lands. In total, there are 25, 957 staff. Equity (88%) and foreign resources (12%) constitute the source of funding.

**Sector & Main Activities** TCDD is involved in the transportation sector. The main activities of TCDD can be summarized as: Undertaking construction, operation, maintenance, training, and railway consultancy services.

**Area of expertise** TCDD's activities have been in the fields of constructing conventional, fast and high speed railways, and expanding and renovating railways, ports, harbors and quays.

The supervision and coordination activities of TCDD at governmental level are managed by the Ministry of Transport, Maritime Affairs and Communications.



Erzincan's Gar

**Achievements** In 2014, TCDD transported 23 million passengers. Besides regional directorates, TCDD has two ports, three affiliated companies, four participations and five factories.

The total length of conventional line reached 11, 272 km. The length of the High Speed Train (HST) line amounts to 1, 213 km. Therefore, the total length of conventional and HST lines adds up to 12, 485 km. In 2014, TCDD renewed 1, 276 km of conventional line.

Moreover, TCDD currently has 3, 748 km electrified and 4, 412 km signaled lines. The rate of electrified and signaled lines in the total length of track represent 30% and 35.3% respectively.

The first High Speed Train (HST) was completed in 2009. After Ankara-Eskişehir, Ankara-Konya, Konya-Eskişehir High Speed Train (HST) lines, HST services were launched between Ankara-Istanbul and Istanbul-Konya. 18 million passengers were transported on these HST lines between 2009-2014.

Today, passing from Asia to Europe takes only four minutes with the Marmaray tunnel performing a service on the 14 km line under the Bosphorus. The number of passengers transported by Marmaray exceeded 100 million.

Railway investment was only US\$ 160 million in 2003, but had soared to US\$ 2 billion by 2014, increasing by 12.5 times.

Moreover, Railway Research and Technology Center (RRTC), established within TCDD in 2009, aims to become a bridge between local industry and universities. RRTC performs infrastructure, superstructure and rolling stock component base tests as well as some of the electronic system tests.

### Why is this institution a Resource Center?

Turkey is the sixth country in Europe and the eighth in the world to be operating high-speed trains through TCDD.

TCDD has received various recognized awards. To name a few, these include: International Association of Public Transport (UITP) award under the "best cooperation" category in May 2013. Also, TCDD has been a member of the International Union of Railways (UIC) since 1928.

Moreover, at the 10th meeting of the Regional Assembly Middle East of International Union of Railways (UIC RAME) on 4 June 2012, held under the presidency of TCDD at Doha, it was decided to establish Middle East Railway Training Center (MERTCe) under the structure of Turkish State Railways Eskisehir Training Center.

**International Cooperation** A training course on "Crossborder Activities" on 28 to 30 September 2015 at the Djibouti Railways Company (SDCF) was organized by SESRIC. The three-day course was conducted by an expert from Turkish State Railways (TCDD). The target group of this three-day training course were participants from the SDCF and Ethiopian Railways Corporation (ERC).

On the other hand, due to flood disaster in Pakistan, 15 trains, 475 containers, 5, 302 ton sheltering homes, tents,

food substances, water, napkins, hygiene sets and wet napkins were sent to Pakistan for aid purposes.

### **Turkey-Russia Train Ferry Line**

The combined transport was inaugurated over the trainferry line established between Port of Samsun (Turkey) and Port of Caucasus (Russia). In this context, train-ferries "Smat" and "Feruz" are used for transportation. At the end of 2014, 117, 011 tons have been carried through 101 runs.

Such a line significantly shortens the time and reduces the cost of delivering cargo from Turkey to Russia and the Central Asian republics. The wheelset change (from 1, 520 mm to 1, 435 mm, and vice versa), or transfer from carriages to motor transport or to European carriage gauge is done in the port of Samsun.

"Feruz" has a cargo capacity of over 40, 000 tons and it increased by almost three times in 2012 over the previous year. In 2013, ferry capacity increased by 2.5 times.

The vessels are assigned for operation on railway ferry lines from the port of Caucasus to the port of Poty and from the port of Caucasus to the port of Samsun (Turkey).

The means utilized by TCDD and partners allow them to facilitate transportation from the shallow waters of Caucasus port (Russian Federation) to the port of Samsun (Turkey) and to the port of Poti (Georgia) to provide cargo transportation between Russia - Turkey and Russia -Armenia.

Tank cars capacity is of 50 units. Freight car capacity is of 38 units. Passenger car capacity is of 22 units.



## Air Navigation Service Provider and State Airports Authority of Turkey (DHMI)



DHMI, the Air Navigation Service Provider and State Airports Authority of Turkey, is responsible for air navigation services in the Turkish airspace. DHMI has two main functions: the provision of airport operations and of air navigation services.

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**Introduction** DHMI was established in 1984 in Ankara. In total, there are more than 9, 000 employees. DHMI is a 100% state-owned governmental organization and provides all the air traffic services within civil airspace (controlled airspace, terminal maneuvering area, control area).

**Sector & Main Activities** DHMI is involved in the transport and communications sector. DHMI's main areas of activity consist of provision of airport operations and air navigation services throughout Turkish airspace. Some of the numerous spheres of activity of DHMI can be summarized as: Carrying out air traffic control services, aeronautical information services, alerting services. Planning air traffic flows above Turkey. Conducting training activities. Publishing and updating aviation publications.



Ankara Esenboğa Airport

**Area of expertise** DHMI activities have been carried out in the fields of air transport, management of airports, performing ground services at airports, and the establishment of air navigation systems and facilities.



## lğdır Airport

**Achievements** Turkey has a very large and strategically important airspace with 63, 822 kilometers of controlled air routes and 982, 286 square kilometers of controlled airspace in Europe and Asia.

DHMI provides air navigation services through its approach control units and aerodrome control towers located at 46 Turkish airports. It also provides en-route air navigation services throughout Turkish airspace. The number of flight movements in Turkish airspace increased to 1, 678, 971 in 2014. This was an increase of almost 11.6% compared with 2013. Between 2005 and 2014, the air traffic volume has shown strong growth and DHMI registered a 122% increase in air traffic volume.

DHMI conducts basic and advanced Air Traffic Controller (ATC) training programmes. The training center has theoretical training classrooms, laboratories, radar simulator, tower simulator with 3-dimensional and 360-degree monitoring features and pilot control units. The Air Traffic Control Simulator System consists of tower and approach/en-route control units. The system has the capability of running stand-alone as a tower or radar simulator or in integrated mode where the same scenario can run among all sectors (en-route/ approach/ tower), as in the real ATC environment.

Required navigation performance (RNP) and area navigation (RNAV) applications, supported by the global navigation satellite system (GNSS) in the arrival, departure, approach and missed approach phases of flight, have been used in some DHMI airports for a number of years.

## Why is this institution a Resource Center?

DHMI is the unique provider of Civil Air Navigation Services for Turkey. The strategic objectives of DHMI's projects are to develop 100% local and independent technological devices and systems all over the world.

A Quality Management System (QMS) has been established, documented, applied and maintained by DHMI, in compliance with the requirements of the international standard ISO 9001:2008, and the certificate was issued to DHMI by Turkish Standards Institution (TSE).

DHMI signed a Memorandum of Cooperation with TÜBİTAK and the National Research Institute in order to develop Air Traffic Management (ATM) related tools and navigational aids in 2009.

DHMI has been a full member of the Civil Air Navigation Services Organisation (CANSO) since 2005. In 2011, DHMI became a member of the European CANSO in order to strengthen cooperation among air navigation service providers (ANSPs) located in the European region.

**International Cooperation** DHMI is regularly participates and follows the events of the International Civil Aviation Organization (ICAO), the European Civil Aviation Conference), EUROCONTROL and CANSO.

DHMI signed a Memorandum of Co-operation (MoC) with Bulgarian Air Traffic Services Authority (BULATSA) on 16 May 2012, Ukrainian State Air Traffic Service Enterprise (UKSATSE) on 20 June 2012 as well as HungaroControl on 19 December 2013.

### **Istanbul New Airport Project**

Istanbul New Airport will be one of the biggest airports in the world with its capacity of 150 million passengers annually and will be operational by 2018

This project is located on the Black Sea coast of Turkey. It will serve in the fields of air traffic management and airport operations with more safety, quality, reliability and advanced technology.

Once the airport construction finalized, it will serve four terminals and the terminal area will be approximately 1.5 million square meters.

The new airport will comprise six runways, parallel taxiways, technical buildings and an air traffic control tower, a ramp control tower and other facilities such as jet bridges, aircraft stands and parking buildings.

The project also includes VIP facilities, cargo and general aviation terminals, search and rescue and fire buildings, a hotel, and a hospital.

Istanbul Grand Airport (IGA), a group of mutual enterprises consisting of Limak, Cengiz, Kalyon, Mapa and Kolin, is the airport operator of this project.



DHMI's Training Center



# Disaster and Emergency Management



# MAPPING TURKEY'S' 16 RESOURCE CENTERS

Earth and Marine Sciences Institute (EMSI)		
TÜBİTAK	EMSI is the largest Institute of Earth Sciences in Turkey and one of the largest in Southeastern Europe. EMSI aims to conduct applied research with a focus on social benefit by using multidisciplinary approaches based on measurement, monitoring and modeling in the areas of active tectonics, geophysical imaging, and applied geolo- gy. Over the last decade, its staff has conducted many landmark projects related to seismic hazard assessment of major cities, earthquake hazard mitigation and nuclear power plant site selection in Turkey.	
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**Introduction** The Earth and Marine Sciences Institute (EMSI) was established in 1984, under the Marmara Research Center of the Scientific and Technological Research Council of Turkey (TUBITAK) in order to conduct research on all aspects of Earth Sciences.

EMSI currently employs 34 researchers with academic degrees in geophysics, geology, geodesy, remote sensing, physics and chemistry. Approximately 45% of its researchers hold a Ph.D. and 39% hold M.Sc. degrees obtained from universities in the US, Japan, and Turkey.

EMSI is mostly self-funded through income generation (65%). The government (15%), development agencies (15%) and local private institutions (5%) contributions make up the rest of the funding.

Sector & Main Activities EMSI's research activity is mainly organized under three thematic areas: active tectonics, geophysical imaging and applied geology. Over the past ten years, EMSI conducted research and development activities with 22 projects, 33 publications. It also provided industrial service delivery for site classification, radon gas analysis as well as coal gas analysis. EMSI carried out consultancy services on seismic network operation and geographical information systems. Several training programs such as generic mapping tools and geographical information systems have been organized by EMSI. Also, EMSI commercialized two products related to land seismic streamer and portable buffalo gun seismic source. Area of expertise EMSI's activities have been carried out in the fields of seismic and geodetic monitoring; geophysical site classification; seismic & landslide hazard assessment, magnetotelluric imaging and monitoring of geothermal fields; geothermal potential assessment; engineering seismology; radiometric dating; active and passive seismic tomography; crustal structure & deformation research; earthquake source mechanisms; and near surface imaging by seismic, gravity, and magnetic methods.

**Achievements** The Seismology Division is the oldest and the most developed division of EMSI. It operates seismic networks across Turkey and conducts research in all aspects of seismology.

EMSI is the leading institute in Turkey to operate a network of Global Positioning System (GPS) and gravity stations. GPS-observations were carried out since 1998. Gravity observations have been made since 2003.

Moreover, seismic hazard maps of major cities such as Kocaeli, Bursa, and Yalova have been completed by EMSI. It has also conducted a comprehensive landslide hazard assessment of Büyükçekmece District of Istanbul. EMSI has also established National 1 MV (Mega Volt) Accelerator Mass Spectrometry (AMS) Laboratory for radiocarbon dating.

## Why is this institution a Resource Center?

The EMSI is the leading institute in Turkey to conduct strategic researches using advanced technology based

on measurements, monitoring and computer aided modeling. The EMSI currently holds ISO 9001:2008 Quality Management System Certification as well as ISO 14001:2004 Environmental Management System Certification.

Some of the awards given to EMSI are as follows: Marmara Research Center Award on Seismic Hazard Assessment of Kocaeli Project, Marmara Research Center Award on Earthquake Activity Monitoring of Sinop Nuclear Technology Center, and the Marmara Research Center Award on Turkey Representing Different Tectonic Regimes Project.

EMSI is a member of European Plate Observing Systems (EPOS), European Energy Research Alliance (EERA), International Seismological Center (ISC), and International Research Institute in Seismology (IRIS).

**International Cooperation** EMSI's international activities cover Pakistan and Azerbaijan. In this context, a reverse linkage project was launched with the Pakistan Meteorological Department. Moreover, EMSI's researchers took part in several international projects such as the seismotectonic properties of the Eastern Aegean and testing new methods for understanding the earthquake cycle in the Marmara Region.

EMSI has also conducted training programmes such as earthquake seismology with 50 trainees from three institutions as well as seismic methods with 20 trainees from three institutions.



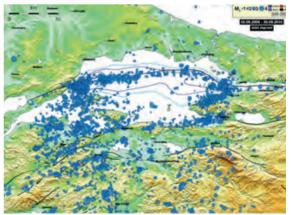
Accelerated Mass Spectrometry

EPOS-PP (European Plate Observation System-Preparatory Phase) project is a road map to increase the prevalence of interoperability of Earth Sciences researchers across Europe by integrating existing research infrastructure, monitoring networks and experimental laboratory work under a safe cyber environment has been established. This new infrastructure will further improve the accuracy and usability of the data gathered across multi-disciplinary fields of research. This has been the first step towards providing Europe-wide solutions for countries' more efficient use of their resources and planning various risks in the long term.

MARSITE is an ongoing project started in 2012 funded under the European Union Framework Programme for Research and Innovation (F7). The area around the Sea of Marmara is subject to a high level of seismic hazard. For this region, the MARSITE project aims to assess the "state of the art" of seismic hazard assessment and management at the European level.

SEISMARMARA project is a bi-lateral research developed between the Turkish and French scientists to investigate the seismic structure and earthquake activity of the Sea of Marmara at crustal scale and assess seismic hazard for the Marmara Region of Turkey, and particularly for the Istanbul metropolitan area posed by the North Anatolian Fault.

MERP-Yalova project aimed at strengthening human and institutional capacity for disaster risk management and mitigation for the city of Yalova, following the 1999 izmit earthquake. The project activities included the management's team capacity building; the development of local site characterization & seismic hazard maps; an action plan for disaster management; training seminars for the staff of the local administration; and dissemination of the project results. The project is co-funded by the Marmara Earthquake Rehabilitation Programme (MERP) and implemented with the cooperation of the Turkish and Greek Institutions.



The seismicity of the Marmara Region, Turkey

## IHH Humanitarian Relief Foundation



The IHH Humanitarian Relief Foundation delivers humanitarian aid and prevents violation of fundamental rights and freedoms of people who have been affected by war, natural disasters and similar threats, or who have been wounded, crippled, oppressed or left hungry and homeless wherever in the world.

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**Introduction** IHH Humanitarian Relief Foundation was established in 1995 in Istanbul. The total number of volunteers IHH currently possesses is 54, 450 people. Donations and grants constitute the source of funding.

**Sector & Main Activities** IHH is involved in the disaster & emergency management sector. Main activities of IHH can be summarized as follows: Providing humanitarian aid for those affected by crisis. Playing an active role in resolving international conflicts where diplomacy fails. Taking required steps to protect civilians, secure the release of the captives. Conducting humanitarian diplomacy in order to raise public awareness.

**Area of expertise** IHH's activities have been carried out especially in the fields of emergency aid, social aid, healthcare aid, educational aid, cultural support projects and awareness-raising projects.



IHH's Water Wells in Africa

**Achievements** IHH Humanitarian Relief Foundation has currently reached 145 countries worldwide. In terms of humanitarian diplomacy, IHH Humanitarian Relief Foundation has been able to rescue a total of 2200 people from seven countries.

Up until 2015, IHH Humanitarian Relief Foundation has established 44 educational institutions, 24 orphanage, 163 mosques, 61 foundational monuments and 13 healthcare centers.

As of December 2015, 4, 921 water wells have been drilled. Of these, 1, 614 are in Somalia, 966 in Bangladesh, and 970 in Chad. As of December 2015, IHH has been looking after the needs of 68, 657 orphans in 54 different countries and 69 provinces of Turkey. IHH is currently sponsoring 15, 969 orphans in Palestine.

The IHH Cataract project, as of December 2015 consists of screenings done in 12 African countries. A total of 698, 822 individuals have had vision screening with treatment provided to 295, 504 individuals after medical examinations and 84, 191 individuals post-operation.

Moreover, under the scope of IHH's 2015 Ramadan campaign with the motto "Ramadan: Now is the Time to Share with Our Brothers and Sisters", IHH sent 20 aid trucks containing flour, shoes and food packages to those in need in Syria. Besides, IHH teams travelled to Zimbabwe in order to deliver food hampers and organize iftar dinner to 600 families.

Regarding agriculture and global warming, IHH Humanitarian Relief Foundation has established an agriculture faculty in Mogadishu, Somalia. The faculty consists of state-of-theart facilities including a greenhouse and laboratories in which experiments and tests can take place.

## Why is this institution a Resource Center?

The foundation sets a good example about how NGOs can play an active role in restoring and improving the social welfare of the society.

IHH is a member of the UN Economic and Social Council (ECOSOC) with consultative status, the Organization of Islamic Cooperation (OIC) Humanitarian Forum, the Organization of Islamic Cooperation (OIC) with consultative status, the Humanitarian Forum, the Council of International Organizations for Relief in Iraq, and the Union of NGOs of the Islamic World (UNIW).

Some of the awards given to IHH are: "Humanitarianism in war and peace" medal by General Directorate of Red Crescent (2012); Human Rights award by the International Joint Culture Youth Council (COJEP) (2010); the Turkish Parliament Award of Honor in 2007; the Ashiyana orphanage in Pakistan, the Women Education Institute in Somalia and the Mobile Hospital in Iraq were named as "best projects ever achieved" by the Turkish Directorate General of Foundations in 2006.

### **International Cooperation**

In 2014, IHH and Islamic Development Bank (IDB) have signed a protocol in order to construct 36 solar-powered deep-water wells in different regions of Somalia. The cost of water in difficult and remote areas amounts to US\$ 6, 692, 160.

Only two days after the revolts, IHH were in Libya with five doctors and 19 emergency assistance personnel. IHH worked in cooperation with Turkish Red Crescent in order to establish soup houses, build tent camps, and provide clean water and blankets.

Fifty-two trucks of humanitarian aid were sent to Syria with the cooperation of Kuwait International Islamic Charitable Organization (IICO) in 2015.

In terms of aid provided to Syria, IHH has set up prefabricated schools, and is also currently supporting 59 other schools. Within refugee camps in Turkey, IHH has set up seven prefabricated orphanages. IHH has also set up 40

bakeries and drilled 13 water wells in Syria where water is hard to find. Central kitchens and canteens have also been set up in 19 different locations for Syrian refugees to be able to get hot food and soup.

In February 2015, IHH has established an eye hospital in Niamey (Niger) with the cooperation of Islamic Development Bank and Niger Ministry of Health. With the participation of eight Nigerian doctors and 16 personnel, a cataract campaign was organized at the hospital, 500 cataract surgeries were performed in five days.



Humanitarian Aid of IHH in Mali

## **Malian Crisis**

IHH is closely monitoring developments in Mali through its Regional Coordinator for Africa.

The Regional Coordinator for Africa realized field studies to Mali (Bamako and Mopti) and visited Turkish Embassy in Mali and the Supreme Muslim Council in order to gather more information about the Malian Crisis. In 2013, IHH sent a humanitarian assistance team to this region, after France launched the military operation named "Serval". Mberra is the biggest refugee camp, and is located on the Mali-Mauritania border with 100, 000 refugees. Overall, the total number of refugees amounts to 400, 000 located in Burkina Faso, Algeria and Niger.

Humanitarian aid provided by the foundation for Malian refugees are as follows: Food distribution (US\$ 4, 000), Ramadan ration packages distribution (US\$ 5, 000), meat distribution (US\$ 5, 000) in Djibo refugee camp (Burkina Faso); food and drug distribution (US\$ 5, 000) in Mopti refugee camp (Mali); food and drug distribution (US\$ 10, 000) in Bamako refugee camp (Mali); food and clothing distribution (US\$ 100, 000) and food distribution (€15, 000) in Mberra refugee camp (Mauritania). Approximately 3, 000 families (15, 000 individuals) have benefited from the humanitarian aid provided by IHH.

## Prime Ministry Disaster & Emergency Management Authority (AFAD)



In Turkey, disaster management and humanitarian aid activities are carried out under the coordination of AFAD. The main functions of AFAD are to ensure cooperation between all relevant national and international organizations for effective planning, management, support and coordination of disasters and emergencies, to promote disaster awareness and prevention measures.

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**Introduction** AFAD was established under the Prime Ministry in 2009 in Ankara. There are 113 AFAD specialists and experts; 112 engineers, architects, urban planners; 44 technicians, librarians. The majority of its funding comes from the Turkish Government.

**Sector & Main Activities** AFAD is involved in the disaster and emergency management sector in Turkey. The main activities of AFAD can be summarized as: Planning, directing, supporting and coordinating disaster and emergency activities. It also conducts research and training activities for disaster awareness of the society through its Training Center by enabling the adoption of protective and preventive measures. The Disaster and Emergency Supreme Board validates disaster and emergency plans, programs and reports.

**Area of expertise** AFAD specializes in all areas of disaster and emergency management. More precisely, its activities have been carried out in the fields of planning and mitigation, response, recovery and preparedness.



Achievements In 2013, 891 disasters including floods, landslides, and avalanches have occurred in Turkey. AFAD has fulfilled the task of monitoring the effects and coordinating the response to these disasters. As a result of response activities, 3, 038 Turkish citizens were rescued, while 469 Turkish citizens lost their lives.

In 2011, 13 tent cities were built in Van and Erciş. Nearly 25, 000 earthquake victim citizens were sheltered in these tent cities.

## Why is this institution a Resource Center?

AFAD plays an important role in the determination of disaster management policies in Turkey. Founded in 2009, AFAD is the single authority responsible for coordination in disaster and emergency management in Turkey.

Among the priority aims of AFAD are promoting a culture of risk prevention and mitigation in society accelerating training activities; using modern technologies and communication facilities; expanding cooperation at the local, regional and international level; and playing a leading role in these areas

As a symbol of Turkey's humanitarian contributions, Istanbul will be hosting the World Humanitarian Summit in May 2016.

Some of the cities in Turkey (Istanbul, Yalova, Antalya and Gaziantep) won awards by UNISDR during the "My City is Getting Ready" campaign. As of December 2013, AFAD became a communication unit on Disaster Risk Reduction

of the South-Eastern Europe Disaster Risk Mitigation and Adaptation Program.

#### **International Cooperation**

Humanitarian aid has been provided for more than 40 countries such as Syria, Palestine, Somalia, Haiti, Pakistan, and Myanmar through the effective coordination of AFAD with the Turkish Red Crescent and relevant institutions and organizations.

US\$ 135.7 million in humanitarian aid was made to Somalia including 11, 000 tons of humanitarian aid, restructuring the Somali security forces and training of Somali Armed Forces, construction of a 200-bed hospital, construction of a 40-classroom nursing school and a 2, 000 person capacity mosque.

In addition, due to typhoons occurred in Philippines, 65 tons of humanitarian aid items including 424 tents, 550 kitchen sets, and 5, 125 blankets have been sent to the country. Moreover, ten trucks loaded with rice and other supply of food have been sent to the Philippines with AFAD's cooperation and coordination with the Turkish Red Crescent. Within the scope of the Memorandum of Understanding signed with the Dominican Republic in the field of disaster and emergency management, a search and rescue dog training course for disaster situations was given to the Dominican delegation.

A disaster management training course was provided to the delegation of Mosul between 6 and 9 May 2013.

Following the earthquake and flood disasters in Pakistan, US\$ 131 million in humanitarian aid was made to this country including 4, 620 houses, eight schools, 12 business centers, three sport halls, two community clinics, six mosques, and six social facilities. Myanmar received US\$ 5.21 million in humanitarian aid, including 1, 000 tons of rice aid and food and non-food aid to Rohingya Muslims.



Humanitarian Aid of AFAD

#### Humanitarian Aid to Syria

AFAD has been assigned to address the humanitarian needs of those coming from Syria; particularly their shelter needs. In this context, AFAD is providing service for Syrians in 25 protection centers that have been established in 10 cities as of the end of 2015.

In addition to shelter, other services such as food, health, education, communication, banking, worship and social activities are provided for more than 260, 000 Syrians residing at camps as of the end of 2015. The daily humanitarian needs and health services of approximately 1, 900, 000 Syrians living outside of camps in various provinces are also addressed under the coordination of AFAD.

AFAD is working in cooperation with the international NGOs and the UN. AFAD has developed an electronic system called "Assistance Distribution System". AFAD, correspondingly with Directorate General of Migration Management, is registering all the refugees in Turkey biometrically. After the completion of the registration, the list of needs and requirements in terms of food and shelter among the refugees will be completely identified. Then, international organizations that are offering aid and assistance can make their commitments based on the needs and requirements already registered.

At the moment, nearly 31 schools are being built in Syria, where AFAD is working together with UNICEF.

As of the end of 2015, a total of more than 60 thousand adults have attended vocational courses at AFAD's camps. There are about 78 thousand students in the schools in camps. Besides, there are 6, 817 pre-school students, almost 42, 491 primary school students, 20, 551 secondary school students and about 9, 308 high school students.

Furthermore, AFAD opened food markets in the camps. In cooperation with the UN World Food Program and Red Crescent, AFAD delivered cards to the people living in the camps. A certain amount of money has been loaded on to these cards.

A total of 33, 000 food boxes were purchased for Syrians outside the camps and they were distributed by being shipped to the regional warehouse of the Turkish Red Crescent.

# Istanbul Governorship Istanbul Project Coordination Unit (İPKB)



Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (İSMEP) is a risk mitigation project established under the roof of Governorship of Istanbul and conducted by Istanbul Project Coordination Unit (İPKB). The aim of the project is to comprehensively prepare the city and its citizens for a possible earthquake and its aftermath.

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**Introduction** ISMEP was established in 2006 in Istanbul. The project is conducted by Istanbul Project Coordination Unit (IPCU), set up in the Governorship of Istanbul. ISMEP has brought a proactive approach for prevention and reduction of earthquake related risks that may occur in Istanbul. In total, there are 36 experts. International institutions constitute the source of funding.

**Sector & Main Activities** ISMEP is involved in the disaster preparedness & emergency management sector. The main activities of ISMEP can be summarized as: Retrofitting and Reconstruction of Priority Public Buildings against earthquakes, Enhancing Emergency Preparedness Capacity, Building Code Enforcement. ISMEP also contributes to the individual preparation of the community for disasters by raising social awareness and conducting training activities.



Bayrampaşa Yahya Kemal Primary School

**Area of expertise** ISMEP activities have been carried out in the fields of preparedness, mitigation, response and recovery works needed before, during, and after a disaster.

**Achievements** Until today, ISMEP trained approximately 960, 000 people and 273, 000 citizens have volunteered in the "Safe Life Trainings". 6.5 million pieces of training material has been shared with the public. A Volunteering Accreditation System was designed to evaluate the potential volunteers by their updated status and competences, and to get accreditation.

Forty-five percent of the investments of ISMEP are used for educational institutions. In this context, 1, 018 school buildings have been retrofitted and/or reconstructed, the construction of 3.8 million  $m^2$  area has been completed, an area equal to 527 football fields has been constructed and 1.5 million students and teachers have benefited.

Respecting humans and nature, maintenance free, daylight beneficent, historical texture compatible, energysaving smart schools and safety in all the buildings constructed became the primary elements of ISMEP. Energy conservation at hospitals and schools increased by 40%, while water consumption decreased by 25% and gas consumption decreased by 35%. Green buildings, which are widely popular all over the world, were created by ISMEP. A solar tree was installed in a school, making this school the first one to generate some of its own electricity. Also, a feasibility study of 1, 716 schools, 324 hospitals, 106 outpatient clinics-health centers, 131 administrative buildings, 49 dormitories and 32 social service buildings was completed. Retrofitting of 772 schools, 42 hospitals, 59 policlinics-health centers, 39 administrative buildings, 28 dormitory buildings and 16 social service buildings have been completed.

Reconstruction works of 246 schools, six hospitals, two polyclinics-health centers, 11 administrative buildings, ten dormitory buildings and social service buildings were undertaken. Four important hospitals with an indoor capacity of 1 million square meters were reconstructed. Three of the hospitals, which were equipped with "Seismic Isolation System", providing uninterrupted service even in an earthquake, will be the first public hospitals to be a candidate for LEED (Leadership in Energy and Environmental Design) Gold Certification in Turkey. İSMEP prepared 15 different training modules and developed disaster preparedness strategies to enable dissemination and continuity of trainings for public awareness. Also the 3-day training course the "Regulation for the Buildings Constructed in Earthquake Zones" was given to 3, 631 civil engineers throughout Turkey.

#### Why is this institution a Resource Center?

ISMEP has drawn the attention of the world due to being the first risk mitigation project conducted by a local government. Works carried out by ISMEP with the slogan of "Safe City Safe Life" are applied in Bağcılar and Pendik pilot municipalities. Bağcılar and Pendik Municipalities have been entitled to receive the ISO 27001 certificate, which is owned by only 2, 000 organization in the world and 19 institutions in Turkey.

ISMEP continues to share its knowledge and experience via the eight ISMEP Guides Series such as "Retrofitting and Reconstruction Works", "Reduction of Urban Risks". In 2010, ISMEP was declared as one of the biggest projects for preparedness against earthquakes in the "Greatest Investments" documentary broadcast by CNN International.

ISMEP has also won international awards with its results, outputs, the impact of the development and innovation from the World Bank within the 16 projects in the ECA region and the only project that received approval from the Council of Europe Development Bank. In addition to the success and contribution of the ISMEP Project, Turkey became the School Safety Leaders of the UN Worldwide Initiative for Safe Schools.

**International Cooperation** İSMEP shared information with many countries through events and conferences

In 2009, İSMEP hosted Istanbul international conference on seismic risk mitigation. More than 1, 000 people participated in the conference from over 27 countries. Relevant ministries, national and international academic members, 81 governorships, disaster and emergency directorates, representatives from NGOs, the public and private sectors along with local directors from Istanbul gathered at the conference.

Also, between 16 and 20 May 2016, İSMEP will host the Understanding Risk forum (UR2016) in Istanbul, organized by the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) following Washington DC, Cape Town and London which provides organizations and individuals with the opportunity to highlight new activities and initiatives, build new partnerships, and foster advances in the field.

#### Preservation of the Cultural Heritage

ISMEP continues to work on preservation of cultural heritage. In this context, preparatory work for "Preservation Regulations for Turkey" and "International Symposium on Cultural Heritage Protection in Times of International Risk: Challenges and Opportunities" have been held.

Four workshops were held to prepare "Preservation Regulations for Turkey" regarding "Architectural Preservation and Restoration" to implement a model applicable both at the national and international level. These workshops aimed to mitigate conditional risks threatening historical and cultural heritage, to share short and intermediate-term based plans and to develop resolution proposals along with the signature of "Istanbul Riva Charter" within the scope of Turkey's Architectural Heritage Preservation Charter.

In 2012, the "Preservation of Cultural Heritage in International Risk Conditions: Opportunities and Threats Symposium" was held in Istanbul with the cooperation of the Istanbul Governorship Project Coordination Unit (IPKB), Yildiz Technical University and International Council on Monuments and Sites – International Committee on Risk Preparedness (ICOMOS-ICORP). Attendees numbered 450 from 36 countries, and 48 oral and 33 poster presentations were given.

# Bogaziçi University - Kandilli Observatory and Earthquake Research Institute (KOERI)

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The Kandilli Observatory and Earthquake Research Institute (KOERI) has a long tradition of earth observation and science. KOERI is a multidisciplinary earthquake research organization providing graduate education in the earthquake engineering, geophysics and geodesy departments and encompassing earthquake observation, research and application services within a single, integrated body.

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**Introduction** KOERI was established in 1868 in Istanbul to serve as a center of excellence for earth and astronomical observations, knowledge generation and information dissemination in national and regional scale. After annexation to Bogazici University in 1983 it also became an academic center for graduate studies on earthquake engineering, geophysics and geodesy.

The teaching and research staff with PhD degrees amounts to 53. The majority of the funding comes from the government.



Regional Earthquake and Tsunami Monitoring Center

**Sector & Main Activities** KOERI is involved in the disaster & emergency management sector. KOERI conducts graduate level training, research and implementation on earthquake hazard and risk analysis for major infrastructures and urban areas as well as geophysics and geodesy. The academic units at KOERI include the department of geodesy, the

department of earthquake engineering, and the department of geophysics. The institute consists of an astronomy laboratory and a meteorology laboratory. There are three centers established within KOERI: the Regional Earthquake and Tsunami Monitoring Center (RETMC), the Belbasi Nuclear Tests Monitoring Center (NTMC) and the Iznik Center for Reducing Earthquake Damages. Besides, there is a disaster preparedness education unit that is affiliated to the institute. **Area of Expertise** KOERI's activities have been carried out especially in the fields of seismology, astronomy, meteorology and magnetism observatories with state-of-the-art technology.

Achievements Earthquake studies have been integrated to postgraduate and doctoral studies in earthquake engineering, geodesy and geophysics. Therefore, KOERI has become the first institution to combine education, research and implementation activities within its organization. RETMC established seismic stations all over Turkey and has continuously developed its seismic network.

RETMC is a 24/7 operational center comprising 162 weak motion and 110 strong motion sensors at the national level. About 200 digital strong motion accelerographs are operated by KOERI as dense urban network in and around Istanbul (rapid response and early warning system). KOERI also operates five sea-floor multi-instrument observation systems in the Sea of Marmara and hosts the National Tsunami Warning Centre for Turkey (NTWC-TR). Currently, satellite lines, fiber optic lines, phone lines, internet, network, leased lines and sublines are used for data transmission from the 272 seismic stations. There are five seismic stations operating in Cyprus.

In 2002, the Istanbul Earthquake Urgent Intervention and Early Warning System was established within the Department of Earthquake Engineering. Since then, it has become possible to produce early warning signals immediately before an earthquake through 110 earthquake stations and to determine buildings that are damaged right after an earthquake in Istanbul. There are 60 earth movement networks operated in various places of Istanbul as well as buildings and industrial facilities. 40 recorders are kept for experimental studies and periodical tests. The Department of Earthquake Engineering has played a leading role in Turkey for the advancement of the earthquake risk mitigation by taking part in the various National Committees.

The Geodesy Department of KOERI started academic and research activities in 1987. Within the scientific research projects conducted by the department over 20 years, crustal deformation monitoring, strain and seismic hazard analysis, deformation monitoring of engineering structures, Geographical Information Systems (GIS), and InSAR studies are carried out. By cooperating with national/ international institutions, the department installs and runs GPS networks and performs observations periodically in order to determine crustal deformation in various regions of Turkey (Marmara, Aegean, Eastern Anatolia) where seismic hazard is very high.

Fieldworks by GPS and conventional (terrestrial) geodetic techniques are carried out on a regular basis (twice a year) within the scope of international and national ongoing projects. In addition, two borehole observatories consisting of borehole strainmeters, borehole seismometers, tiltmeters, and pore pressure sensors have been deployed in Istanbul by Geodesy Department. Borehole strainmeters are very sensitive to deformation in the range of less than a month and can capture signals with superior precision at local spatial scales. In 2014, 30 articles, one book, two chapters as well as 100 abstracts were published by earthquake engineering, geophysics and geodesy departments.

#### Why is this institution a Resource Center?

A long-established institute, KOERI serves as a center of excellence for earth and astronomical observations, knowledge

generation and information dissemination on a national and a regional scale. The institution has received various internationally recognized awards. To name a few, these include a Bolt Medal awarded in 2013 by the Seismological Society of America, EERI and COSMOS, and a NATO Summit Science Award awarded in 2004.

KOERI is also a member of ASSISI (Anti-Seismic Systems International Society), Global Earthquake Model, Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic the Mediterranean and Connected Seas (ICG/NEAMTWS-VII), International Seismological Center, ORFEUS, IRIS-Incorporated Research Institutions for Seismology, International Development Seismology Committee (IDSC), UNAVCO (University NAVSTAR Consortium), IAG (International Association of Geodesy).

**International Cooperation** KOERI was the Message Provider at the 1st Enlarged Communication Test Exercise (ECTE1) in 2011 with the involvement of all the Tsunami Warning Focal Points (TWFP) with 139 end-users in 31 countries of the North East Atlantic, Mediterranean and Adjacent Seas (NEAM) region.

Under the scope of EMME (Earthquake Model of the Middle East Region) project conducted between 2009 and 2013, a digital active tectonic map of the Middle East region was generated. A total of 3, 397 active fault sections were defined and faults with a total length of 91, 551 km have been parameterized. Additionally, the digital active fault map of Afghanistan was added to the active fault map. A database of fault parameters is compiled for active faults that are capable of generating earthquakes above a threshold magnitude of 5.5.

#### **Tsunami Warning Center**

The National Tsunami Warning Centre for Turkey (NTWC-TR) is integrated into the 24/7 operational National Earthquake Monitoring Center (NEMC) of KOERI to form the present RETMC, responsible for the operation of the 272seismic stations. Data from ten BB stations located on the Aegean and Mediterranean coasts is transmitted in real time to KOERI operated by the collaborating agencies.

Real-time data transmission from six primary and ten auxiliary stations from the International Monitoring System is established in KOERI.

# Mapping Turkey's Resource Centers

# **The Way Forward**

- 101. As a group, the IDB member countries account for one-sixth of the world land area and for almost one-fourth of its population. They constitute a substantial part of the developing countries and, as a group, are endowed with a high economic potential in different fields and sectors such as energy and mining (mainly oil and gas), agriculture and arable land, human resources, and a vast trading region. However, being at different levels of economic development, the IDB countries do not constitute a homogeneous economic group but, rather, a mixed set-up reflecting a high level of heterogeneity and divergence in economic structure and performance. Such a state of affairs creates a high potential for utilizing the existing resources and capacities within the IDB community through strengthening technical cooperation in the group in different fields and areas. In fact, the mixed set-up and the high level of heterogeneity and divergence in economic structure and performance of the group of the IDB member countries allow them to have a successful model of South-South cooperation.
- 102. In the view of the above, this study aims at identifying areas where the IDB's Reverse Linkage interventions will have the greatest impact through supporting knowledge sharing, networking, mutual learning and the exchange of best practices. In this context, Turkey has become the key Southern provider of development assistance as well as valuable sources of technical knowledge and information. Turkey hosts some of the leading resource centers with the potential to transfer some of their successful models, mechanisms and best practices to other IDB member countries. This study provides an example of such a transfer where selected and profiled resource centers in Turkey will enable the replication and scaling up of effective development solutions in other IDB member countries.
- 103. As has been shown in the study, over the last decade, many resource centers in Turkey in different field and areas have become more open and contribute significantly to international cooperation development cooperation outside the country. These centers are also ready to share information and collaborate with international partners. As it is observed in many resource centers, Turkey possesses "knowledge hubs" opportunities in several sectors, namely agriculture, livestock and food security; health and nutrition; technical and vocational education and training; transport and communications; disaster and emergency management.
- 104. This study showed that only 27 out of approximately 50 resource centers from public, NGOs and the private sector have the requisite institutional infrastructure for the exchange and sharing of skills, knowledge and experience with other partners. It has been observed that the skills, knowledge and experience of the rest of the resource centers not shortlisted in this study are not yet documented or modeled and human resources are not sufficient to enable the sharing of information and knowledge with international partners. Therefore, there is a need for restructuring and reforming these resource centers, especially those located cities other than Ankara and Istanbul, in order to improve the institutional capacities to share Turkey's experience. An increase in the overall number of resource centers specialized in different fields will improve the diversification of approaches/models for development cooperation in IDB member countries.
- 105. With the experience gained in Turkey, IDB and SESRIC will continue their cooperation in undertaking additional mapping studies in other IDB member countries in order to build a database of RCs that can participate in technical cooperation and Reverse Linkage projects.

## **APPENDIX**

#### A.1 Steps on Mapping Resource Centers in IDB Member Countries

- 1. Identify the themes that will be mapped in the MC: The themes for which a mapping study will be conducted do not necessarily have to be the same in each Member Country. Since each country would have its own areas of strengths and weaknesses, a country-specific set of themes for each MC will be identified. The identification should include a review of the MCPS for that country, taking into consideration the priority sectors of the Bank, the country's own economic development strategy, and studies conducted by other development agencies reflecting the economic strengths and comparative advantages of the country. For each country, three to five themes will be selected. Prior to embarking on the mapping study, the selected themes will be validated with the IDB Governor's Office.
- 2. Identify the authority for each theme: Once the themes are identified, the next step is to cooperate with the IDB Governor's office of the MC to identify the authorities (Ministry, University, bilateral development agency, etc.) in charge of each theme.
- 3. Contact and meet the head of the authority: Once the authorities for each theme are identified, contact should be established (through an official letter sent to the head of these institutions followed by a meeting) in order to:
  - a. Explain the purpose of the mapping exercise,
  - b. Describe how the information collected will be utilized,
  - c. Describe what the benefit will be for the country using the marketing material created for this purpose (e.g. opportunities that may be created when RCs are linked with other MCs),
  - d. Ask for a meeting with the authority in order to identify technical focal points that will assist in identifying the RCs.
- 4. Set up an expert level meeting: Once technical focal points are identified, the mapping team/consultant should arrange meeting(s) with them in order to:
  - a. Identify a long list of RCs that have the potential to be selected for mapping based on set criteria. Institutions that meet the following broad criteria will be included in the long-list. The long-list will be limited to 40 institutions.
    - i. The institution is involved in international cooperation,
    - ii. It has a minimum of 15 staff,
    - iii. It has been in existence for at least three years,
  - b. The consultant will prepare an independent list based on a desk review and enhance/validate this list during the meeting with the technical experts of the authority concerned,

The consultant/team should also validate the questionnaire (see page) that will be sent to the RCs in order to collect key information that will feed into the RC's profile.

- 5. **Contact and visit the RCs:** Once the list of RCs is validated with the authority concerned for each theme, the consultant will contact the RCs and set up meetings in order to:
  - a. Describe the purpose of the mapping study,
  - b. Discuss the benefits of the study and the mapping exercise for the RC using the marketing material created for this purpose,
  - c. Describe the information required from the RC in order to prepare their profile for mapping,
  - d. Explain the process that will be followed in selecting the RCs that will be mapped (this is required in order to inform the RC that not all will be mapped, and the selection will be on a competitive basis based on the data provided)

For each meeting with an RC, the consultant shall be asked to provide a brief report on the outcomes of the meeting with the concerned mapping project officer.

- 6. Collect and consolidate the information from RCs: The consultant will follow up with all RCs that have received a questionnaire, collect the data and consolidate it in a report to be submitted to the authority of each theme, and the IDB. If there are any gaps in the data provided in the questionnaires, the consultant will contact the RCs in question and request additional information to close the gap.
- 7. Assessment of the data and shortlisting the RCs: Once collected, the information on RCs will then be reviewed and assessed by the authority, the IDB and the consultant. The parties will develop, in cooperation, a shortlist of RCs that qualify to be mapped. The information provided by the RCs will be scored and shortlisted based on a pre-defined set of objective criteria and a scoring scheme, which will be used for all mapping exercises.
- 8. Send short-list of RCs to IDB Governor's Office: Once the short-list of RCs is prepared, it will be sent to the IDB Governor's Office of the MC concerned in order to seek their views and endorsement.
- **9. Prepare final report on RCs with their profiles:** Upon receipt of no-objection from the IDB Governor's Office in the MC concerned, the consultant will prepare a final report on the RCs along with their profiles. The profiles of the RCs will be designed in a manner consistent with the requirements of the online geo-mapping platform so that the data can be integrated with this system seamlessly.
- **10. Validate the profiles with RCs:** Prior to publishing the RC profiles, the consultant will share the draft material with the RCs for validation.
- 11. Publishing of the RCs' profiles and integration with geo-mapping platform: The RC profiles that are selected for mapping and validated by the RCs will be published in booklets, which will be distributed internally within the IDB and externally to relevant partners. In addition, the data collected for the RCs will be put in a form consistent with "IDB's Sector Classification" and then uploaded to the geo-mapping platform.
- **12.** Launching event for mapped RCs: The published reports and the online platform with the mapped RCs will be showcased during a launch event. RCs that are mapped, representatives of the authorities in the MC, and government representatives from MCs with RCs to be mapped later will be invited to these launch events.

## A.2 Questionnaire for Resource Centers

## Section 1: Basic Questions on the Institution

	1)	Name of the Institution
	2)	Date of establishment
	3)	Location of the institution (main address as well as branches, if any)
	4)	Current mandate of the institution
	5)	Type of institution: Government, NGO, private, etc.
Sec	tion	2: Sectors and Areas of Expertise
	1) 	What are the sector(s) the institution is involved in (e.g. health, education, infrastructure, etc.)?
	 2) 	Please describe the area(s) of expertise for each of the sectors the institution is involved in (for in- stance, health could include: (i) contagious diseases, (ii) maternal health, (iii) cancer screening, etc.). Please limit to 5 areas of expertise per sector.
	3)	Please list and describe the principal activities that institution undertakes in relation to the area(s) of expertise. Activities can include: (i) research and development, (ii) training, (iii) service delivery, (iv) consulting/advisory services, (v) technology commercialization, as well as any other activity the institution undertakes.

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## Section 3: Institutional Structure

1) What is the current organizational structure of the institution? Please attach a schematic of the organizational structure of the institution along with the answer.

2) If a governmental institution, what's the reporting structure to the government?

- .....
- .....
- 3) If a NGO or a private institution, are the institution's activities overseen by a Board?

4) How many branches/offices does the institution have? Please include cities/regions in which the institution operates.

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## Section 4: Institutional Capacity

1) What's the total staff size of the institution? Please break down as follows:

.....

- a. No. of staff in management
- .....
- b. No. of administrative staff (e.g. accountant, executive assistance, and other staff supporting the main functions of the institution)

c. No. of specialized staff and their areas of expertise (e.g. technical experts, researchers, scientists, etc.)

2) Please specify the physical facilities owned/operated by the institution. Physical facilities could include: (i) research and development facilities, (ii) training facilities, (iii) laboratories, etc.

3)	What is the total annual budget of the institution? Please provide a breakdown of the budget based on the percent allocated to: (i) administrative expenses, (ii) operational expenses.
4)	Please describe the source of funding of the institution. Please provide a breakdown of the sources of funding provided, percentage-wise, through:
	a. Self-funding through income generation
	b. Government
	c. Local private institutions
	d. International private institutions
	e. Development agencies

## Section 5: Institutional Achievements

1) Please describe the five main achievements of the institution (inside the country of establishment) related to the areas of expertise identified earlier. For each achievement, please provide supporting facts and evidence.

2) Please quantify the principal activities conducted over the past 10 years (total) using the example indicators below: R&D (No. of research activities, avg. No. of citations per article, No. of patents) a) Training (No. of trainees, No. of institutions trained) b) Consultancy (No. of consultancies conducted, No. of experts deployed) C) Service delivery (No. of beneficiaries reached) d)

e) Technology commercialization (No. of patents, No. of commercialized products)

Other activities f) 3) Please list certificates (i.e. quality certification, etc.) the institution has earned in regards to its performance and quality standards. Please list the local and international awards the institution has received as a result of its achievements over the last 10 years. For each award, include a brief description of the reason(s) for the award. 5) Please list the membership(s) of the institution in international associations and cooperation platforms relevant to the sector(s) and area(s) of expertise it is involved in. Section 6: International Cooperation\_ 1) Does the institution have a department dedicated to international cooperation? If yes, what's the staff size of the department? 2) If a specific department for international cooperation does not exist, are there staff responsible to implement/follow up on projects outside the country of establishment? If yes, please indicate how many staff work in this area.

3) What's the total budget allocated for international cooperation by the institution?			
4) Does the institution engage in activities outside the country of establishment? If yes, please provide the following information:			
a. List of the countries in which the institution has activities			
b. Scope of the engagement in other countries			
c. Number of partnership agreements signed with international partners			
5) Please list and describe the projects/programs that are being implemented in cooperation with interna tional partners (up to 5).			
6) Please describe the five main achievements of the institution related to the areas of expertise identifie earlier outside the country of establishment.			
7) Does the institution co-finance projects/programs with other partners? If yes, please provide an annual average of how much the institution:			

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a. Contributes from its own financial resources to international projects?

.....

b. Leverages from international partners to fund international projects?

- \_\_\_\_\_
- 8) Please provide an example of a detailed implementation model that the institution has developed in order to undertake projects with international partners. The outcome of the project should be highlighted.

## A.3 Turkey's Tenth National Development Plan

The Tenth NDP stretches from 2014 to 2018 and diagnoses the key challenges that Turkey needs to address to overcome the "Middle Income Trap". The focus of the NDP is on building Turkey's humanand social capital (Pillar 1: Qualified Individuals, Strong Society), enhancing its competitiveness andboosting productivity (Pillar 2: Innovative Production, Sustainable High Growth), and ensuring Turkey's development progress is in harmony with theenvironment (Pillar 3: Livable Spaces, SustainableEnvironment). There is also a fourth pillar on InternationalCooperation and Development (see belowfigure). Under these four pillars, the NDP identifies 25 priority national spending programs, many of a largely cross-sectoral nature reflecting the complexity of the challenges that Turkey facesas it moves towards high-income. Relative to previous development plans, an increased focus hasbeen placed on monitoring and evaluation (M&E) with specific targets for each program and one entireprogram calling for strengthening Turkey's statistical information infrastructure.

The first pillar (Qualified Individuals, Strong Society) emphasizes enhancing the capacity of human capital through education, health, justice, employment and social security and public administration policies. The first 18 transformation programs fallunder this pillar, all emphasizing equal opportunities and shared prosperity, with a specific focuson gender, youth and children. The plan containsambitious targets for raising enrollment in earlychildhood (ECE) and tertiary education. Securingflexible work arrangements and broadening accessand provision of childcare facilities with the aim toincrease female labor force participation to around35 percent by 2018 is an additional target. The planaims to build on İŞKUR's success and raise the shareof the unemployed who are hired via İŞKUR to 50percent in 2018 with active labor market policiesbased especially on consultancy and orientation. The Plan also provides a new approach linkingsocial assistance policies with employment, thus, aiming to increase employment among the poorestsegment of the population.

The second pillar (Innovative Production and Sustainable High Growth) envisages a growth strategy focused on improved competitiveness via increasing the overall TFP of the economy by improving the quality of the regulatory framework in both the financial and private sectors. There are fourtransformation programs that support this pillar, namely, (i) Improvement of the Doing Business andInvestment Environment, (ii) Competition Framework, (iii) Increasing R&D and Innovation; and (iv)Reducing Informality. The Plan's target of movingTurkey's Doing Business ranking into the top 50countries requires improvement of the overall quality of the regulatoryframework (including competition policy) along with increasing institutional capacity. The Plan recognizes that a comprehensive framework covering incentives, Small and Medium Enterprises (SMEs), intellectual property rights, Information and Communication Technologies (ICT) policies is needed to allow an innovation friendly system. The Plan also adopts some new approaches and concepts for SME development and entrepreneurship policies. Female and young entrepreneurs are targeted in enterprise support policies.

As part of the second pillar, the Plan acknowledges the achievements in the financial sector – especially the performance of the banking sector – during the last decade and highlights some priority areas for future growth. Priority areas for the developmentof financial sector envisaged in the Plan canbe summarized under three headings; (i) deepeningand diversification of the financial sector, (ii) improving financial inclusion; and (iii) strengtheninglegal and physical infrastructure.

The third pillar (Livable Spaces, Sustainable Environment) introduces the concept of sustainability into urbanization and infrastructure policies. It also emphasizes minimizing regional disparities and improving the social and economic benefits of environmental measures. Additionally, this pillaranalytically links sustainable urbanization with thesecond pillar of improving competitiveness. Competitivecities are emphasized as centers for theknowledge-based economy, financial and specialized services, qualified labor force and R&D. Similarly, regional development is addressed from the perspective of national competitiveness.

**Turkey's newly emerging donor role forms the core of the fourth pillar.** Turkey aims to assume an active role in international collaboration and evelopment assistance as an upper middle-incomecountry. The pillar emphasizes this new rolethrough providing financial support to Least DevelopingCountries (LDC), taking an active role ininternational structures/organization such as G20, COMCEC, UN, and ECO. The Plan not only makes reference to the EU Accession process and values to role as an anchor, but also emphasizes the contribution of Turkey to solving the EU's economic particularly by providing a large pool of young and dynamic workers.



# A.4 List of Resource Center's Focal Points

No	Institution	Name	Title
1	Directorate of Plant Protection Central Research Institute	Dr. Ayşe ÖZDEM	Vice Director
2	International Agricultural Research and Training Center (IARTC)	Zübeyde ALBAYRAM DOĞAN	MSc, Agricultural Engineer-Researcher
3	Cattle Breeders Association of Turkey (CBAT)	Dr. Hüseyin VELİOĞLU	General Secretary
4	International Center for Livestock Research and Training	Vedat KARAKAŞ	Chemical Engineer, MSc. Head of Improvement and Genetics Department
5	General Directorate of Agricultural Enterprises (TIGEM)	Sait KOCABAY	Head of RPC (Research, Planning, Coordination) Department
6	Cotton Research Institute Nazilli	Mehmet ÇOBAN	Assistant Manager - Agricultural Engineer (MSc)
7	Turkish Green Crescent Society	Savaş YILMAZ	CEO
8	Doctors Worldwide (DWW)	Ali DOĞAN	General Manager
9	Cancer Early Diagnosis, Screening and Training Centres (KETEMs)	Murat GÜLTEKİN, MD	Director, Cancer Control Department
10	Turkish Red Crescent	Ruşen ÇETİNKAYA	Specialist, Strategic Management Department
11	The National Nanotechnology Research Center – UNAM Bilkent University	Prof. Dr. Hilmi Volkan DEMİR	Director
12	Hacettepe University Cancer Institute	M. Kadri ALTUNDAĞ, MD	Director of Cancer Institute
13	İstanbul Metropolitan Municipality Lifelong Learning Center ISMEK	Kerem KÖKER	Deputy General Coordinator
14	Turkish Employment Agency (İŞKUR)	Filiz AÇIKGÖZ	Assistant Employment Expert

No	Institution	Name	Title
15	Farmer Training, Dairy Science and Technology Centers of SÜTAŞ	Tülay DALKILIÇ	Coordinator of Corporate Communication
16	Vocational Qualifications Authority (VQA)	İsmail ÖZDOĞAN	Head of International Relations and EU Department
17	Social Security Institution (SSI)	Mehmet Turgay EROL	Social Security Expert
18	Post and Telegraph Corporation (PTT)	Nuri DELİORMAN	Head of International Relations Department
19	EGO	Faruk AKÇAY	Head of Strategy Development Department
20	TURKSAT	Mustafa Ali KURTBAY	Adviser, International Business Development
21	Turkish State Railways (TCDD)	İbrahim ÇEVİK	Head of International Relations Department
22	DHMI - Air Navigation Service Provider and State Airports Authority of Turkey	Mustafa KILIÇ	Head of Air Navigation Department
23	TUBİTAK MAM Earth and Marine Sciences Institute	Prof. Dr. Abdullah KARAMAN	Institute Director
24	IHH Humanitarian Relief Foundation	Yavuz DEDE	General Secretary
25	Prime Ministry Disaster & Emergency Management Authority (AFAD)	Hüseyin Alp KAYA	Expert – Foreign Relations Working Group
	Istanbul Governorship	K. Gökhan ELGİN	Director
26	Istanbul Project Coordination Unit (Istanbul Seismic Risk Mitigation and Emergency Preparedness Project)		
27	Boğaziçi University - Kandilli Observatory and Earthquake Research Institute (KOERI)	Prof. Dr. Haluk ÖZENER	Director

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