

TANAP, “Silk Road of Pipelines” serving for Environmental and Social Justice

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Abstract

Trans-Anatolian Natural Gas Pipeline (TANAP) Project is part of Southern Gas Corridor transporting natural gas from South Caspian Sea in Azerbaijan to Turkish and European markets. TANAP is a pipeline system of 1850 km length and 16 bcma initial phase capacity, passing through 20 provinces in Turkey. The main objective of TANAP is to diversify the gas supply to Turkey and Europe and reach several sustainable development objectives throughout its life-time. While aiming for such strategic targets, TANAP doesn't sacrifice Environmental and Social Performance Standards. Avoidance of E&S impacts is the prior step of the mitigation measures. A further step is to maximise the positive impacts on the environment, i.e. biodiversity and cultural heritage, as well as on employment and economic development. 500m. corridor European nature information system, (EUNIS) Level 3 habitat map of TANAP Project is unique in Turkey and will create a rich database for the country. During baseline studies in ESIA phase of TANAP, new species of flora and fauna were discovered. The chance find of Alaybeyi Archaeological Site (from 4720 B.C. to 4553 B.C.), changed the known history of Asia Minor. A specific RAP Fund was established to bridge the gaps between national legislation and IFIs' social standards. Development of a tailor-made livelihood strategy for fishermen, affected by offshore construction is another achievement. TANAP Social and Environmental Investment Programme (SEIP), with a budget of \$84M, has been launched to improve the well-being of locals along the pipeline route.

Introduction

The TANAP corridor starts from the Georgia-Turkey border, where it connects to the South Caucasus Pipeline Expansion Project (SCPx) and ends at the Turkey-Greece border, where it feeds into the Trans Adriatic Pipeline (TAP) (Figure 1).



Figure-1 Project Location

The natural gas will be transported by an approximately 1.850 km long underground natural gas pipeline system, with numerous crossings of streams and rivers, as well as all above and below ground facilities in the Republic of Turkey. The pipeline crosses terrain with challenging geotechnical features,

including landslides and other geo-hazards, in addition to crossing regions with different levels of urbanization and economic activity.

Methodology

Host Governmental Agreement requires Project environmental and social standards complying with National Laws, taking due account of international standards and practices generally prevailing in the natural gas pipeline industry, including relevant Performance Standards of the International Finance Corporation.

Within this perspective, an International Environmental and Social Impact Assessment (ESIA) study was carried out for the Project beginning from the FEED phase. ESIA Report ⁽¹⁾ identified potential adverse impacts and benefits of the Project, while setting out several management and mitigation measures to minimize those adverse impacts and ensure the quality of the benefits during all phases of the Project. Additional documents were prepared and disclosed on TANAP website to meet the Performance Standards/Requirements of International Financial Institutions such as Biodiversity Action Plan (BAP), Biodiversity Offset Strategy (BOS), Resettlement Action Plan (RAP), Offshore Fisheries Livelihood Restoration Plan (FLRP), etc. Those documents, as well as the Social and Environmental Investment Programme (SEIP) ⁽²⁾ Strategy Document, established the main ESMS structure of TANAP, which ensures the **environmental and social justice** throughout the pipeline route within the country.

Highlights, Current Achievements, Challenges and the way forward...

TANAP is committed to managing the potential effects of the Project on biodiversity by implementing the **biodiversity mitigation hierarchy** (i.e. avoiding, minimizing, rehabilitating and offsetting).

The first three steps of the mitigation hierarchy have been incorporated in

- Inherently in Project design,
- ESIA
- BAP

Biological baseline data collection leads to the preparation of 500m. corridor EUNIS Level 3 habitat map of TANAP Project, which is unique in Turkey and will create a rich database for the further country-specific studies:

Some sampling highlights on TERRESTRIAL & FRESHWATER:

- A total of **246** sampling stations were visited / chosen for **terrestrial flora** studies, **87 Species of Conservation Concern (SCC)**,
- A total of **133** sampling stations for amphibian species, **one potential SCC**,
- A total of **243** stations for terrestrial invertebrates, **34 SCC**,
- A total of **12** high sensitivity habitats,

- A total of **189** sampling stations for freshwater fish and macroinvertebrates studies, **13 SCC** fish species and one potential SCC macroinvertebrate,
- A total of **45 fishermen surveys** for marine mammals and turtles studies.

Among the various **endemic species** found along the route, the following **new species** to science were identified as arthropods;

Chrysolina n. sp., *Tipula n. sp.1* (pls. see photo 1), *Dioctria n. sp. 1*, *Dioctria n. sp. 2*, *Muzimes n. sp.*, *Hilara n. sp. 1* (pls. see photo 2), *Hilara n. sp. 2*, *Hilara n. sp. 3*, *Hextoma n. sp.*, as flora; *Verbascum sp. Nov.*



Photo 1 *Tipula n. sp.1*



Photo 2 *Hilara n. sp. 1*

BAP identified 67 terrestrial and 27 freshwater critical habitats. Terrestrial critical habitat mitigations were defined for each estimated construction periods; **Spring (March-May)**, **Summer (June-August)**, **Autumn (September-November)**, as well as **closed construction period** and the **ideal time for soil stripping**. Freshwater critical habitat mitigations were defined as **pre-construction** and **post-construction mitigations**, demonstrating the time constraint for construction, based on the desktop and site-specific studies that were conducted.

The last mitigation hierarchy is met with BOS, which was prepared with the purpose of providing a practical and achievable offset scheme for TANAP. As the TANAP Project covers such a large geographic area and as biodiversity varies greatly across this extent, an ecoregion approach (Olson et al. 2001)⁽³⁾ was used. Biodiversity Offset Management Plan (BOMP) will be prepared by the end of 2019 and the entire offsetting program will be implemented and completed **by 2040**.

Cultural Heritage Management System of TANAP changed the known **history of Asia Minor**. → This part should be included in an adequate section, with its own title

106 cultural heritage areas that have never been known until now were identified. Many of these areas were registered to the Cultural Inventory of Turkey. This number reached to **a total of 154**, with **48** of them being **chance find areas**.

Alaybeyi 1st Degree Archaeological Site, TANAP Project LOT 1, SP2, KP 335 was discovered during the trench excavation. The archaeological site came up with the findings that will rewrite the history of the archeology of the region. During the excavations, many tombs and tomb gifts were found together with the architectural structures. According to the results of carbon analysis (C14) carried out in local laboratories, the oldest settlement in Alaybeyi dates from 4720 B.C. to 4553 B.C. (i.e. Chalcolithic Period). In accordance with the osteological examinations made on findings, it was possible to verify

that in that Mediterranean-type population with carbohydrate-weighted diets, pathologies such as tooth diseases and Mediterranean anemia (thalassemia) were common.

These results show that Alaybeyi Mound is the oldest settlement known to date in Northeast Anatolia. Burials, architectural remains and pottery repertoire of the region had been well documented as a result of Alaybeyi excavation. On the other hand, excavation offers a new perspective on the *existence* of *mother goddess cult* for Karaz Culture, which is from the term of early Bronze Age of Transcaucasia and East Anatolia. Burials with horse remain, show strong similarities with Central Asian burial traditions, which demonstrates a need for cultural research. Remains of mining clinker are the earliest examples of metal productions.

Until today, 900-1000 artifacts such as oil-lamps, coins, statuettes, mother goddess idols, tear bottles (unguentarium), daily usage cups of various periods, kitchen cups, bronze artifacts, ornaments, jewels, grave steles etc., which were revealed during the salvage excavations, were transferred to related Museums.

Since its earliest phases, TANAP Project has made utmost effort to demonstrate a successful **social performance** by fulfilling its responsibilities and adopting internationally acknowledged **social safeguard policies**.

A specific Fund (RAP Fund) is established to bridge the gaps between national legislation and IFIs' social standards, regarding land loss-induced compensation and livelihood restoration of land-based livelihood loss or decrease along the RoW, and livelihood restoration assistances provided by TANAP especially for the land users affected by the construction of AGIs and therefore, lost their lands permanently.

Some Facts & Figures on Implementation of RAP & Livelihood Restoration Programme:

<i>Payment Items</i>	<i>Within Total</i>	<i>Cumulative as of December 2017</i>
	<i>%</i>	<i>USD</i>
<i>Additional compensation for AGI-affected lands</i>	5.08%	\$33,694.77
<i>Payments made to cover small costs such as transaction costs and travelling costs</i>	6.42%	\$42,533.68
<i>Payments for loss of crop and other assets on public lands to informal lands</i>	40.46%	\$268,212.61
<i>Payments for common areas including grazing lands to village legal entity</i>	23.21%	\$153,876.56
<i>Payments for loss of crop and other assets on unviable lands to land users</i>	8.68%	\$57,520.27
<i>Payments made regarding change of Parcel and Land Owner depending on land consolidation</i>	10.34%	\$68,509.40
<i>Payments for Corrected Crop or Asset Compensation to Misidentified Land Users by the Court</i>	0.21%	\$1,382.05
<i>Payments for seasonal income losses of the person or the entity</i>	0.78%	\$5,200.00
<i>Payments of transitional allowance (livelihood support in cash)</i>	4.82%	\$31,920.02
Total	100.00%	\$662,849.36

RAP Disclosure Meetings were started as of mid-2017 and a total of **310 meetings** were held until the end of 2017, where nearly **2,000** project-affected people were accessed. Livelihood Restoration

Focused Meetings for the disclosure of Small-Scale Livelihood Assistance Packages were held in the half of AGI-affected settlements (**21 settlements**) from Ardahan to Edirne.

A grievance redress mechanism was established, including the establishment of an **online stakeholder interaction database (OSID)** to record and follow-up complaints; supporting complainants by **Appeals Committees** for re-investigation of complaints. From the beginning to the end of 2017, a total of **2950** complaints, 88% of which (**2594**) are closed, were registered. 11 % of the total (**312**) is now open, whereas the remaining complaints (1%; **44** records) are now at waiting status.

From the year 2015 to end of 2017, **a total of 703 safety awareness trainings** were delivered for the communities, which are close to construction sites and/or are affected by Project traffic. **Public health training programme** has been started as of December 2017 and covers a total of 36 settlements located in the vicinity of main and fly campsites.

TANAP Social and Environmental Investment Programme (SEIP), with a budget of **\$84M**, has been launched to improve the well-being of locals along the pipeline route.

Direct Grant mechanism received approximately **8450 project applications** in total. **450 projects** (with a total budget of **18.6 Million USD**) have been short-listed within the scope of 1st Call.

Sample Projects;

- Providing X-ray device and Electrocautery devices and X-ray Protective Equipment etc. for ensuring cage-free animals health and Polyclinic and Educational services in rural areas
- Increasing the quality of drinking water by installing a solar-powered chlorination system for 440 drinking water reservoirs in the Erzincan district
- Construction of disabled-friendly social facilities
- Construction of playgrounds in 13 villages

TANAP and the following institutions signed contracts with a total budget of 3.5 Million USD;

- Teachers Academy Foundation, Teacher's Footprints (**0.5 Million USD**)
- Tohum Turkey Autism Early Diagnosis and Education Foundation, Road to Education (**0.4 Million USD**)
- Habitat Association, Habitat Socio-Economic Development Programme (**0.7 Million USD**)
- Development Foundation of Turkey, Development of Beekeeping as a Rural Economic Activity (**0.5 Million USD**)
- Development Foundation of Turkey, Integrated Organic Layer Poultry Farming Production (**0.6 Million USD**)
- Seyitgazi Municipality, Refreshing the village schools, liven up the Phrygian Valley (**0.7 Million USD**)

Protocols (with a total budget of 14.5 Million USD) were signed to financially contribute to the programmes implemented at provincial/regional level such as;

- **6.6. Million USD financial support** will be provided for the irrigation facility and water distribution systems of **23 villages**.
- **2 Million USD financial support** will be provided for the establishment of an "Asphalt Plant" to improve village roads, for the construction of a "Pre-school" in Campus of Ardahan University, to contribute to the Ardahan Municipality's construction of "Ardahan Solid Waste Landfill and Disposal Facility".
- **4 Million USD** financial support will be provided to meet the need of drinking water of **91 villages**.
- **0.7 Million USD** for the planting of 300,000 saplings on the TANAP route.
- **10 Ambulance Vehicles** will be donated to Ministry of Health.

References

- 1) [http://www.tanap.com/reference-documents/ESIA Report](http://www.tanap.com/reference-documents/ESIA%20Report)
- 2) [http://www.tanap-seip.com/SEIP Strategy Document](http://www.tanap-seip.com/SEIP%20Strategy%20Document)
- 3) Olson, D. M., Dinerstein, E., Wikramanayake, E. D., Burgess, N. D., Powell, G. V. N., Underwood, E. C., D'Amico, J. A., Itoua, I., Strand, H. E., Morrison, J. C., Loucks, C. J., Allnutt, T. F., Ricketts, T. H., Kura, Y., Lamoreux, J. F., Wettengel, W. W., Hedao, P., Kassem, K. R. 2001. Terrestrial ecoregions of the world: a new map of life on Earth. *Bioscience* 51(11):933-938.
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