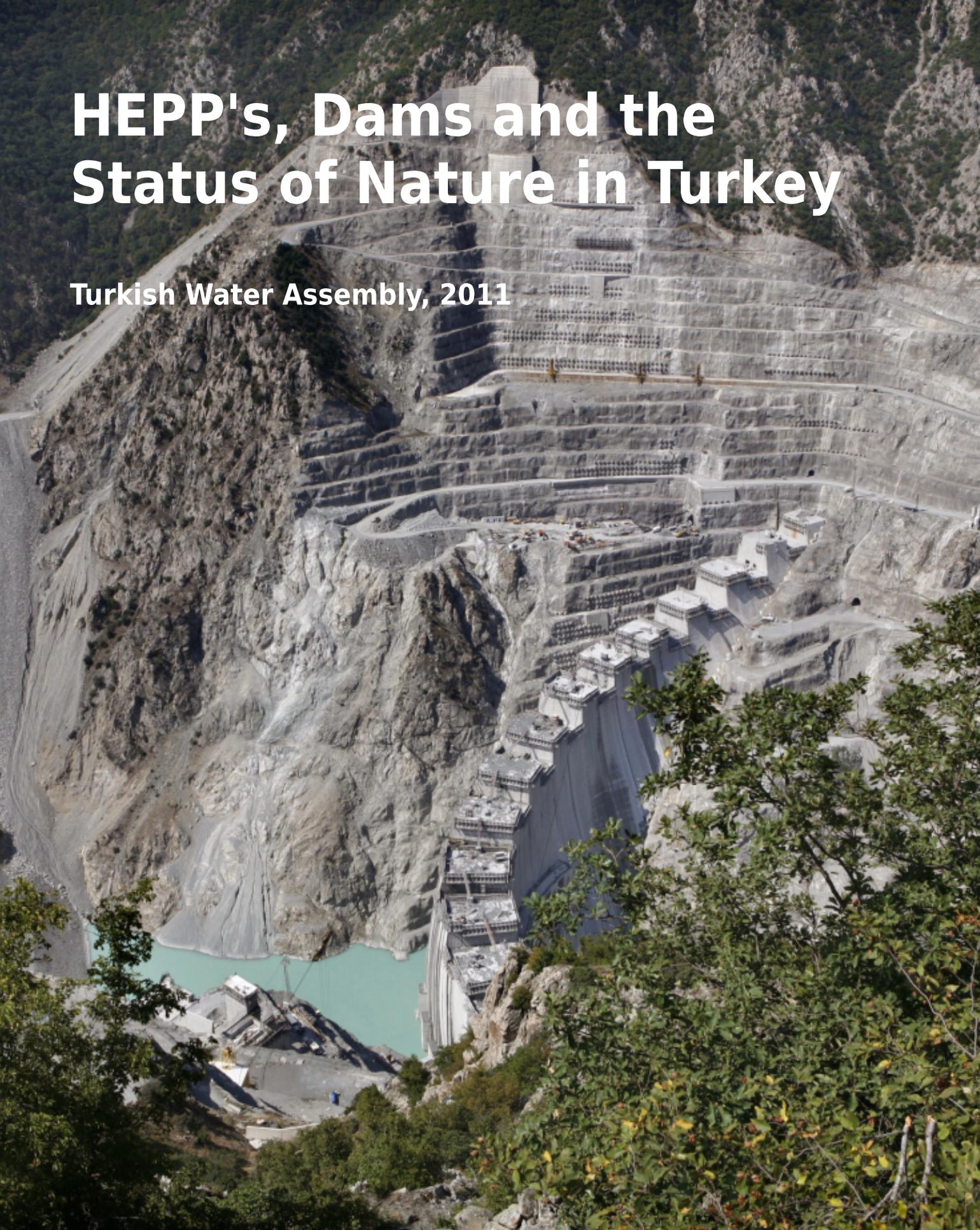


HEPP's, Dams and the Status of Nature in Turkey

Turkish Water Assembly, 2011



SUMMARY

In recent years, the number of hydroelectric power plant (HEPP) and dam projects in Turkey has increased by leaps and bounds. There is a series of legal regulations established between 2003 and 2010, underlying this situation. These regulations paved the way for the private sector to construct numerous hydroelectric power plants and dams for energy production and triggered a large number of new projects across Turkey.

On the other hand, no legal measures were taken to protect the irreplaceable natural and socio-cultural assets of Anatolia, from the impacts of these hydroelectric power plant and dam projects. As a consequence, river ecosystems of Turkey, the associated natural ecosystems and local communities were left unprotected, while hydroelectric power plants (HEPP) and dams continue to be one of the most debated issues of the country's agenda. Civil society movements all over Turkey have initiated campaigns to stop these hydroelectric power plants and dams. These movements are constantly striving to inform the public and thus increasing the public pressure to halt HEPP and dam constructions, wherever needed.

Despite the financial difficulties, so far 83 lawsuits have been filed against dams and HEPP's, and another 13 lawsuits are about to be filed. Of the aforementioned 83 cases, courts have given decisions for 41 cases until now, and they have decided the stay of execution and cancellation of 39 of them. Only 2 cases were concluded in favor of the continuation of the HEPP project, as it stands. Overwhelming majority of these cases have resulted in the cancellation of hydroelectric power plant projects on the grounds that the submitted Environmental Impact Assessment (EIA) reports were inadequate or misleading or the HEPP projects were associated with protected areas. Meanwhile, various groups active in the struggle against HEPP's and dams in Turkey unified under the so-called "Turkey Water Assembly" and at the beginning of 2011 initiated they initiated the campaign "We Won't Given Anatolia."

The Ministry of Environment and Forestry, which is responsible for these projects, has nevertheless not changed their position in the face of these campaigns. To the contrary, the Ministry has begun preparing a range of new legal regulations that will enable HEPP and dam projects to be carried out in and around of all forms of protected areas. First and foremost

amongst these regulations are the new legislation on renewable energy which was passed on 28 December 2010, and the Nature and Biodiversity Conservation Act which began to be taken up in parliamentary commissions at the beginning of 2011. Both pieces of legislation are designed to eliminate any legal obstacles against HEPP and dam projects.

As it currently stands, the government of Turkey plans to construct 1,738 dams and hydroelectric power plants by 2023. However, the nearly 2,000 irrigation and drinking-water dams are also underway totaling up to nearly 4,000. The total length of river systems in Turkey that will be converted to HEPP's or dams is around 10,000 kilometers, leaving very little of no room for natural ecosystems to function. Hence, there is a serious concern that by the year 2023, there will be virtually no healthy rivers systems left in Turkey. There are neither environmental nor sociological impacts assessments of these projects at the basin or country level. Therefore, no one has a projection on how these large numbers of projects will, in total, affect Turkey's biodiversity and people living in the countryside, while the contractions of hundreds of new dams goes on.

In 2006, an inventory that documents potential Natura 2000 sites in Turkey is published under a civil society and government cooperation program supported by the European Union. During this study 305 Key Biodiversity Areas are identified as the building stones of Turkey's Natura 2000 network. Nevertheless, Key Biodiversity Areas home to the most vulnerable and irreplaceable components of Anatolian biodiversity are under the immense threat of dams and HEPP's. Dams and HEPP's form far-most the the biggest threat on Key Biodiversity Areas in Turkey; 185 out of 305 Key Biodiversity Areas are threatened from dams and HEPP's. These areas, which constitute of 26% of Turkey's surface area, will undoubtedly form the majority of Turkey's Natura 2000 sites. Unless the required legal measures are taken immediately, Turkey will have lost the majority of its biodiversity within numerous potential Natura 2000 sites, by the time it becomes a part of the EU.

The results of the Birds in Europe publication of BirdLife international shows that the fastest rate of decline in bird populations is encountered in Turkey compared to other European countries. Data on Turkey's birds show that 55% percent of 319 bird species have severely decreased in number over the last decade due to the destruction of their natural habitats, primarily resulting from water projects. Many of these species are listed in the Annex I of the EC Birds Directive.

HEPP's and dams are known to have many negative impacts socially as well as on cultural heritage. The government is implementing a legal regulation to make "urgent expropriations" to ease the contractions of HEPP's and dams. Therefore, the local landowners have no right to be informed or argue on the projects to be constructed at their own lands. It is feared that more than 2 million people will be forced to abandon the valleys where they live and there are no studies yet on the social results and costs of this issue at the national or basin-level scale.

In short, HEPP's and dams, which are problematic at last every stage of their contractions, from legal arrangements to planning, EIA reports, on-site construction, are inarguably violating both international treaties on the preservation of nature and cultural heritage as well as human rights. Therefore, HEPP's and dams are one of the primary problems of Turkey today.

We argue that Turkey has to develop a new water and nature conservation policy, with associated new legal instruments following same principles. The current legal instruments in force for dam and HEPP constructions do clearly contradict with international principles and treaties on nature

conservation. The draft Nature and Biodiversity Conservation Act is a typical but the most controversial legal arrangement, resulting from Turkey's current biased policy towards HEPP and dam projects, with no serious concerns to preserve biodiversity. Therefore, more than 200 civil groups in Turkey are clearly against this biased policy as well as this draft law.



1. HEPP'S AND DAMS IN TURKEY

Since the 1950's, Turkish governments have been in favor of actively exploiting the country's hydroelectric energy potential. However, beginning in the early 2000's, there has been a drastic change in hydroelectric energy investments, opening the way for the privatization of the production and sale of hydroelectric energy. With this change, the private sector has become a major act controlling the water resources of the river basins.

The introduction of private enterprises into the energy sector led to a veritable boom in power plant construction, with the construction of hundreds of new hydroelectric power plants all over Turkey until 2010.

The first step towards enabling the private sector's exploitation of Turkey's hydroelectric energy potential was the passing of the Electricity Market Law, No. 4628, on February 20th, 2001. Once this law went into force, it was quickly followed by a series of new regulations regarding the involvement of private enterprises in the exploitation of Turkey's hydroelectric potential.

The Electricity Market Law is the legal framework regulating the activities pertaining to the production, transmission, distribution, wholesale, retail sale, retail sales services, import and export of electricity and the related rights and responsibilities of real and legal entities, the establishment and principles of operation of the Electricity Market Regulation Authority, and the procedures to be followed for the privatization of the entities producing and distributing electricity.

The construction of HEPP's are regulated by the "Regulation for the Issuance of Water-rights Agreement in order to Commence Production Activities in the Energy Market." The aim of this regulation is to set the rules and principles pertaining to the "Water Rights Agreement" between The General Directorate of State Hydraulic Works (DSİ) and the legal entities which are or will be operating within the scope of the Electricity Market Law, for the issuance of production licenses required to legally set up and manage HEPP's.

After undergoing an assessment to ensure that they meet the requirements of the Electricity Market License Regulation, companies which receive the consent of the Energy Market Regulation Board (EPDK) are then directed to the DSI in order to sign the Water Rights Agreement. The feasibility report is evaluated in terms of the Regulation and later, the Agreement can be signed. A copy of the Agreement is sent to the EPDK, which in turn issues the company a Production License.

Before construction commences, the company prepares an Environmental Impact Assessment (EIA) Pre-study Report and submits it to the Ministry of Environment and Forests. Based upon this Pre-study Report, the Ministry decides whether a full-fledged EIA is necessary or not. If the construction receives a "Negative EIA" from the Ministry of Environment and Forests, then the Water Rights Agreement remains ineffective.

Once the EPDK issues its consent, the company works with the General Directorate of Forestry, General Directorate of National Real Estate Properties and third parties on issues of expropriation and appurtenances. All architectural, static, infrastructure and other technical projects proposed to be carried out within the area allocated for the construction of the HEPP are assessed and a Construction Permit is then issued. Once the construction has been properly completed in compliance with the terms stated in the Permit and its annexes, a Building Utilization Permit is issued by the Provincial Authority.

The company then conducts the HEPP and Energy Transmission Lines tests, and applies to register with the Turkish Electricity Transmission Company (TEİAŞ). The Ministry of Energy and Natural Resources approves and processes the applications for HEPP's, while the General Directorates of TEİAŞ (or TEDAŞ—Turkish Electricity Distribution Corporation) approve and process the applications for Energy Transmission Lines. After the successful completion of these procedures, the production of electricity can commence.

The legal process regarding the construction of HEPP's by private companies is developed in a very complex and confusing manner. Instead of producing a single strategic document and institutional structure to regulate the means and ways of implementation, the authority and procedures have been distributed amongst several different institutions. This makes the legal monitoring of the process practically impossible. For example, obstacles encountered at the implementation stage are promptly counteracted by attempts to push through new regulations to eliminate said obstacles, thus producing countless legislative gaps and contradictions.

These legal regulations have not been assessed with respect to other relevant legislation and international agreements. Therefore, natural conservation areas and species which, according to several legal frameworks Turkey is legally bound to protect, are now under dire threat. Regulations enabling the construction of HEPP's in complete disregard of the opinions of the local people, regulations which include most prominently the controversial practice of forced expropriation, pose serious human rights problems among the people living in rural Anatolia.

The General Directorate for State Hydraulic Works (DSİ) and the General Directorate of Electrical Power Resources (EİE) are responsible for the development of hydroelectric capacity in Turkey. Whereas EİE is responsible at the survey and planning stages, DSİ is responsible for both planning and implementation.

Development of the legal procedures to construct HEPP's and dams in Turkey

The legal procedures to construct HEPP's and dams in Turkey is gradually developed between 2001 and 2011. This process also triggered the involvement of the private sector in energy investments, thus, resulting in a huge increase in the numbers of HEPP's and dams. Compared to the plans of the government before 2001 the number of HEPP's and dams has increased four-fold, after the involvement of the private sector.

2001

Privatization of dams and HEPP's

20 February

The law concerning the establishment of the Electricity Market and Electricity Market Regulation Authority opened the privatization of all energy supply schemes, including dams and HEPP's.

Establishment of Energy Market Regulation Council

19 November

With a new law on Natural Gas Market a council is established including the representatives of the private sector, regulating many of the tasks and responsibilities of the Electricity Market Regulation Authority.

2002

Dams and HEPP's as "green" energy

04 August

Following the EU's directive on subsidizing renewable energy resources Turkey has adopted all HEPP's and dams with a capacity below 20 MW as sources of "green" energy.

2003

Financial support to HEPP's

20 February

The investors are promoted by allowing to pay 1% of the licence fee, the remaining amount subject to be paid over a period of 8 years.

Water-use rights transferred to the private sector

26 June

A new regulation is developed and operationalized by State Hydraulic Works on signing water-use agreements with the private sector to produce electricity for 49 years.

2006

Mandatory expropriation for HPP's and dams in force

24 May

The Energy Market Regulation Council is authorized to expropriate the land of villagers for HEPP's and dams with no social impact assessments and no procedures prior to the expropriation.

2008

EIA procedures by-passed

12 August

EIA procedures are weakened for dams and HPP's below 25MW, by authorizing the local governorships to decide whether or not to apply the EIA procedure.

2009

HEPP's become government policy

18 September

The State Planning Authority declares a strategic report with a target to finalize all HEPP constructions by 2023, as to use 100% of Turkey's potential hydraulic resources.

2010

Protected areas opened to dam and HEPP constructions

28 December

With changes made in the Renewable Energy Law, all protected areas are opened to dam and HEPP constructions

2011

Cancellation of all legal restrictions against dams and HEPP's

A new draft law is submitted to the Turkish parliament towards the end of 2010 by the Ministry of Environment. While this draft legislation is named as "Nature and Biodiversity Conservation Law" it is practically designed to eliminate all legal restrictions against development projects, particularly dams and HEPP's.

Current Status of Hydroelectric Power Plants

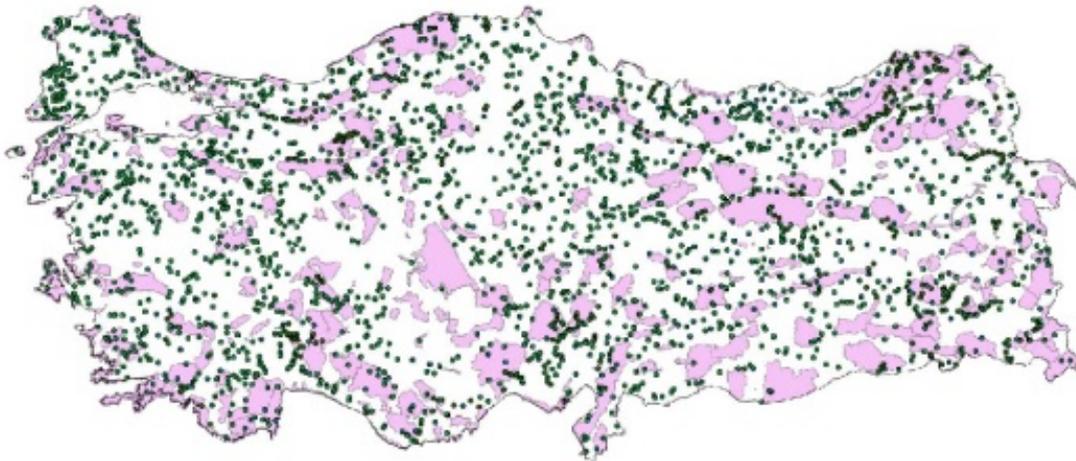
Running DSİ Others	13,700 MW (172 HEPP's) 10,700 MW (57 HEPP's) 3,000 MW (115 HEPP's)
Under Construction DSİ Others	8,600 MW (148 HEPP's) 3,600 MW (23 HEPP's) 5,000 MW (125 HEPP's)
In Progress To be built by private sector (by Acts no. 4628 or 3096) Projects of bilateral cooperation (by Acts no. 4628 or 5625)	22,700 MW (1418 HEPP's) 18,700 MW (1401 HEPP's) 4,000 MW (17 HEPP's)
Total Capacity	45,000 MW (1738 HEPP's)

Source: DSI website

According to DSI data, there are currently 1,738 hydroelectric power plant (HEPP) projects in Turkey, of which 172 are running, 148 under construction and 1,418 at the planning stage. The power plants currently running have an installed capacity of 13,700 mW and an average capacity of 48,000 GW of annual production, which equals 35% of total economical potential. The power plants under construction have an installed capacity of 8,600 MW and an average capacity of 20,000 GW of annual production, corresponding to 14% of total capacity. Finally, the 1,418 projects at the planning stage are expected to produce a capacity of 72,540 GWh.

Following the establishment of the Energy Market Regulation Board (EPDK) in 2001, licenses approved by the board began to be issued to legal entities wishing to construct HEPP's. These licenses define the activities which such entities are legally authorized to carry out as well as the rights and responsibilities related to those activities. As of 17 March 2010, a total of 687 projects had been licensed by the EPDK. Close to 2000 additional dams are planned for irrigation or drinking water purposes.

HEPP's and dams planned to be constructed until 2023





A village in northeast Turkey, Artvin, which will be flooded by a dam.



Urgent expropriation causes rural people to move to bigger cities with no social impact mitigation measures.

2. PROBLEMS CAUSED BY HEPP PROJECTS

2.1. Human Rights Violations

Licenses continue to be granted by the EPDK and the DSİ without allowing the impacted people or the local organizations, to have a say as to whether or how the projects should be carried out. Thus, the construction of HEPP's is commencing without any assessment of potential social and technical problems at the locations of the planned projects.

The third article of The Environmental Act no. 2872 defines the general principles of environmental protection, improvement and prevention of environmental pollution. According to the act, the authorized bodies which make the decisions about land and resource use are responsible not only for assessing projects but also for creating a participant milieu that would allow professional chambers, unions, non-governmental organizations and citizens to exercise their environmental rights. And yet, when it comes to the construction of HEPP's, this process is prevented by various means, not the least of which is the method of "urgent expropriation." EPDK is given the authorization to make "urgent expropriations" to ease the constructions of HEPP's and dams. Therefore, the local landowners have no right to be informed or argue on the projects to be constructed at their own lands.

This acceleration of the planning stage of HEPP projects, whereby eliminating all "obstacles" that would delay projects is giving rise to real conflicts between local communities and public institutions in the country, setting governmental authorities and local people against one another.

Generally, the local people living at dam and HEPP project locations do not have regular income but rather depend on farming and animal breeding for their survival. Their lands and animals are sustained by the water from nearby rivers, which the people transport as necessary using their own means. The river systems which are essential for the traditional social life and the survival and the future of the local people are being destroyed because of the HEPP's currently running and projects in progress. As such, the local people are being forced to migrate from their lands on which they depend for survival. About 2 million people are expected to be forced from their homes in the short or long term, because of HEPP projects and dams. Here we provide some examples of human rights violations due to HEPP's and dams in Turkey.

Villagers Under Investigation in Yuvarlakçay

The local people who voice their opposition to these projects undertaken without their consent usually become to subject to investigation. Some peasants in Yuvarlakçay, for instance, who have refused to hand over heritage trees cut from banned roads, claiming them as evidence, and who have been living since 29 December 2009 in a camp they built in the region in order to protect the running water, are being tried on grounds of obstructing officials, while 1,136 citizens are being officially investigated on grounds of holding an unauthorized meeting and demonstration.

On 19 January 2010, 7 citizens from Serdarlı in Tortum, Erzurum, were taken into custody for attacking and throwing stones at the car of a judge. The judge was on duty for a land survey being carried out as part of land expropriation measures for a HEPP to be built in the area. 5 of the people were arrested for obstructing and resisting officials, while the other 2 were released by the court pending trial.

Corruption and human erosion

The actual situation in HEPP regions has already had serious sociological consequences, first and foremost amongst which are bribery and human erosion. The company constructing a HEPP in Loç Valley, Kastamonu, has used money to persuade some of the local people to support the HEPP project. As a result, people from the same family have been pushed into a violent fight involving mutual accusations of accepting bribes. Even the tea houses in the village have been divided by the issue, i.e., those for versus those against the HEPP company. The HEPP investments, having provoked serious disagreements even between siblings, have led the peasants of the village to view each other with constant suspicion. The companies are trying to trick the poor local people and to provoke them against each other by means of bribes and monetary aid in order to create cracks in and ultimately break down the resistance. The local authorities under the mandate of the Ministry of Environment and Forestry either support or overlook the companies' activities of this sort. For example, the district governor of Loç, Kastamonu, mediated a meeting between the company executives and the village headman, who was acting as representative of the peasants, who opposed the HEPP project. The same district governor has also been putting pressure on the peasants in an effort to urge them towards arriving at a mutual agreement in exchange for economic aid. Documentation presented as evidence has demonstrated the truth of this case.

PROTOKOL

1. Orya Enerji Elektrik Üretim A.Ş. tarafından Kastamonu İİ Cide İlçesi sınırları içinde karadadı köyü Cide İlçesindeki ve His Projesi adıyla, Cide İlçesi Karadadı Köyü'nde bulunan Karadadı Köyü Tünel Kipiliği'nin mülkiyetindeki 149 Ada 14 Parsel, 149 Ada 4 Parsel No.lu tapu numaralı yapıya tesislen ve iletim hattı sahası içinde katlanılır.
2. İhale Protokolleri ile Orya Enerji Elektrik Üretim A.Ş. yetkilisi ve Karadadı Köyü Muhtarı; Şaşırtıcı Tasarım ve İletim Hattı sahaları içinde katlanacak tapu numaraları katalogta bulunan olmaması rağmen Orya Enerji Elektrik Üretim A.Ş. Karadadı Köyü Tünel Kipiliği'nin ihale yapması olan aşağıda belirtilen işlerin yapımı ve onarımı üzerine anlaşmışlardır. (10.09.2018)
 - a. Kastamonu İİ Özel İdaresinden verilmiş tip projeye uygun Köy Kasabı ve Mahallelik binasının yapımı,
 - b. Köy içi yolların projeye uygun yapımı, mevcutlarını projeye istinace onarımı, bakımı,
 - c. Karadadı köy içine suyu hatları olan Kastamonu İİ Özel İdaresinden alınacak projeye uygun çeşmeli suyunu (Bu hizmetler projeye istinace yapılacaktır.)
 - d. Karadadı Köyünde bulunan;
 1. Kabalıklı Mahallesi,
 2. Karabalıklı Mahallesi,
 3. Karadadı- Merkez Mahallesi'nde bulunan köy camilerinin onarımı,
 - e. Köy Hallarında; İhtiyaç sahibi ve gelecek vize edile 12 ilköğretim, 2 ilçe, 2 üniversite öğrencisine, öğrenim istinace burs verilmesi.

Orya Enerji Elektrik Üretim A.Ş.
Adına

Bekir Sait ESENDİR
İng. Yük. Müh.
Proje Müdürü

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Karadadı Köyü Köy Tünel Kipiliği
Adına

Erdoğan Gül
Muhtar

(Handwritten signature)
İmzadan kaçınılmaz olarak
olup, protokolü kabul
etmişimdir.

TANIK
Rıza Bilal Yücel
(Handwritten signature)

TANIK
Mehmet
(Handwritten signature)

PROTOKOL

1. Due to the construction of the Cide Regulator and Hydroelectric Power Plant by Orya Energy Electricity Production Joint-Stock Company within the borders of the Cide District of the City of Kastamonu, the real estate belonging to the Legal Entity of Karadadı Village and consisting of block number 149 parcel 14, and block number 149 parcel 4, located in Karadadı Village of Cide District, shall fall within the construction site and transmission line area.

2. Although the immovables located within the construction site and transmission line area have already been expropriated, the two parties of the Protocol, being the authorized representative of Orya Energy Electricity Production Joint-Stock Company and the Karadadı Village Headman, hereby agree that the construction and repair works stated below and required by the Karadadı Village Legal Entity, be carried out by Orya Energy Electricity Production Joint-Stock Company;

a. Construction of the Village Government Building and Village Administration Headquarters, in accordance with a project design to be issued by the Special Provincial Administration.

b. Construction of village roads in accordance with the project, and maintenance and repair of existing roads during the project

c. Rehabilitation of Karadadı Village potable water lines in accordance with a project design to be issued by the Special Provincial Administration. (These services are to be provided during the period of the project.)

d. Repair of village mosques located in the following neighborhoods of Karadadı Village:

1. Kabalıklı Neighborhood
2. Karabalıklı Neighborhood
3. Karadadı Neighborhood

e. To provide scholarships to twelve elementary, two high school and two university level promising students from the village for the duration of their studies.

In the Name of Orya Energy Electricity Production Joint-Stock Company
Bekir Sait Esendir, High Engineer of Construction, Project Manager

In the Name of the Legal Entity of Karadadı Village
Erdoğan Gül, Village Headman "Declined to sign, did not concur with the protocol."

Witness Rıza Bilal Yücel

The document which the village headman was forced to sign by the District Governor.

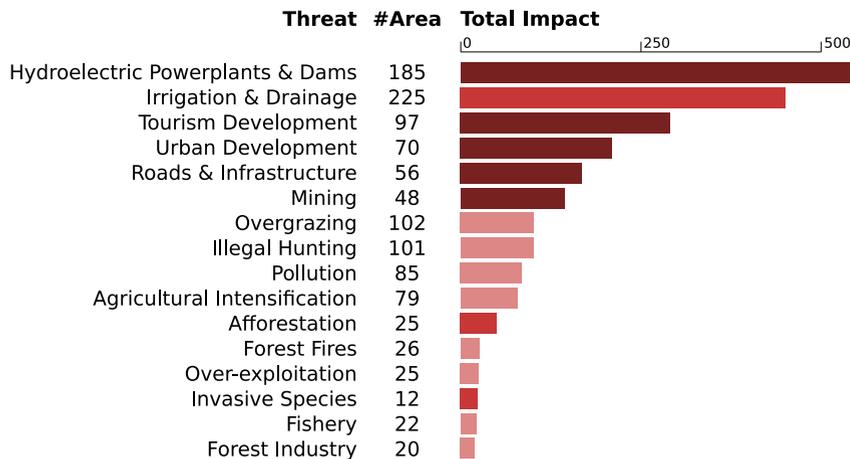
2.2. The Impact of Dams and HEPP's on Nature

Every hydroelectric power plant (HEPP) and dam affects the structure and flow of rivers to a certain degree, depending upon the structure, location and size of the HEPP or dam in question. This situation, combined with the resulting change in the amount and quality of available water, gives rise to problems such as endangerment of habitats, which can then lead to the extinction of many species. If all the dams and HEPP's currently planned to be constructed in Turkey are actually built, the populations of a large proportion of rare animal species living in these areas would decrease irreversibly and likely end in their extinction. The total length of river systems in Turkey that will be converted to HEPP's or dams is around 10,000 kilometers, leaving very little of no room for natural ecosystems to function.

Key Biodiversity Areas, which contain the most vulnerable and irreplaceable components of Anatolia's biodiversity, are under the threat of HEPP and dam constructions. Two third of these Key Biodiversity Areas (185 of 305 areas) are under direct threat. These areas, which comprise 26% of Turkey's total land area, also meet the standards of EU Natura 2000 criteria. HEPP and dam projects pose the greatest dangers to the preservation of these natural areas (Natura 2000 candidates) which, according to EU standards, Turkey is obliged to protect. If the necessary precautions fail to be taken, Turkey will have lost a large portion of its biodiversity before it becomes an EU member.

More than 100 endemic plants could go extinct, due to the construction of HEPP and dams. Additionally, numerous bird, amphibian and mammal species in Turkey will disappear or go through sharp declines as a result of these constructions which are spreading like an epidemic. There is not a nation-wide study to assess the impact of planned HHP and dam projects on biodiversity.

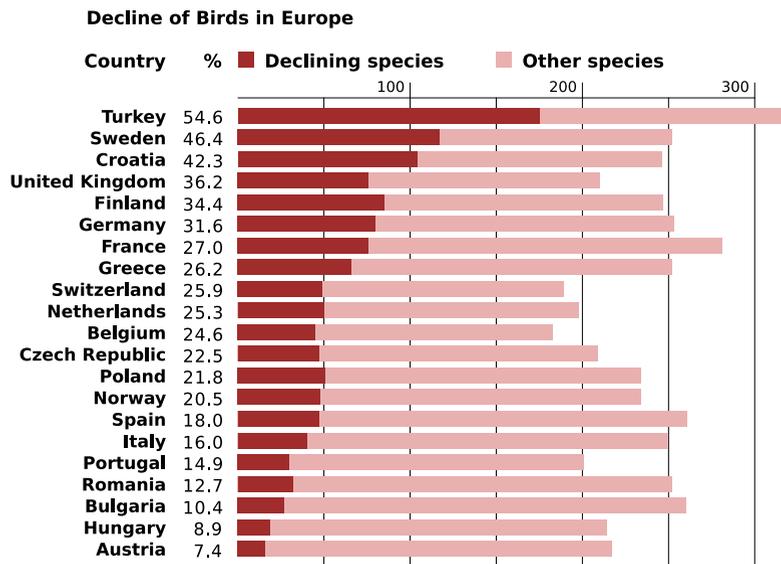
Threats on Key Biodiversity Areas (Potential Natura 2000 Areas)



Impact Magnitudes:

- 1** Reversible threats
- 2** Threats with a reversible impact through habitat restoration
- 3** Threats with irreversible impacts

The results of the Birds in Europe publication of BirdLife international shows that the fastest rate of decline in bird populations is encountered in Turkey compared to other European countries. Data on Turkey's birds show that 55% percent of 319 bird species have severely decreased in number over the last decade due to the destruction of their natural habitats, primarily resulting from water projects. The primary cause of the rapid decrease in the populations of birds as well as many other species in Turkey, are the HEPP and dam constructions. Many of these species are listed in the Annex I of the EC Birds Directive. 80% of the pied kingfishers that once lived and mated in dense populations around the Tigris and Euphrates Rivers in Turkey have disappeared in the last 10 years because of dams.



Adapted from "Birds in Europe II" of BirdLife International

Those HEPP's and dams built in areas where there is a scarcity of water resources have the additional effect of trapping water at high altitudes, and thus leaving lower areas waterless. In some cases, lakes in the basins dry up due to this lack of water flow. For example, the Pygmy Cormorant is amongst the bird species that are disappearing due to these indirect effects of dams on rivers. On the other hand, because of HEPP and dams, the amount of sediment carried by the rivers is decreasing, and the deltas are melting.

2.2.1. Definition of "Vital Water"

In environmental literature, the water required to sustain a river's ecosystem is called "water demand of the ecosystem" and its amount can be measured by several methods. Research to measure this demand began in the 1970's. Since then, scientists have gradually progressed from simple methods to more complicated ones that have a more developed scientific basis and are able to implemented more widely. Studies have generally been conducted to determine the water demand of the ecosystem of rivers that have economic value (i.e., where there is fishing); therefore, the amount of water required by the entire ecosystem surrounding a river has been

defined by the amount of water deemed vital for the survival of its fish.

In recent years, methods focusing on other species (e.g. invertebrates, water fowls), the structure of ecosystems (the structure of water channels, flora and flood plains), nutrient dynamics and primary production have also emerged.

However, in Turkey, ecological flow requirements are not determined or measured before permissions are granted for HEPP projects. According to the Regulation on Water Use Rights, only 10% of the amount of calculated as the average ecological flow requirement for the last ten years is defined as "vital water." Vital water is defined as the amount of water necessary for fish alone, and therefore no ecological flow requirement is established for the valley as a whole.

In Turkey's HEPP projects, water right is determined at a minimum level strictly in accordance with the requirements of the HEPP to be constructed. The low level of water to be re-released into the river bed directly affects the aquatic species there. At the same time, evaporation of humid environments leads to the drying up of surrounding habitats and the annihilation of hydrophilic species as well. The limited amount of water released by the controller in accordance with the ecological flow requirements, is not sufficient for fish species and other living beings during their spawning and/or mating periods and therefore result in their demise.

It is imperative that the level of water to be used and the amount of water that needs to be re-released into the river bed in order to preserve life in aquatic and other ecosystems be taken into consideration for each planned HEPP project. Yet the General Directorate of State Hydraulic Works insists upon defining the vital level of water to be released back into the rivers for each project simply as 10% of the total ecological flow requirements. In the water usage agreements, the amounts of vital water to be left in the river basins, of irrigation water, drinking water and water that hatcheries require to operate, is not properly addressed.

Because river flows have not been calculated on a daily or monthly basis, the agreements do not dictate how much water should be released back into the rivers when. The calculations made by the General Directorate of State Hydraulic Works meanwhile are far from adequate. Due to the fact that the measurements are not made at the exact site of the projects, they are in no way satisfactory and cannot be relied upon during the planning process of HEPP projects.

A large number of the canal, road, tunnel and energy transmission line constructions undertaken as part of the HEPP projects also do great damage to the habitats, copulation and feeding grounds, and migration routes of wildlife. The noise from explosions and vehicle traffic during the construction stage constitutes stress factors for large mammals and has negative effects upon them, especially during their gestation periods. Important, delicate wildlife such as lynxes, bears, chamois, and wheatears are especially prone to the negative effects of such factors.

2.2.2. Forest Loss

A large proportion of proposed HEPP sites are in forest areas. For every HEPP, a major area must be cleared from forest for the erection of high voltage lines. However, in the project reports, no

information is provided about these high voltage lines. Thus, each HEPP project results in the slaying of hundreds of thousands of trees and the construction of new roads.

Failure to include assessment of electric transmission lines, which are an integral part of the power plant project itself, as they are of all similar projects, within the scope of the Environmental Impact Assessment process, is in violation of article 25 of EIA regulations. In previous lawsuits, the court has been critical of this and issued verdicts whereby it has declared that electricity transmission lines must be assessed within the scope of EIA reports.

A large number of plant species that grow on stream edges utilize the underground water fed by the rivers and streams. Construction of HEPP's affects the environmental humidity ratio all along the stream beds, which in turn has a negative impact upon the flora in the area, and thus the life forms that live off of that flora as well. Agricultural areas and fruit orchards located next to streams, and especially the human beings and other species that utilize them, are also negatively impacted by this situation.

2.3. Violations of the Laws

In Turkey, hydroelectric power plants are being planned and built in breach of an immense number of both national laws and international agreements. Although most have been won, only a handful of legal battles regarding this issue have been initiated. Despite the fact that these lawsuits have resulted in either the halting or cancellation of construction of HEPP's, preparation of a new legal regulation concerning the issue has already commenced.

Primary examples of applicable laws that have been breached are the EIA and the Cultural and Natural Heritage Preservation Law. Most situations in which the HEPP's are in contravention of legislation arise during the EIA processes. A HEPP project undergoes a multi-step process, beginning with approval of feasibility reports, followed by allocation of water rights and then the granting of an electricity production license respectively. In Turkey, it is only in the final stage that the EIA process is implemented, when in fact such late stage implementation is in direct contravention of the very same EIA regulations. As a result, it is safe to say that in Turkey there exists no EIA process with an integrated planning stage.

Regulations carried out are in contravention not only of national legislation, but also of international conventions that constitute Turkish national law as well as the EU directives, to which Turkey is subject in accordance with the adjustment process. Some primary examples are the European Union Water Framework, EU Habitats and Birds Directives, Bern, CITES and Ramsar agreements.

In December 2010, Turkey made minor changes in the Renewable Energy Resource Law that had great impacts. With these changes, the legal barrier which protected nature preserves against dam, HEPP and other energy development projects, has been totally removed.

The latest amendment to the Renewable Energy Resource Law paves the way for dam and hydroelectric power plant constructions in all protected areas, including national parks, natural parks, areas with nature monuments, nature reserve areas, protected forests, wildlife protection areas and natural protected areas.

A much greater threat to Turkey's bio-diversity, which is of significance not only for Turkey itself but at the global level as well, is the law draft titled "The Law on Nature Protection". This bill, which is a complete contradiction of its name, paves the way for allowing development projects to be carried out on all natural preserves and in all endangered wildlife areas.

Despite the financial difficulties, so far 83 lawsuits have been filed against dams and HEPP's, and another 13 lawsuits are about to be filed. Of the aforementioned 83 cases, courts have given decisions for 41 cases until now, and they have decided the stay of execution and cancellation of 39 of them. Only 2 cases were concluded in favor of the continuation of the HEPP project as it stands.

2.3.1. International Treaties in relation to dams and HEPP's

The international treaties that Turkey signed are considered domestic law in accordance with the final provision of Constitutional Law Article 90. No regulations can legally be put into practice if they are in contradiction of international treaties which have been duly approved and come into force. Clearly, the overriding principles of the of constructing HEPP's and dams in Turkey to date, fall short of many many clauses of these international treaties.

Wildlife areas and species that are under protection in accordance with The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats), are being destroyed due to the construction of hydroelectric power plants. Turkey is obliged to take all necessary administrative and legal measures to protect the species (together with their natural habitats) mentioned in the annex lists of The Convention on the Conservation of European Wildlife and Natural Habitats (Annex List No.1: Plant Species and Additional List No.2: Animal Species).

Parties to the Convention on Biological Diversity pledge to take full responsibility for the conservation of the diversity of plants, animals, and microbiological life within their borders. In addition, they also pledge to utilize biological resources in a sustainable manner and to seek ways to share in a just and equal manner all benefits derived from biological diversity.

The Convention Concerning the Protection of the World Cultural and Natural Heritage stresses that the disruption or destruction of any part of cultural or natural heritage constitutes a harmful impoverishment for all national heritages of the world.

The Convention on Wetlands of International Importance (Ramsar, 1971) calls upon governments to take action for the protection and prevention of destruction of wetlands. While the first clause of the convention defines wetlands, the second clause states that these areas must be properly identified. In the third clause, it is stated that the wetlands must be preserved, and the fourth clause demands that state parties of the convention adopt a mission of taking disciplinary

precautions in order to protect wetlands, even if they are not listed in the convention.

The European Human Rights Convention and its five additional protocols, especially the first protocol and the International Declaration of Human Rights. A number of practices carried out in order to enable the construction of HEPP's, most particularly the practice of "forced expropriation," is interpreted blatant breaches of these agreements on the part of Turkey.

The European Convention On the Protection of the Archaeological Heritage undertakes the protection of archaeological heritage, within the framework of activities concerning rural and urban development.

2.3.2. European Union Directives

Ongoing endeavors of HEPP's and dams are either in serious contradiction or in breach of the EU Directives, which Turkey is subject to in accordance with the EU negotiations.

Birds and Habitat Directives dictates that member states must prevent the destruction of natural habitats and must not disturb inhabiting species in the designated areas (Natura 2000 areas), meaning that the areas should be protected against any kind of harmful construction-related activities.

The European Union Water Framework Directive requires that basin management plans be made for all river basins in order to restore all water bodies insofar as possible to their natural/pristine state in terms of quality and quantity.

3. CONCLUSIONS

The following steps need to be taken to reverse the fast decline of biodiversity in Turkey resulting from HEPP's and dams:

- A new water and nature conservation policy need to be adopted to preserve the unique and very rich biodiversity of Turkey, enabling the full participation of the civil society and local people in decision taking.
- The current draft act on nature conservation need to be withdrawn from the Parliament and a series of new legislations need to be developed in order to conserve Turkey's biodiversity, by taking account all the concerns of local people and the wider civil society.
- The current boom of HEPP's and dams has to be stopped until a new policy and legislation on water and nature is established.
- Human rights violations to undertake the HEPP and dam constructions need to be stopped immediately.
- The recent changes on the renewable energy law, opening the protected areas to dam and HEPP constructions have to be cancelled.