

ON THE STRATEGIC IMPORTANCE OF MOUNTAINS AND MOUNTAINOUS AREAS

"Mountains" are areas that are basically defined with a geographical location whereas "mountainous area" also encompasses the interaction environment of those mountains. In Europe, there are local administrations often defined as "mountain municipalities" established in mountainous areas. In Turkey, however, the villages founded in mountainous areas are called "forest villages". And there is no such definition as "mountain municipalities" within the organization of public administration. There are areas which could be called "rural neighborhoods" if gradually recognized by the municipality councils of Metropolitan Municipalities (Law No. 5216 additional article no.3 and Regulation dated April 17, 2021). These areas are mostly zones that turned into neighborhoods of the city with a change of status but in reality they "failed to turn into" such zones which in turn keeps them at the status of old villages.

And the definitions which are based on sole criterion, that "sole criterion" is the elevation from the sea level. Depending on the general topography of the terrain, the highest point and the percentage of mountains within the total area of a country, in other words, the minimum elevation threshold varies significantly. UNEP World Conservation Monitoring Centre (WCMC) uses the concept of altitude only to define the mountains that are higher than 2,500 meters. In Turkey there are 74 mountains that fit this criterion (Cagatay Belgen) such as the mountain Uludag with an altitude of 2,543 meters, the Mountain of Agri with an altitude of 5,137 meters and the Mountain of Hasan with an altitude of 3,235 meters. The criteria of altitude and inclination are combined to define the status of mountains that are higher than 1,000 meters. For lower elevations (300-999 m) an additional criterion of height interval is used locally to define mountainous areas. These linked criteria have been developed over and over by scientists, policy makers and mountain climbers. According to EU, these areas are about 1.7 million km

However, Turkey is a mountainous country. In today's conditions, taking into account the climate change and the rise of the sea levels, Turkey has gained even more importance with its mountains. According to international classifications, 74.63% of Turkey's overall terrain is composed of mountains. The country's overall area is 782,219.7269 km² and 583,770.9139 km² of it formed by mountains. The country has a topography which is both high and rugged with

elevations above 5,000 meters. Studies have revealed that 50% of the territory of Turkey is higher than 1,000 meters, 2/3 of it is over 500 meters, and the average elevation is more than the average in the continent of Asia with 1,141 meters¹. It is also crucial to underline Instrument for Pre-Accession Assistance Rural Development Programs (IPARD) (2017-2013) and (2014-2020) defines mountainous areas as *an area located at an altitude of minimum 1,000 m, or located at an altitude between 500 m and 1,000 m with a slope of minimum 17%*².

The Agenda 21 which serves as an action plan for Rio Summit 1992 focuses on "Mountains and Mountainous Areas" in its Article No.13. The same year the subject of mountains was still a **draft** but thanks to the "Charter of Mountain Regions" (1992) some methods and awareness around this subject has been created among the member states of the European Council. It is not logical to expect a common definition of mountain regions where the European Council does not look for a common criterion in its regulations regarding the "minorities" and states take their own definition into consideration. In fact, studies of European Union regarding mountain regions also take the directions of policies into consideration. As a result, the regional planning of public service becomes significant in terms of national administrations and the formation of public policies.

Studies covering mountainous areas that are often excluded from systematic planning, which are clearly specific to mountainous areas, "compensating for reactive strategies, threats and structural difficulties" are becoming increasingly important. Economic, political, cultural, social and technological developments are rapidly affecting the discipline of public administration. It is expected that the structures in accordance with these new developments brought by the change will be transferred to the normative and administrative field at the same rate. Due to its philosophy, the discipline of public administration explains the change that has taken place. Society expects these explanations to be consistent in terms of cause and effect relations. The principles developed in the evaluation of the concept of public service are important in terms of social peace and security. In mountainous areas, children, young people and women are the disadvantaged groups. Therefore, they are considered as a priority and placed at the center of capacity building and community development policies.

¹ Barbaros Gönençgil and Neslihan Dal (2020), Sustainable and Safe Administration of Mountainous Areas (Dağlık Alanların Sürdürülebilir Güvenli Yönetimi), Ankara, p. 5, 10-13 ; Neslihan Dal and Barbaros Gönençgil, An Approach for Limitation of Mountains and Mountainous Areas in Turkey (Türkiye’de Dağ ve Dağlık Alan Sınırlanması için Bir Yaklaşım) (2018), International Geography Symposium on the 30th Anniversary of TUCAUM on 3-6 October 2018, Ankara p. 907-913

² . The list of mountainous areas is published on the official website of MoFAL. IPARD_II-2EN.rar (2014-2020), s.21 ve s.84 erişim <https://www.tkd.gov.tr/Ipard/IpardProgrami> accessed on September 1, 2022.

On December 11, 2019, the World Mountain Day workshop was held in Izmir with the participation of 135 people around 8 tables. The resulting results are generally shown below (access to the all at <https://afetyonetimi.deu.edu.tr/disk.yandex.com.tr/d/fZahppTW3Qzybk>).

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When the list of strengths, weaknesses, opportunities and threats is examined, threats and weaknesses sometimes tangle up and the multitude of problems confirms why there is a need for mountainous area administration.

SOME HIGHLIGHTS BIOLOGICAL OR HUMAN-INDUCED STRENGTHS THAT ARE SPECIFIC TO MOUNTAINS:

Different climatic features cause mountains to have rich biodiversity with vast flora and fauna. Mountains are rich in terms of cultural heritage and natural assets; Turkey is a mountainous region; Workforce potential can be utilized; Resources on and below the surface of mountains are rich; There is a young population to be educated about mountains; Sports clubs and NGOs have an increasing interest in mountains. These are the strengths of Turkey in terms of mountains and here are the opportunities: The effective use of social media could help with the monitoring of mountains; Rich biodiversity; There are fertile soils suitable for organic agriculture; There is technical infrastructure regarding the forest assets; Municipal services are more accessible thanks to villages being turned into neighborhoods; Locals living in municipal areas can now easily access public services; Mountain regions can turn into settlement areas with the conditions presented by the climate change; Building nature-adaptive buildings; Mountainous areas have turned into attractive spaces in the eyes of many industries due to the fact that urban areas are being filled up; There is a possibility in switching to smart municipalities for overcoming the geographical challenges in terms of urbanism; Mountaineering Federation providing training to locals; operating licences being issued to rural areas; National Geographic Database System created by the General Directorate of Geographical Information Systems; There is an opportunity to benefit from technological developments for the efficient administration of mountains; Early warning systems for natural disasters on mountains and in mountainous areas are becoming prominent; There are suitable alternatives to be used for the building materials (non-combustible or hard-to-burn) used in the construction industry to adopt to the needs of the mountain regions.

On the other hand, the weaknesses and issues that pose a threat are listed below.

BIOLOGICAL OR HUMAN-INDUCED WEAKNESSES AND THREATS THAT ARE SPECIFIC TO MOUNTAINS:

Differences in the quality of education; The scarcity of water resources in compliance with international standards, ; Insufficient information and inventory of aquatic plants (flora) and animals (fauna) in mountainous areas; The ease of access to natural habitats and uncontrolled entries to these areas; The use of the natural areas cannot be monitored with the help of technology or through classical methods of observations; Land degradation due to disasters; The inhabitants of the mountains sell their agricultural lands to foreigners and citizens for obtaining a secondary housing; Locals of the mountains intentionally cause fires to open up spaces for construction that could create income and profit, thus harming the ecosystem; The importance of mountains is not embedded in multiple levels of education system in a way that creates awareness around this issue and it is not highlighted enough; crops that do not bring high income are planted in mountainous areas and agricultural activities that prevent unemployment remain inefficient and insufficient; Illegal trade of wildlife hunting; The optimal capacity of mountains has not yet been defined by municipalities; Land erosion due to constructions; Caves do not have any inventories; Mining activities cause environmental problems; animal grazing and forest flora is decreased in special forest areas; Communication and alert systems are insufficient; Natural and social resources that have high economic value are used in an inefficient and insensible manner (such as stone and marble quarries); basic services are not enough or non-existent in mountain villages or neighborhoods in mountainous areas; The assessment of risk levels regarding the problems is hard; The status of pasture areas of many villages have been switched to other types causing the animal husbandry and agricultural activities to regress; Lack of staff; Insufficient local and agricultural organizations; Manufacturers not being able to sell their products for the prices that they want to sell them at; Irregular, arbitrary and unplanned settlements on mountains and in mountainous areas.

BIOLOGICAL, HUMAN-INDUCED THREATS SPECIFIC TO MOUNTAINS:

Risks to be caused by unplanned safety risk ranking and optimum population capacity for popular mountains that have touristic potential; Security problems arisen by terrorist activities; Negative effects of global warming on endemic products; Failure to manage the migrations from urban areas towards mountainous areas; Negative approach of locals inhabiting the

mountains towards outsiders and new arrivals due to low perception of trust and safety; Mountains are perceived as high risks of security by the society; Negative effects of climate change on mountain ecosystems; Locals have rightful reactions to the areas of which the landscape has been disrupted but the administrative authorities do not take these reactions seriously; Failure to comply with the law regarding mountain regions; Migrations from mountain regions to cities; Lack or non-existence of supervision in mountainous areas; Lack of investment that could improve the life quality of mountain residents; Lack or non-existence of integrated industry investment decision planning that could improve the life quality in mountainous areas; Regulations regarding the mining industry do not meet the needs; Mindless hunting and gathering; Rising sea levels and risk of beach areas being left under the water; Noise pollution caused by wind turbines; Chemicals and pollution harming apiculture; Agricultural wild watering; Changing the direction of water resources; Building dams and the increasing number of hydroelectric power plants; Environmental Impact Assessments (EIA) and Integrated EIA for Wind Energy Plants and Hydroelectric Plants in mountainous areas are not being conducted; Strategic Environmental Assessments are not being conducted for risk and crisis analyses in mountain regions; EIAs are only based on investments; Global climate change and its effects on Turkey; Municipalities fail to provide services to old mountain villages and new mountain/rural neighborhoods due to financial incapacities; Natural and human-induced disaster risks are hard to manage due to challenging conditions; Mountains pose difficulties for the administration of borders in Turkey; Young population returning back to mountainous settlements have limited or non-existent employment opportunities; There is a risk for endemic products not being produced anymore due to new products like mangoes being imported. This risk very viable due to economic reasons in Turkey; Imbalance of income and insufficient investment on rural areas; Studies being conducted with dynamites or other explosives cause the base water to change its place and this triggers the water scarcity in some mountain settlements; Life quality decreases during summer due to increasing number of water outages; Forestation works are not in line with the climate or they are insufficient; Increasing population on mountains and uncontrollable settlement; Rural areas are mostly occupied by the old population composed of people who do not actively work in production anymore (economic erosion); Lack or non-existence of planning that can guide the decisions on land usage; Agricultural field parcels are small inhibiting villagers' production; There are holes in the bureaucratic, administrative and legal basis of studies conducted due to lack of a common definition for mountainous areas; Producers in the mountain regions are not trained in a multifaceted way (health, agricultural production, public education, marketing, and etc.); Sustainable strategic plans related to mountain tourism are insufficient or non-existent;

Economic activities on mountains have reduced or stopped due to migrations; Lack of income and low levels of socio-economic wealth becomes triggering factors; Security problems due to geographical properties of mountains; Lack of law enforcement officials; Non-existence or lack of incentive mechanisms, fund credit opportunities; Lack of governmental budget spared for sustainable energy, small number of research and incentives; Mountain regions and mountain villagers are not visible in national reports; Lack of sustainable, participatory mountain administration model that could be effective; Lack of improving investments related to teachers and schools in mountainous areas; Not conducting industry or product-based production plans; Lack of data and information regarding mountainous areas; Insufficient information about the special forestation conditions and credit options offered by the Ministry of Agriculture and Forestry; NGOs in mountainous areas are inefficient; Irrational usage of resource; Lands are divided and small which facilitates settlement activities; Migration to cities due to lowered economic income; Not protecting the local architecture; Construction being made against the official construction plans; Mountainous areas are hard to reach and far away. This creates opportunities for illegal archeological excavations and the lands get damaged; There are no alert lines or communication systems to report the illegal excavations and stolen objects; Increase in touristic population (operating licences/increase in b&b's); Special protection areas, national parks, and etc. are not administered successfully in mountain regions; Inability to manage the overuse and exploitation of natural and human resources; Locals living in mountainous areas cannot form a force of pressure against unnecessary public investments on mountains such as HES; Metropolitan municipalities remaining insufficient when it comes to planning mountainous areas because the municipal development plans of a 1/25,000 and 1/1,000 scale do not take mountainous areas into consideration;

Mountain residents tend to migrate to cities and the brain drain caused by this movement; People who are not included in the productive population tend to migrate towards mountainous areas; The quality of education is inefficient in some regions; Training on professions brought by the day's circumstances are insufficient (Inability to turn into Society 5.0); There are no tax advantages that stem from the product diversity which has the potential of eliminating the tax pressures that could cause economic struggles; NGOs do not work on issues related to mountainous regions hence they do not create a force of pressure on authorities; Administrative judicial authorities do not show the diligent care necessary on the implementation of decisions related to the protection of environment and rural areas; Original zoning law for mountainous areas and settlements on mountains is still not on the political agenda; Municipalities do not have plans regarding construction and public work in rural and mountainous areas; Insufficient transportation planning; Zoning amnesties are being exploited by using them against their

purpose and reason; Mountain regions are being considered as areas to be afforested (with scrubs and small trees) and this inhibits seeing mountains as a separate value and planning accordingly; The 1/100,000 plans do not have an implementation scale and the need for another plan language for mountainous areas is still not met; The need for additional staff has not been numerically defined after the increase in interest towards zoning and construction in mountainous areas; Shepherds managing the grazing process of animals on meadow grounds and people who build villas for touristic interests are considered as the same and they are not granted residence permit; Building houses or pens for agricultural purposes is not allowed; Constructions are not being checked in terms of resilience and sturdiness in cases of earthquakes and other disasters; Legal ease of changing the status of mountainous regions (meadows, forests, land of Treasury, and etc.); Insufficient communication systems and tip lines; Current zoning plans are constantly altered; Opening agricultural zones for construction causes unhealthy urbanisation and it is considered as committing an ecological crime; Lack of zoning plans and opportunities for creating suitable zoning plans are not being utilized; Mountain regions are generally left out of legal regulations; Conflicts and uncertainties of authority and duty regarding the administration of mountainous areas; Insufficient rural and urban infrastructure and superstructure; Disaster's effects are more obvious in mountain regions and they damage the ecosystem on a bigger scale; Possibility of terrorism in cases of disasters; Feasibility analyses of investments to provide energy are left inefficient and ineffective due to climate change and this creates unease in society; Communication networks do not function during disasters; Nature and human-induced erosions are increasing; Endemic plants and animals face risk of extinction due to human-induced disasters such as fires; Structures built without license as hobby gardens disrupt the ecological balance; Losses and damages caused by lack of efficient mountain administration, incoherent legal regulations or loopholes cannot be prevented; Weak inspection mechanism in mountain regions; Inability to set an integrated administration among institutions inhibit coordination and efficiency; Forest fire towers on mountains or in mountainous areas have shortcomings; It is permitted to build roads, sets, picnic areas that are not in harmony with nature in mountains which have great touristic potential;

Fertile grounds that have properties of a meadow are ever-increasingly used for agricultural and residential purposes and this causes social conflicts; There is technical infrastructure for assets related to forest but an efficient communication system such as tip line has not been established; The planning legislation regarding the mountainous regions are not in line with current climatic conditions brought by the day and the geography of mountain regions; Organization in terms of communication, health, logistics, and etc. in cases of major disasters are insufficient; The

disaster administration plans of cities are not properly announced to public; It is not known whether the disaster administration plans of cities encompass mountainous areas;

Turkey is facing the threats of climate change (drought, desertification); Mountains can have seismic belts underneath and the size of tools and machines such as buckets and diggers are not suitable for use in mountains; Risk of terrorist attacks (arson and etc); Weakness in terms of air intervention; Communication network breaks down or remains insufficient in cases of disasters; Inability to transfer the experience of staff in to implementation due to turnover rates; Increase in the number of safety issues (due to avalanche, floods and landslides) and not being able to manage them; Transportation obstacles due to topographical or geological reasons; For selected mountains, it is obligatory to plan the prevention of all kinds of security risks (population, risk maps and etc.); There are dormant volcanoes and these could get affected by strong explosions, constructions of dams and earthquakes; The biodiversity is decreasing and about to vanish; There are regions where transportation opportunities are scarce; Lack of coordination in cases of disasters; Public area priorities are defined in a different way; The effects of climate change on the mountains have not been analyzed; Turkey is on a seismic belt and the increase in zoning permits and constructions poses a threat of damage for mountains; Unauthorized entries into forests; Illegal construction next to the riverbeds makes these areas susceptible to disasters; The fact that Turkey is a country where natural disasters due to meteorological and tectonic reasons occur very frequently but the importance of this fact is not taken seriously; Turkey and one of its important cities, Izmir is situated on seismic belts; Early warning mechanism are unknown and therefore they cannot be effective; The fact that government is not careful about zoning supervisions causes legal cases to be sent to European Court of Human Rights and Turkey loses these cases; Mountain residents construct against legal zoning plans and therefore they get harmed by the disasters but the government pays them compensation based on the legal ground of "government's service defects" and these compensations cause a dent in governmental budget; There are no designs for machinery that is suitable for urgent intervention in cases of disasters on mountains; The illegal constructions in mountainous regions and right next to riverbeds on both sides are ignored and overlooked; Due to lack of supervision the constructions are illegal and this creates a risky environment in cases of disasters also causing losses of lives and properties; Mountains are being open to construction without completing the Strategic Environmental Assessments; Lack of social responsibility projects; Volunteering works/incentives are not properly directed; Mountain residents living in slums file suits against government in international courts of human rights and Turkey becomes obligated to pay compensations; Environmentally and agriculturally negative effects of wind turbines; Dams

that are not actually necessary and that are only constructed to meet the needs of residents are being built without conducting solid Environmental Impact Assessments (EIA).

WEAKNESSES IN TERMS OF DISABLED INDIVIDUALS

Young people do not want to live in rural and mountainous areas due to the impracticality of living conditions; The first failure of young people causes them to feel less motivated to work; The education level is not where it is desired to be; Brain drain taking its toll; Limited housing opportunities in mountainous areas; Conservative social structure that is not open to foreigners in mountainous areas; Social insensitivities against disabled people; Disabled people cannot participate in social life on their own; Disabled people feel cast out of society; The provisions of the Convention on the Rights of Persons with Disabilities is not properly implemented; Productive population leaves the agricultural areas and they are directed to move to industrial areas of cities; The productive capability of rural areas decrease and employment problems arise; Disadvantaged groups are marginalized and they cannot express themselves; Implementations regarding increasing the life quality of disadvantaged groups are insufficient; People with visual or physical disabilities cannot use transportation services on their own; Insufficient staff in health services industry; Social prejudice against disabled people has decreased but it still lingers; Transportation problems; routes within neighborhoods are insufficient; Financial disadvantages due to the status of neighborhood; Insufficient or non-existent visuals or materials for warning or presenting about mountainous regions; Economic recessions; Challenges of transportation based education systems; Lack of technological opportunities and inability to utilize the existing ones; Increasing number of migration to cities due to limited employment options in mountainous regions.

THREATS IN TERMS OF DISABLED INDIVIDUALS

The possibility of young people harming the rural and mountainous areas due to their inexperienced entrepreneurial attempts; Natural disasters disrupt the transportation opportunities and increases the number of obstacles (for everyone); Disabled people are disadvantageous in cases of disaster administration; Lack of empathy for disabled people; Insufficient organizational plans for disabled people; Lack of coordination regarding disabled people; Insufficiencies in terms of increasing the life quality of disabled people; Increasing population of unemployed and disabled people; Employment problems; Low socio-economic standards negatively affect disabled people; Population living in mountainous area is composed of old people; Young population and families that are inactive in rural areas migrate to cities.

When the issues are considered as a whole, the weaknesses and threats are numerous and multifaceted. These issues also make it important and urgent to build an effective mountain administration planning on regional and national scales. This planning should be supported by organizations that could offer sectoral data and information. In order to create such plans we should first define the features related to mountains and then commissions should be formed to help out. These commissions should first be built on a regional basis. There should be representatives of all ministries in that city along with non-governmental organizations; academic experts and non-expert but informed people of that local area. Once these regional commission are formed they should send representatives to a national advisory council which has public, private and civil stakeholders that work with a system based on an efficient and participatory mechanism. Pilot regions should be created to implement the "mountainous region administration" models taking selected mountains and its surroundings into consideration. These implementations should also be supported by academic studies and there ought to be separate funding for encouraging such studies both on a local and a central level.