

Earthquake in Water Geography

Impacts, Strategies, Recommendations

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February 6, 2023

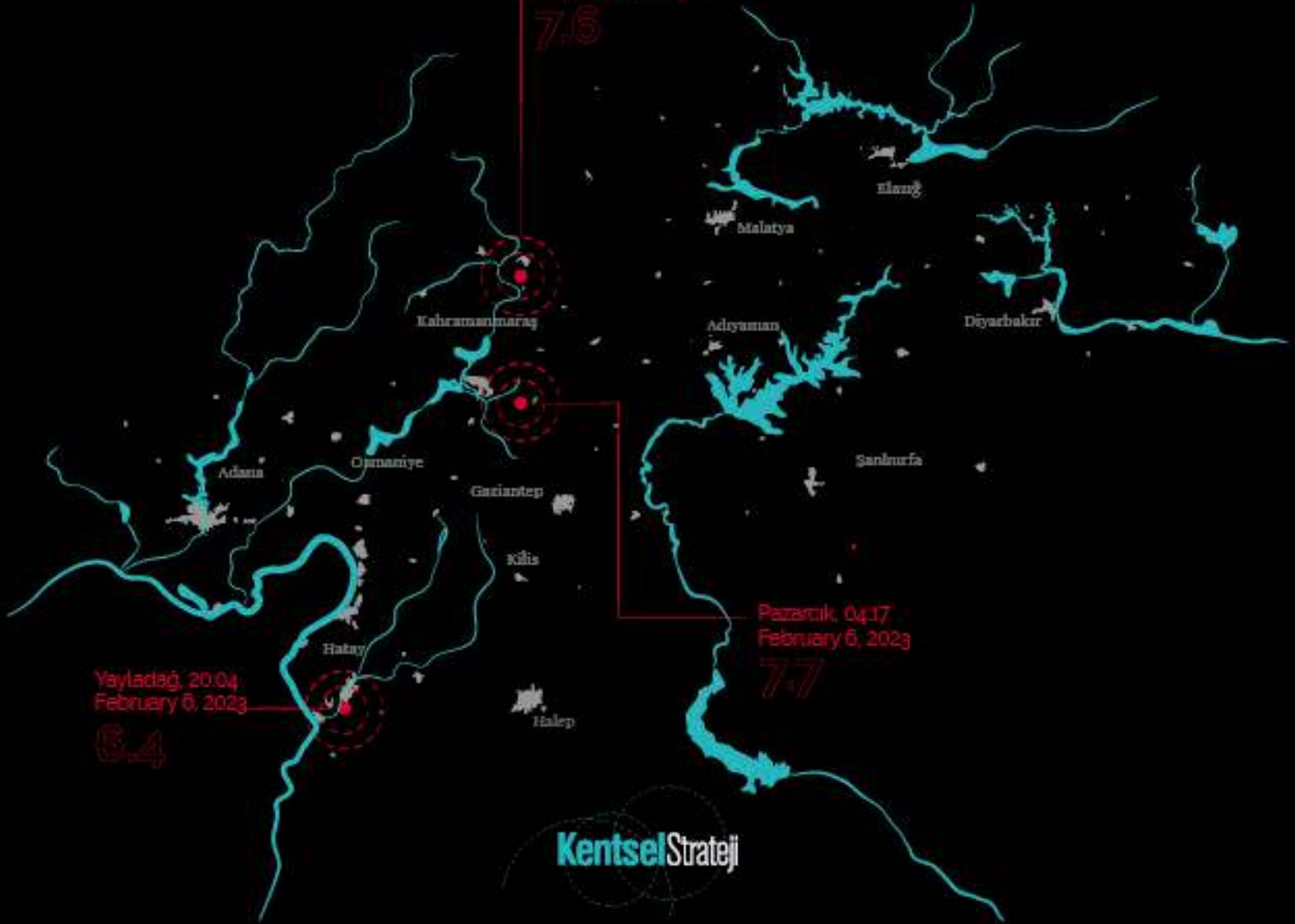
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February 6, 2023

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Photos after Earthquake

Introduction

The Impacts of the Earthquake in Water Geography

The earthquakes that occurred on February 6, 2023 affected 11 cities in SouthEast Turkey and took a particularly high toll on Kahramanmaraş and Hatay. Apart from previous earthquakes that hit one or a couple of cities, this was the first time that earthquakes devastated 11 cities in Turkey.

The earthquakes affected settlements located between the Euphrates and the Tigris rivers (ancient Northern Mesopotamia) as well as many Anatolian settlements and fertile lands settled along waterways including Seyhan, Ceyhan, Asi (Orontes), Göksu, Çaltı, Cendere, Tohma, Kahta, Karasu, Tuzla, Munzur, Pülümür, Murat and Peri.

The impact area of the earthquakes covers a vast water geography with an area of 11.0 million hectares where 14.0 million residents live in the provinces of Elazığ, Malatya, Adıyaman, Kahramanmaraş, Gaziantep, Kilis, Hatay, Şanlıurfa, Diyarbakır, Osmaniye, and Adana.

The high numbers of the dead and the injured, the shock, the anguish, the despair, the loss of the spatial memory, the collapsed and severely damaged buildings, the loss of unique cultural and natural heritage in the area indicate that the place and life are deeply traumatized.

In just a few seconds, the nature reclaimed what was seized from it over the many years. The earthquakes took a heavy toll on the settlements, the society and the economy. The figures illustrate

how severely the earthquake hit the settlements and the life in the region.¹

- More than 50,000 people lost their lives,
- 3.0 million (21% of the total population of the region) people migrated,
- 2.6 million people began living in temporary shelters,
- 283,000 buildings (11% of total buildings in the region) and 848,000 units (15% of total dwelling units - including those with moderate damage) will be demolished,
- 433,000 buildings (17%) and 1,589,000 units (28%) are slightly damaged,
- A total of 716,000 structures (28%) and 2,370,000 units (43%) were hit by the earthquakes,
- 1,100 school buildings, 42 hospitals, and 20 libraries collapsed,
- 324,00 small business owners and 276,000 business managers lost their stores and/or business,
- 8,599 firms lost their business,
- 127 hotel buildings collapsed, 9,000 hotel beds (29% of the total) were lost,
- 169 cultural heritage buildings collapsed, 535 are severely damaged, 390 are moderately damaged, and 721 are slightly damaged (21%).

In April -two months after the earthquakes- I visited Gaziantep (city center, Islahiye and Nurdağı), Kahramanmaraş, (city center), Adıyaman (city center), and Hatay (Antakya-Samandağ), respectively. These were the settlements that were hardest hit. I had meetings with mayors and the directors of various organizations.

Although it had been two months since the earthquakes occurred, the impact was still profound. I have no words to explain the disaster I witnessed.

1. Source: "Report on Kahramanmaraş and Hatay Earthquakes" prepared by the Presidential Strategy and Budget Department in March 2023:

"All you can see is neighborhoods where rubble is being cleared off; massive voids in traditional bazaars; severely and moderately damaged buildings waiting to be demolished; roads closed off due to wreckages; tough living conditions in tent cities and container homes; glassy and desperate looks on people's faces; people trying to evacuate furniture from their damaged homes and stores; long lines of people in the aid and damage assessment tents; public officers trying to provide service in tents that are set up instead of collapsed public buildings or in slightly damaged public buildings; people shopping from stores that serve in temporary tents and containers; rubble dumped on the roadside along the entry and exit of the settlements; wrecking yards where vehicles that were buried under the rubble are stored; trucks that carry the rubble and/or furniture; wrecking cranes; excavators; and dust and dirt.

In summary, you see those who try to survive, those who seek hope despite the agony. Those who wait for their family members, neighbors, fellows, and customers; distressed and exhausted earthquake victims who struggle to survive.

The essence of the settlements, which blends cultural and demographic diversity of this privileged geography, has been lost. The rubble has created small or large spatial voids, while hopes that are lost created mental gaps. In summary, the clock in the region is pegged between yesterday and today, and agony and despair have taken over the hopeful wait for the rescue of loved ones from the rubble.

The optimistic wait in the geography of those who come and go becomes meaningful with the following expression: "(one's) hometown calls for them, they will try to come." People in the region cherish hopes despite all that has happened and all the difficulties that they endure. The most notable sign of hope is the traces of the layered civilizations that have been established and destroyed over thousands of years in this fertile and collective geography emerging from the water-oriented cultures.

The expressions of earthquake survivors offer an accurate summary of the vital trauma.

Triplet earthquakes broke the mold

Panic, unconscious flight

All we asked for was excavators

No damage in old neighborhoods, huge damage in new neighborhoods

People had to migrate before they could grieve

“

All the calls for help, the elegies, the cries are still in our ears

The biggest mistake we made was the zoning amnesty

We couldn't attend the funerals of our loved ones



The rubble is cleared in exchange for iron

We are scared but we don't want to leave

We received so much help, may God protect those who sent help

Don't look for buildings anymore
It is all gone, we lost everything

From now on, we should change our lifestyle

Every single person here is affected

No one mentions but pastures and gardens are transferred to TOKI (Mass Housing Administration)



The issue here is switching from farms to gardens

One who leaves their farm cannot farm



Moving from a tent to a container is luxury for us

”

Small business owners lost their shops and capital

You cannot write a novel on squatter settlements from your home in an apartment building

No homes, no vehicles, no jobs

We should turn the earthquake into an opportunity instead of taking advantage of it



The adverse impacts of earthquakes, wildfires, floods and hurricanes, and global pandemics on place and life in general has now reached a point where it is impossible to address the effects of these with numbers and agony. The heavy toll of the 1999 earthquake, which lasted 45 seconds, was 18,000 deaths, and 24,000 injured. The 2020 Coronavirus pandemic took more than 100,000 lives in Turkey over a period of two years. According to official figures, the earthquake that occurred on February 6, 2023 claimed more than 50,000 lives.

Given all that has happened, what will change? Will the current economic, political, social and spatial systems change? If so, how? Or will everything be overlooked just like before? When looking for an answer to these questions, we should employ a shared wisdom.

In a similar fashion to the aftermath of the 1999 earthquake, to the COVID-19 pandemic or to the recent earthquake, it proves to be a significant threat when the central government fails to share authority with local governments, and when any legislation and practices that centralize authority are adopted.

Natural disasters that happened and that may happen as well as the pandemics that we survived or that we may face in the future prove to be an opportunity for the future. We are well aware that, throughout history, major problems led to transformation. If systems are to be redesigned, we should not overlook the lessons learned particularly from previous natural disasters and pandemics.

During the recovery of the settlements that collapsed in the recent earthquake, it should first be discussed how to formulate processes and systems that will ensure resiliency to economic, spatial, and social risks.

We will altogether experience the recovery of the region. I hope that the **“making cities resilient to earthquakes”** discourse that became popular after the recent earthquake will not be forgotten as the **“nothing will be the same”** discourse that was prevalent during the COVID-19 pandemic, and the **“cities will never be the same”** discourse that was popular after the 1999 earthquake.

Rethinking The Region with The Right Strategies

The “reconstruction” of the settlements in the region should be designed adequately, and the priorities that will be considered should be identified accurately. In the region where 3.6 million people migrated and 2.6 million people live in temporary shelters, the main priority is to provide both temporary and permanent settlements, to revive the economy, and then, to ensure remigration.

Given the magnitude of the figures, “strategic and practical” approaches that duly consider these three main priorities should be formulated. During the process, perspectives from upper and lower scales should be coherent, and the processes should be designed to ensure comprehensiveness and participation.

Moving forward, conventional urbanization policies as well as traditional planning approaches and tools should be questioned. An innovative and participatory planning language as well as a behavior pattern among planners should be developed. The planning tools should be comprehensible for and visible to everyone.

In summary, the assets that distinguish the region should be re-explored, and a “**strategical framework for regional development**” should be prepared.

Pilot Models Should Be Formulated Based on Best Practices

The region has been facing many issues including the establishment of tent cities and container homes, the organization of the daily life, the clearing of the rubble, the identification of landfill sites where rubble will be dumped, the site selection for new settlements, and the preparation of plans and architectural projects. Central and local governments, and particularly, non-governmental organizations and volunteer organizations have been showing a great deal of effort. There are many lessons to be learned from the numerous success stories of especially youth volunteer organizations. However, the failure to design the process and to establish a system declines the impact of devoted individual efforts, and hinders collective efforts.

When solving issues, pilot studies based on the best practices at all scales should be developed, and the successful practices be presented to the general public as best practices.

International experiences should be researched, and best practices should be capitalized on. For new settlements, neighborhood units that will ensure diversity in design as well as diversity of pattern should be achieved.

This Report Aims to Contribute a Drop Towards a Solution

This report is a product of the on-site observations I -as an urban planner- made in the earthquake-hit settlements. The primary aim of this document is to contribute to the formulation of a common solution to our shared problem in drafting of urbanization policies, planning approaches and tools, professional ethics and codes of conduct, and the design of processes and systems.

Everyone has been volunteering for the alleviation of the problems of the settlements in the earthquake-hit region. In the region, it is possible to witness individual and corporate success stories as well as some mistakes. The main issue is the failure of the public sector, private sector, and non-governmental organizations to evolve into an “effective power” towards the resolution of issues. In this respect, it is necessary to search for an answer to the question “How can we design the environments that will mobilize everyone altogether in reaching a solution?”

This report consists of two main chapters. The first chapter provides an analysis of the on-site observations I made in the earthquake-hit region; the findings available in the “Report on the Kahramanmaraş and Hatay Earthquakes” prepared by the Presidential Strategy and Budget Department in March 2023; the information notes published by the Ministry of Environment, Urbanization and Climate Change, AFAD (Disaster and Emergency Management Presidency), TOKİ, and Emlak Konut GYO (Real Estate Investment Trust); and the news I gathered from various news outlets. Figures and visuals are provided to clearly illustrate the impact of the earthquake.

During the preparation of this report, the damage assessment in the region was in progress, and the data were constantly updated. The up-to-date official data should be shared with the general public in a transparent fashion. Accurate data should be produced for researchers as well as domestic and international voluntary funding organizations that will provide aid to the region. Therefore, it is critical that the central government shares the “Report on the Kahramanmaraş and Hatay Earthquakes” dated March 2023 both in Turkish and in English. In addition, the “Report on the Kahramanmaraş and Hatay Earthquakes” should be regularly updated.

In the second chapter, my recommendations in relation to the reconstruction of the earthquake-hit region are provided under 10 main headings.

The region is experiencing various design issues ranging from the provision of temporary housing to the revival of the economy and the formulation of future settlements. We should avoid adopting an approach that limits “design” solely to zoning plans and architectural design and should address “design” as the design of processes and systems. Furthermore, it is necessary that we change the individual and institutional courses of conduct.

To conclude, we need to quest for solutions that will contribute to the redesign of our urbanization system that has long failed. When redesigning the urban systems in Turkey, we should employ the reviving power of the nature. In addition, during the recovery of the earthquake-hit region, we should design environments that will bring together the locals, the youth, and various professions.

*Ali Faruk Göksu
May 1, 2023*

Impacts on Space
and Life

REGIONAL CAPACITY



10.9 Million Ha of Regional Area



25.000 Ha Urban Area



14.0 Million Inhabitants
25% of the country's population
+
1.8 Million Immigrants



3.0 Million Households (avg. 3.5)

161 Municipality
124 District
1300 Village



2.6 Million Buildings



2.3 Million Households %90



1.5 Million Businesses



0.8 Million Public Buildings %3



50 Thousand Other



4.1 Million Students



226.593 Teachers



16 University
316 Thousand Student
45 Thousand Academic Administrative Staff



8 University Hospitals



7806 Beds

GDP Ratio %9.8
79.0 Billion USD National Income
GDP 6.000 USD/Person



Employment 3.8 Million People



28 Museums
+
22 ArchAeological Sites +
8.500 Culture Centers



4 Large Dams



4.0 Million Ha Agricultural Land



41.9.000 Ha Natural Area



538 K. Businesses

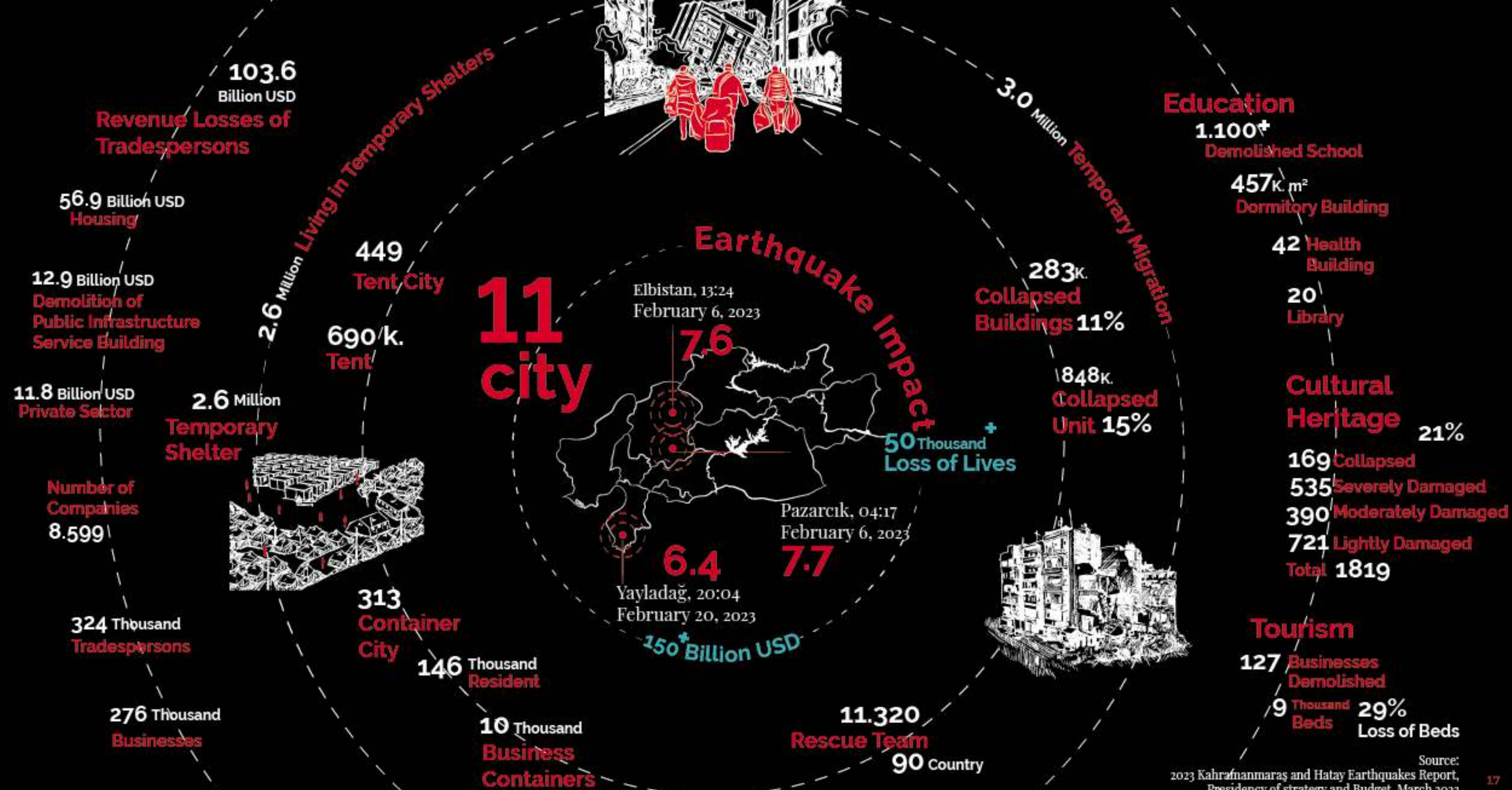


1030 Tourism Facility
74.352 Beds

22 Billion USD Export
+
25 Billion USD Export

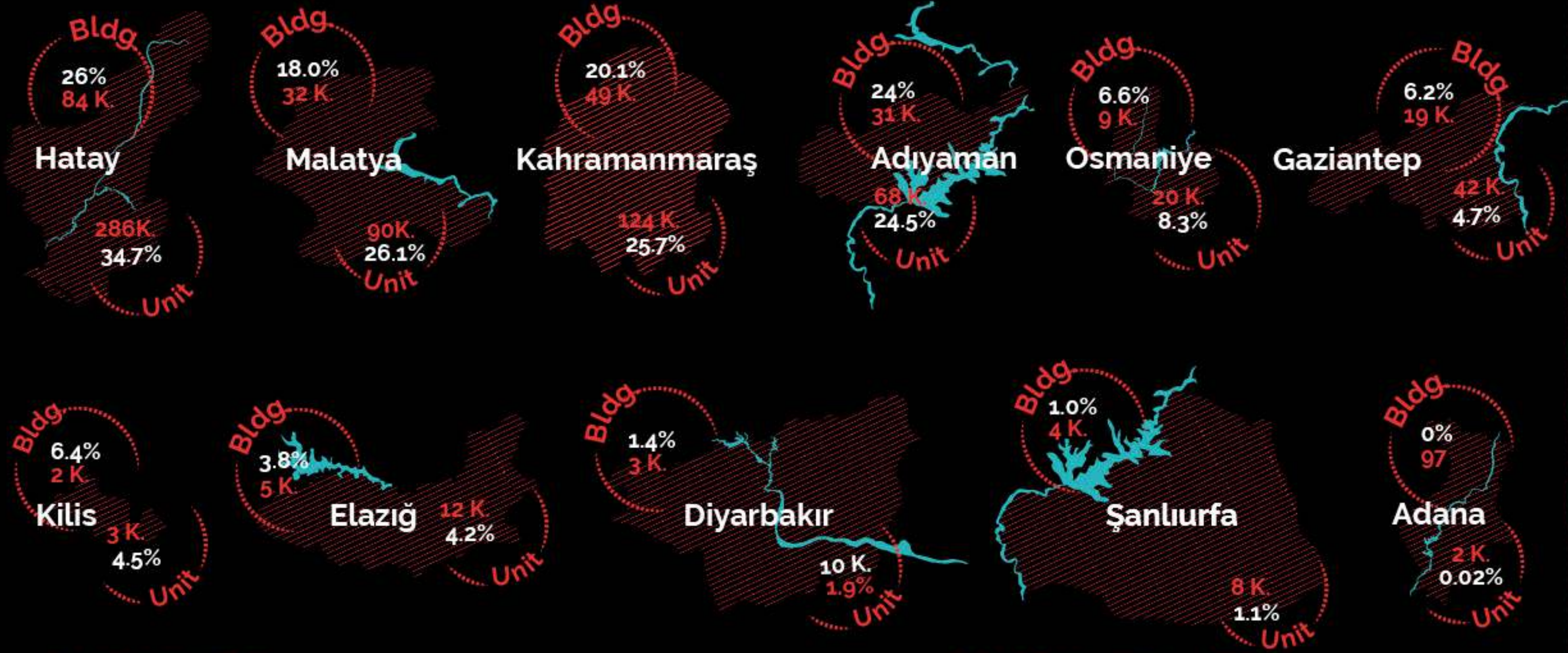


142 HES



DAMAGE ASSESSMENT BY PROVINCE (Demolished)

Sorted by unit percentages.

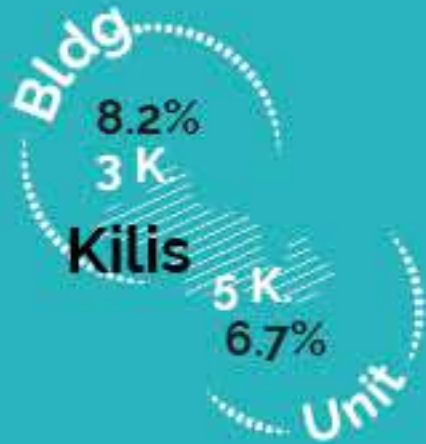
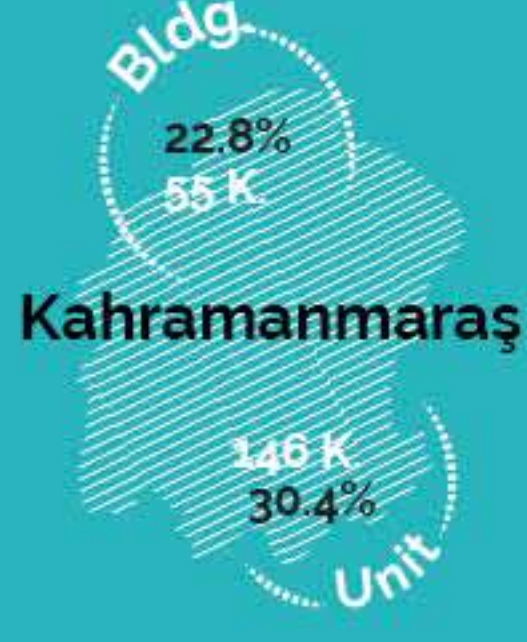
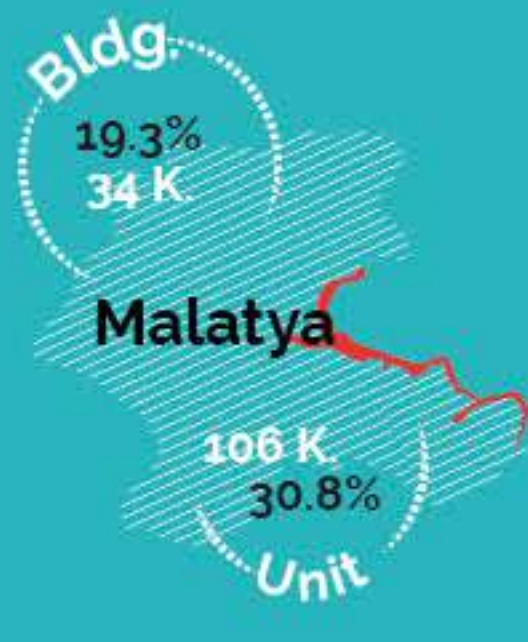
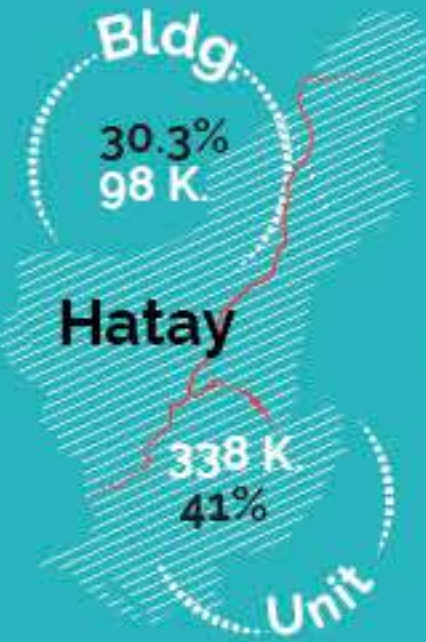


Total Existing Buildings: 2,542,497
 Total Demolished Buildings: 283,573 **9.4%**

Total Existing Units: 5,688,875
 Total Demolished Unit: 666,341 **11.7%**

DAMAGE ASSESSMENT BY PROVINCE (Destroyed-Moderately Damaged)

Sorted by unit percentages.



Total Existing Buildings: 2,542,497
Total Damaged Buildings: 283,165

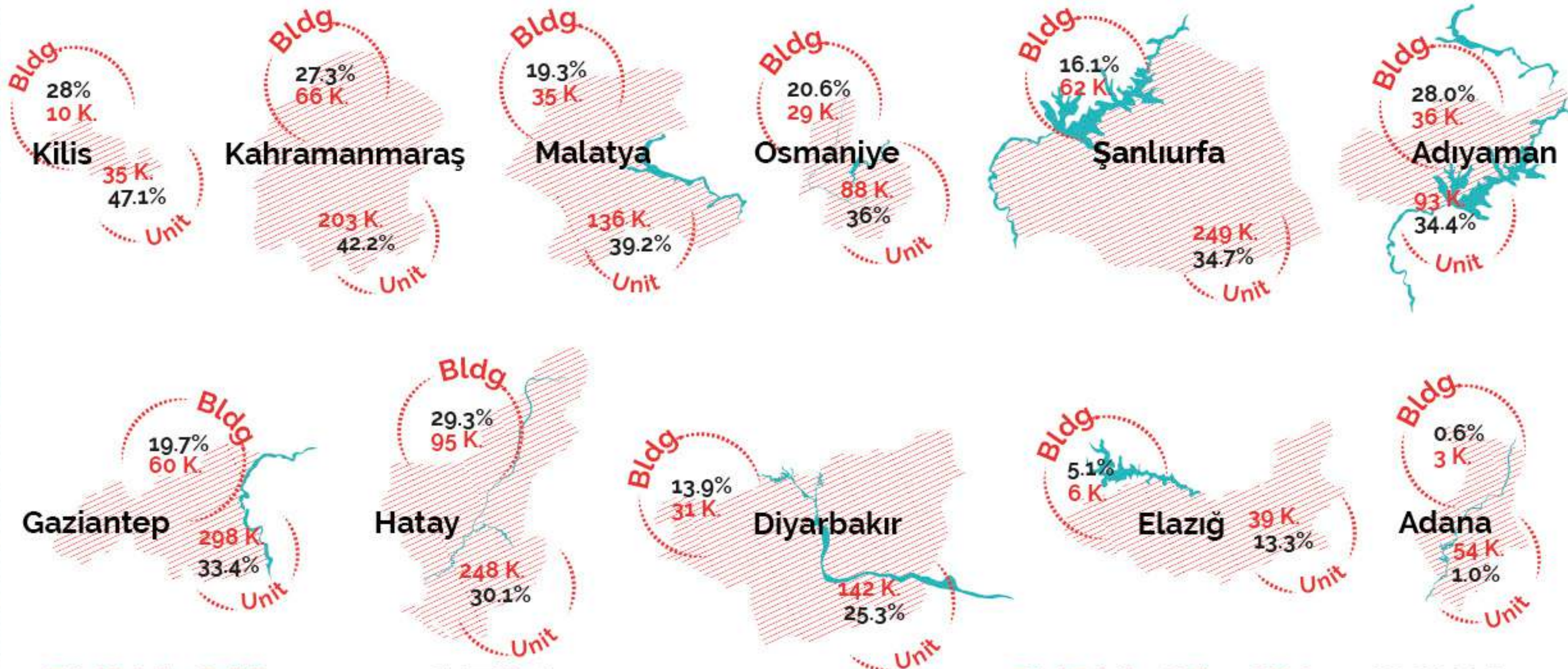
11.1%

Total Existing Units: 5,688,875
Total Damaged Units: 848,392

14.9%

DAMAGE ASSESSMENT BY PROVINCE (Lightly Damaged)

Sorted by unit percentages

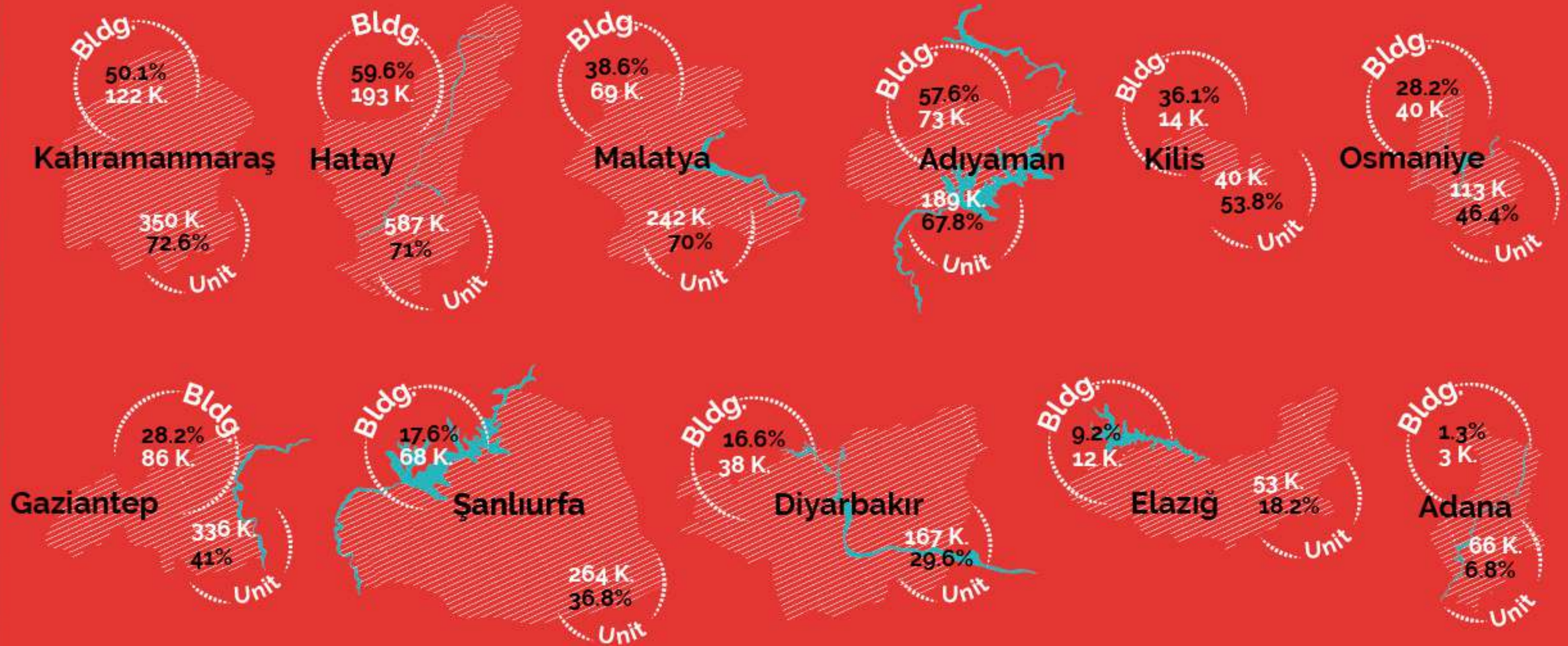


Total Existing Buildings: 2,542,497
 Total Damaged Buildings: 433,631 **17%**

Total Existing Units: 5,688,875
 Total Damaged Units: 1,588,481 **28%**

DAMAGE ASSESSMENT BY PROVINCE (Demolished-Moderate-Light)

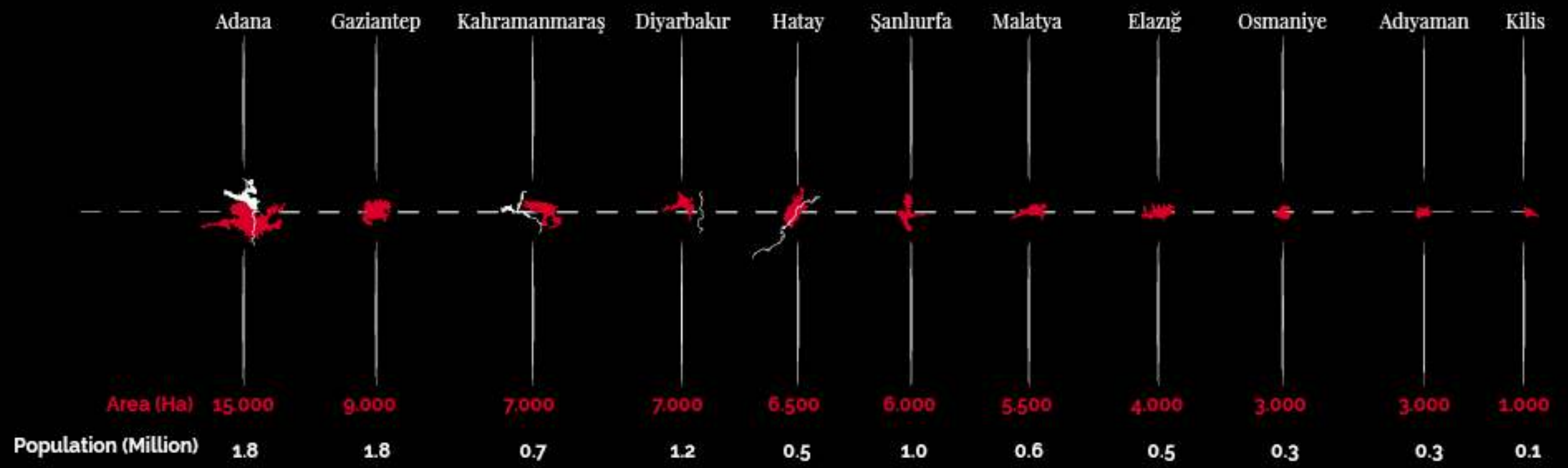
Sorted by unit percentages.



Total Existing Buildings: 2,542,497
 Total Damaged Buildings: 716,796 **28%**

Total Existing Units: 5,688,875
 Total Damaged Units: 2,436,873 **43%**

11 PROVINCE (Central District) SETTLEMENT MAKRAFORM AND POPULATION



Istanbul 120,000 Ha, 16.0 Million

Earthquake Affected Area 67,000 Ha, 8.8 Million

MOST AFFECTED 4 CITIES BY THE EARTHQUAKE (CENTRAL DISTRICTS)

HATAY (Antakya-Defne)

Building: 94.939

50%

Building: 47.839



Unit: 300.839

62%

Unit: 187.971

1

2

Building: 50.587

33%

Building: 16.742



Unit: 135.550

41%

Unit: 55.454

Central ADIYAMAN

MALATYA (Battalgazi-Yeşilyurt)

Building: 111.919

17%

Building: 18.695



Unit: 359.789

23%

Unit: 83.448

3

4

Building: 117.265

17%

Building: 19.359



Unit: 369.641

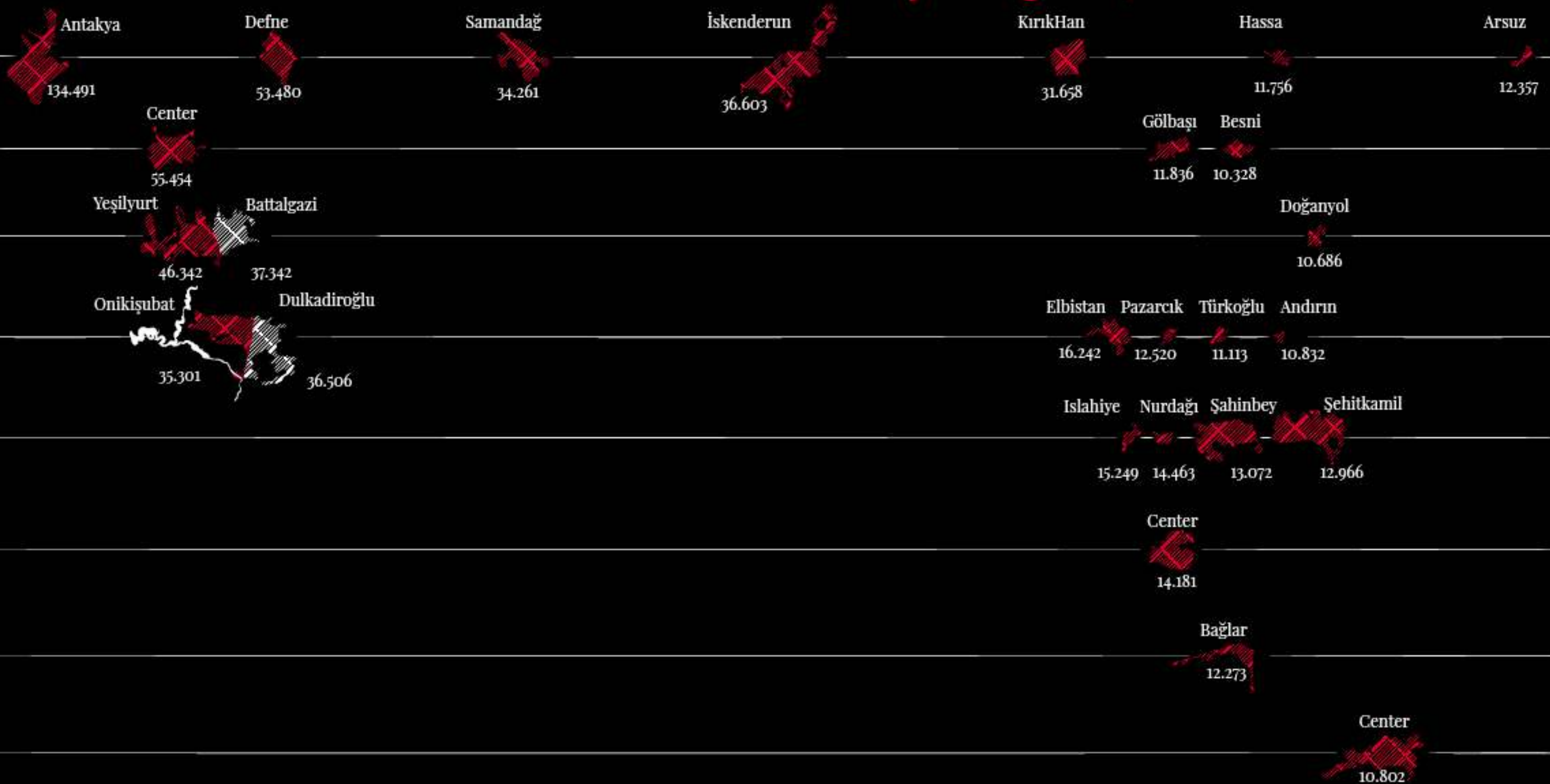
20%

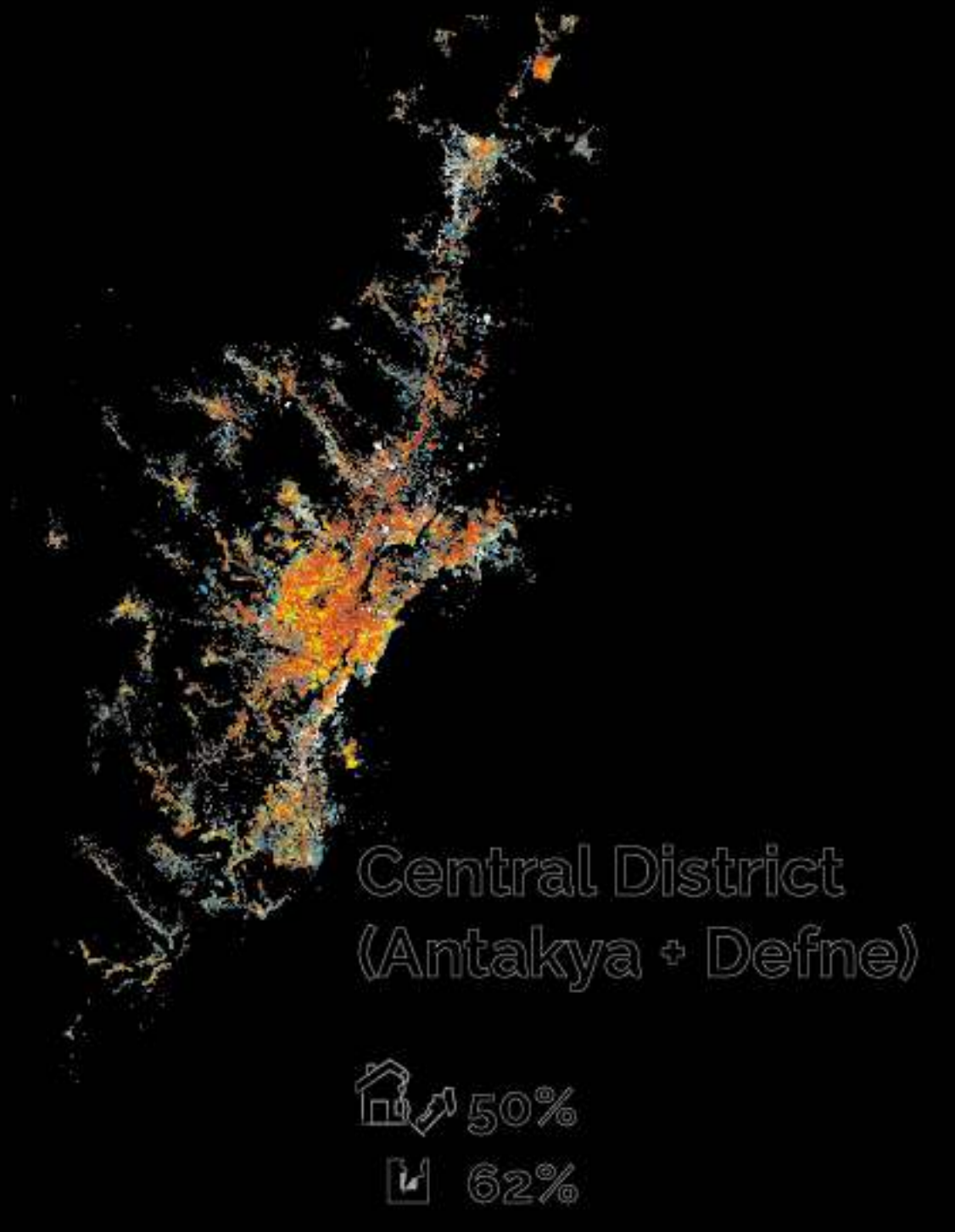
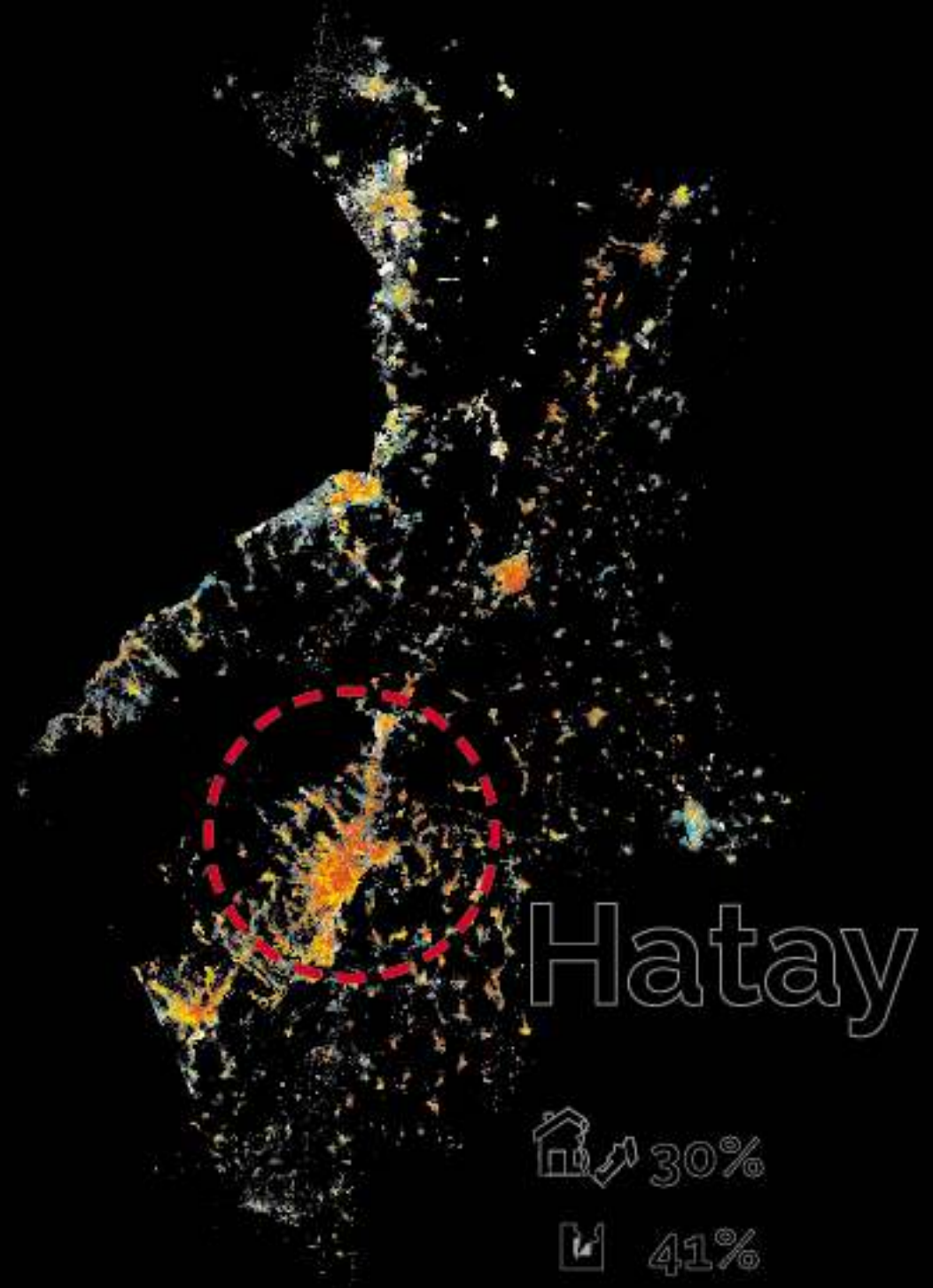
Unit: 74.877

KAHRAMANMARAS
(Onkişubat-Dulakdiroğlu)

MOST DAMAGED PROVINCIAS (demolished-moderately damaged 10,000 Units)

Elazığ Diyarbakır — Osmaniye — Gaziantep — K.Maraş — Malatya — Adıyaman — Hatay









The Strategy of Strategies

The earthquake-hit region covers a vast water geography with an area of 11.0 million hectares where 14.0 million residents live in 285 urban and 1,300 rural settlements in the provinces of Elazığ, Malatya, Adıyaman, Kahramanmaraş, Gaziantep, Kilis, Hatay, Şanlıurfa, Diyarbakır, Osmaniye, and Adana. The future of this region should be reimagined with distinct perspectives.

When developing a regional perspective, the participation of especially, the GAP Administration of the central government; the Çukurova, Silk Road, Eastern Mediterranean, Karacadağ and Euphrates development agencies and local governments along with the chambers of industry and trade, professional chambers, and non-governmental organizations should be ensured.

Particularly in the Asi (Orontes), Seyhan, Ceyhan, the Tigris and the Euphrates basins, the damage in urban and rural settlements is severe. When devising the main strategies for the region, the question “How should the systems of basins be in the future?” is very critical.

During the quest for an answer to this question, not only the recovery of urban settlements but also the integration of urban and rural settlements should be duly considered. A system that recognizes the big picture and that addresses the priorities for regional and local development should be designed.

The issues in the region are multidimensional and extremely complex. During the revival of the earthquake-hit region, various strategies that

will help to solve global-scale issues including health, food, climate crisis should be extensively discussed.

The main themes underlying the strategies of strategies should be **CHANGE, SHARING, and SETTLEMENT.**

The unifying power of water preserves its potential to make the earthquake-hit region a center of attention from the past to date and from today to the future. The values of the past and the potentials of today provide brand new opportunities for the future.

The Strategy of Strategies

1. CHANGE: New Generation Expectations

New potentials that blend the expectations of the new generation and the unique values of the region should be revealed.

The Anatomy of the Region Should Be Re-Discovered

Issue: The uniqueness of the water geography is not adequately utilized to achieve change.

Opportunity: Ensuring change with transformation may provide new insights in terms of regional development and sectoral diversity.

Question: Can rediscovering what is already known prove to be a potential for change?

Systems Should Be Designed

Issue: The earthquake revealed that the settlements in Turkey are not disaster resilient.

Opportunity: The risks associated to natural disasters and climate change indicate that the urbanization policies in Turkey should be changed.

Question: What kind of changes will disasters and global crises lead to in the system?

2. SHARING: Collective Action

Changing trends and expectations should enable different collaborations when developing partnerships.

Collective Action Should Be Reinforced

Issue: The lack of a culture of collective action undermines the impact of devoted individual efforts.

Opportunity: The success stories of domestic and international solidarity may prove to be a role model for collective action.

Question: How can individual successes evolve into a collective nature?

Urban Alliances Should Be Formed

Issue: The internal dynamics of cities are not sufficient to revive the urban economies.

Opportunity: Activating regional dynamics may enable new economic capabilities.

Question: Can alliances be formed between neighboring settlements in the same geography?

3. SETTLEMENT: New Settlement Scenarios

The strategic roles of the urban and rural settlements hit by the earthquake should be redefined.

Urban and Rural Should Be Addressed Simultaneously

Issue: The population in rural areas are obliged to migrate for various reasons.

Opportunity: Locality, conscious agriculture, and food safety prove to be potentials for the future.

Question: Can the resettlement approach create an opportunity to reverse migration?

Sprawl Should Be Restrained

Issue: The location of reserve areas poses the risk of sprawl and increases the pressure to allow construction on agricultural lands.

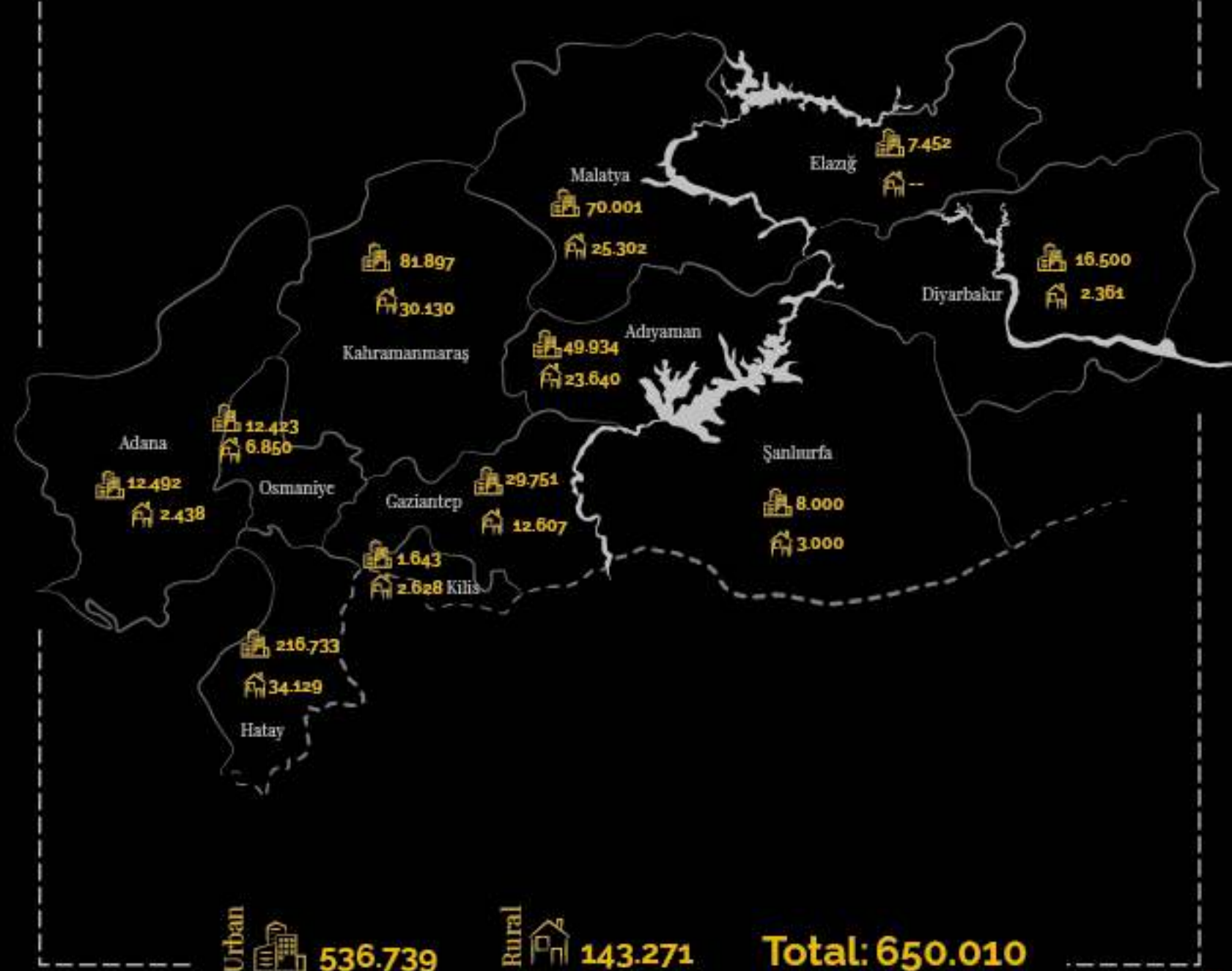
Opportunity: Voids in urban areas prove to be a potential for new urban constructs and lacking public spaces.

Question: Can the reconstruction of earthquake-hit cities serve as a model?

BUILDINGS' DAMAGE ASSESSMENT (demolished-moderate)



POST DISASTER HOUSING PROGRAM





10 Basic Recommendations

Given the magnitude and the impact of the earthquake that occurred in water geography, “10 basic recommendations” were prepared. It is no doubt that the central government should coordinate the preparation efforts of a white paper that will serve as a road map, and the process should be comprehensive and participatory.

It should be ensured that local governments, the private sector, and particularly, volunteer organizations that perform devoted and successful efforts participate in the process. Given the potential risks in other cities, and particularly, in İstanbul, the white paper that will be prepared for the region will prove to be a helpful guide enabling multidimensional reconstruction in the region, and changing our collective action behavior and codes of conduct.

Experts from other professions and organizations will certainly expand the 10 basic and crucial topics presented in this document. The main aim should be to ensure the adoption of the common and systematic working approach by all stakeholders involved. In the second century of the Republic of Turkey, it is necessary to commence a new period where authority is transferred back to the local level and volunteer organizations are influential and entitled in the process.

1 The Anatomy of Water Geography Should Be Rediscovered

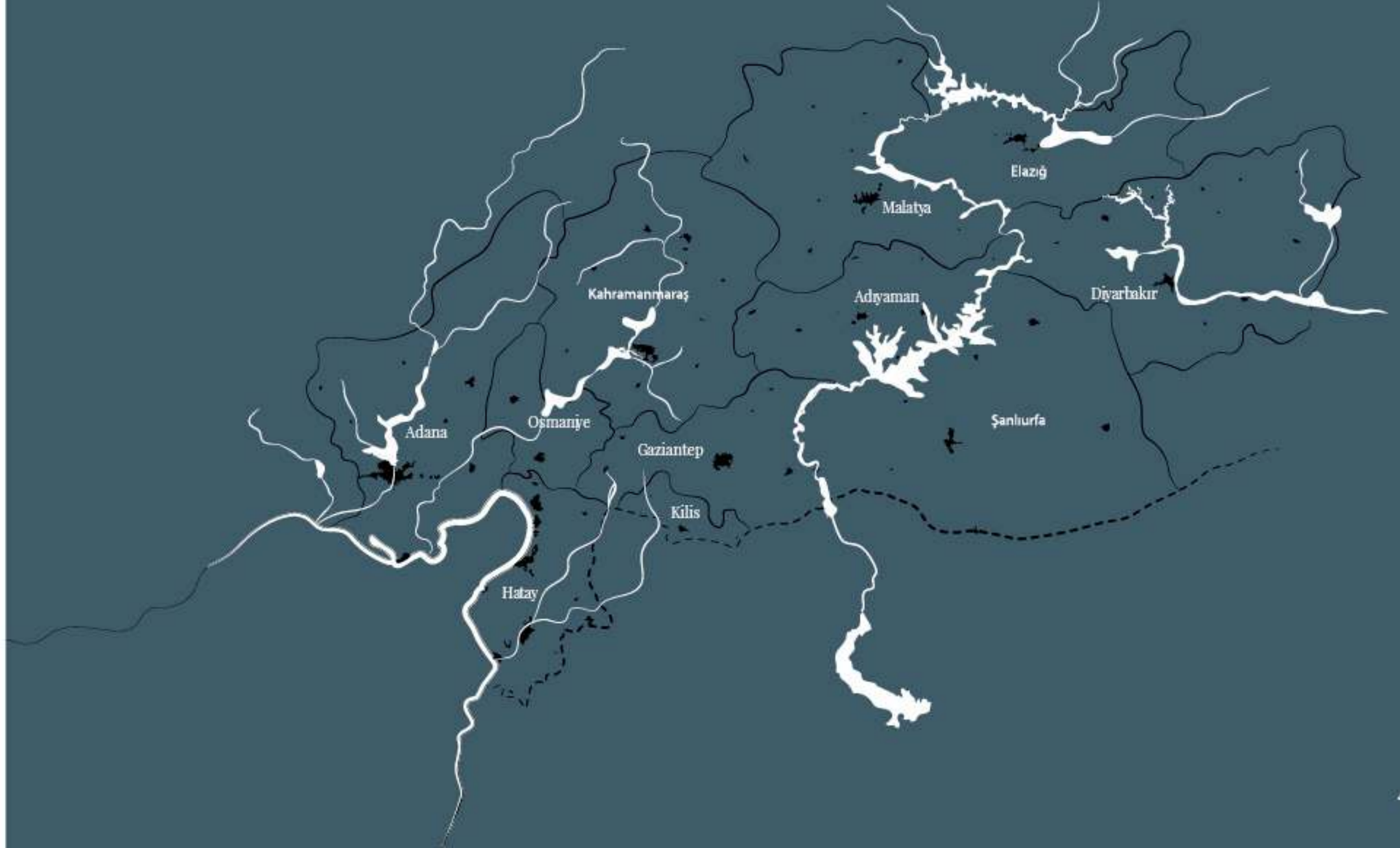
The hydrology, topography, production techniques and practices as well as the layers and the vital values in water geography, which covers the 11 provinces hit by the earthquake and the neighboring provinces, should be thoroughly explored. The lush mountains, hills, plains, and plateaus in water geography; various layers of cultural richness inherited from various civilizations; the production practices that have been ongoing for generations; and the values that demonstrate the local uniqueness provide critical clues for restructuring the future.

In order to carry the values of this geography into the future, different perspectives are required. Those who live in the region know the differences better than any expert. All we need to do is to explore what is already known and diversify the differences.

Identity and spirit are the two concepts that should be prioritized when revitalizing these cities. The values inherited from the past offer new opportunities when the identity of cities take shape and their spirit is revived.

Re-exploring the anatomy of water geography will serve as a basis for the “framework for the regional development strategy” that will be prepared in the next step.

Fırat 2023: Vizyon ve Eylem Planı (Euphrates 2023: Vision and Action Plan) study prepared by the Union of Historical Towns would be a helpful source. (www.kentselstrateji.com)



2. A Framework for the Regional Development Strategy Should Be Formulated

The Regional Development Strategy Framework helps to achieve a balance between the demand for various spatial uses in terms of guiding and managing the regional, urban, and rural growth, and it serves as a road map that helps to formulate detailed policies and implementation tools. The strategy framework establishes the basis of the regional development plan, and it defines the prioritized strategies for the restructuring of the region while revealing the action areas of top priority.

The Strategy Framework should define and guide various topics including:

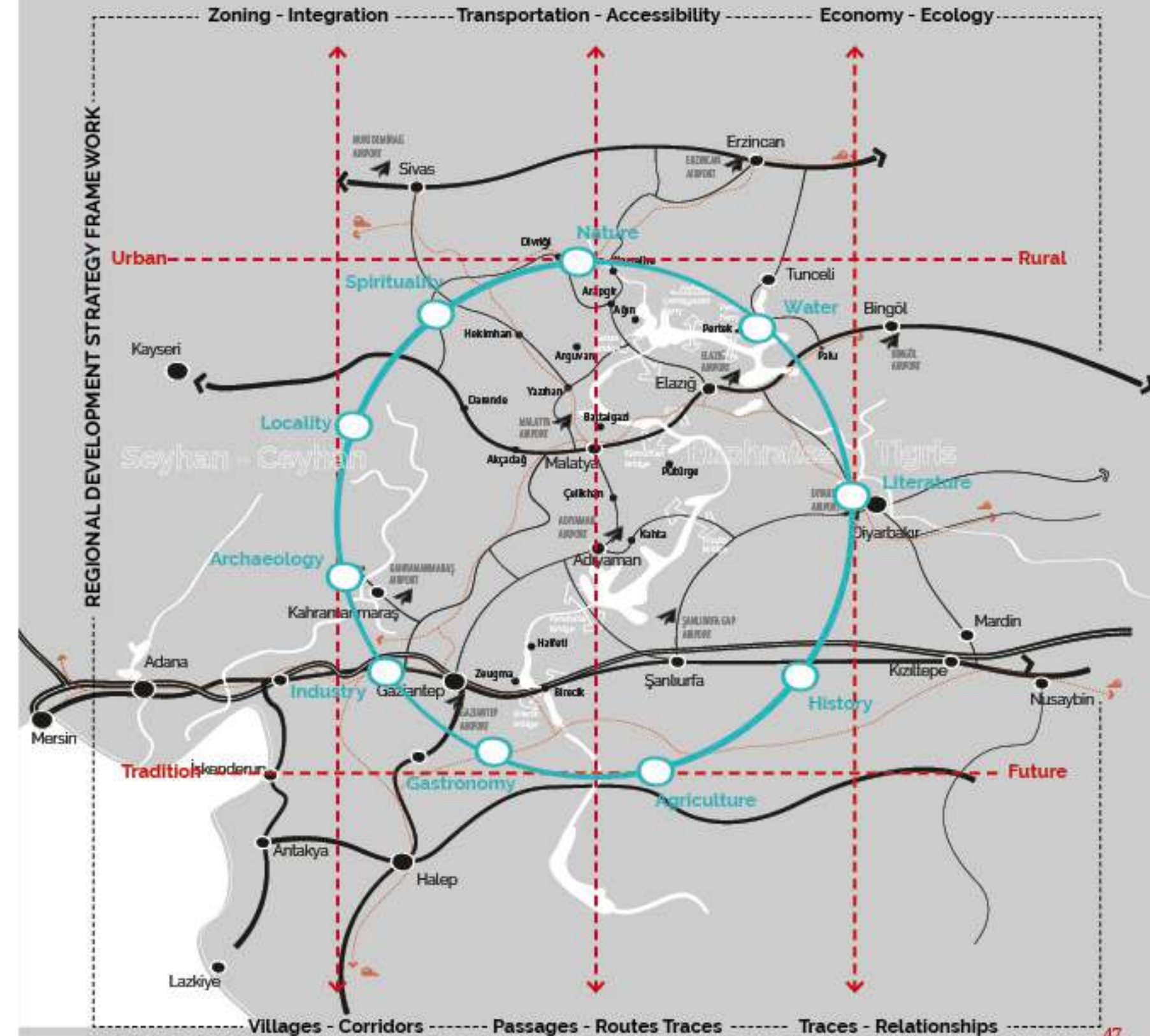
- Formulation of the system between regions and subregions,
- Ensuring the integration of new settlements (reserve areas) and damaged city centers,
- Identifying the growth direction of settlements,
- Defining the areas where certain land uses should be encouraged or avoided,
- Identifying thematic areas and corridors of specific focus,
- Ensuring the preservation of heritage areas, and
- Specifying areas where density will be increased/decreased.

An Alliance of Cities That Share Should Be Formed

The individual dynamics of our cities are not sufficient to drive their reconstruction. The disasters we survived so far imply that we should reconsider the settlements and the projects characteristics in Turkey, and formulate and adopt different behaviors. Triggering regional dynamics is a "must" to achieve the reconstruction of cities. Therefore, alliances between neighboring cities that share the same geography should be formed.

Global crises including climate change, pandemics, food, migration are the determinant factors in this new era. Thus, it is necessary to duly consider the big picture and formulate a 'program for cities that share.' Visions and development strategies for each city should be defined by scrutinizing the relations between the region and cities. For this purpose, the future of cities should be discussed with a regional planning approach that addresses new natural and economic thresholds.

When the strategies of the cities that share a program are identified, regions and subregions should be defined based on economic or natural thresholds as well as the prevalence of social impact areas instead of administrative boundaries. A new settlement system should be established with regard to the allocation of public resources based on the strategies identified at the national, regional, urban and rural levels, thus eliminating regional disparities.



The spatial construct of the cities in the region should be reformulated such that the cities in the region do not compete with each other. Instead, they should all grow by sharing the assets of today and the strategies of tomorrow. Based on the “cities that share” discourse, thematic corridors and golden triangle strategies should be developed between the cities.

The shared values of the cities in the region should lead the way to thematic collaborations under urban alliances.

- **Cross-border Alliances:** Hatay, Kilis, Şanlıurfa, Diyarbakır, Mardin
- **Basin Alliance:** Adana, Osmaniye, Kahramanmaraş-Malatya, Adıyaman-Hatay, Kahramanmaraş
- **Religious Tourism Alliance:** Kahramanmaraş, Gaziantep, Şanlıurfa, Mardin, Hatay
- **Cities of Mosaics Alliance:** Kahramanmaraş, Gaziantep, Şanlıurfa, Adana, Hatay
- **War of Independence Alliance:** Kahramanmaraş, Gaziantep, Şanlıurfa
- **Golden Triangle Alliance:** Diyarbakır, Mardin, Şanlıurfa

The Concept of Village Should Be Rediscovered.

The lush geography consisting of plains, basins, and mountains; the multi-layered cultural heritage; and the skills that are passed between generations are priceless values for the rural areas in water geography the abandonment of villages over the years, the decline in agricultural production, and the absence of young population in villages are the major obstacles that hinder rural development.

When formulating the restructuring scenarios for the damaged city centers, strategies that will stimulate the appeal of rural areas should be identified. The improved transportation systems, information technologies, and new generation trends along with global crises such as climate change, food security, and pandemics require rediscovering rural areas.

To recover from the damage caused by the earthquake and to particularly attract the youth to villages a “**rural entrepreneurship**” movement should be launched. The rural development potential should be duly considered, and thus, in villages, more homes than what was collapsed should be constructed. Disaster homes should not be built in the meadows and gardens near settlements; instead, the need for disaster homes should be met by utilizing the vacant homes in existing rural areas and building new homes in villages.

Young entrepreneurs should be provided with the necessary opportunities in smart farming, e-commerce, digital infrastructure, networking, green production that are indispensable components of the *smart village* movement.

3 The Risk of Urban Sprawl Should Be Considered

The existing capacity of the macroform of the settlements in the region should be thoroughly analyzed, and their density and development capacities should be carefully assessed. The development of the existing small and medium-sized businesses in the macroform has taken a heavy toll on nature.

Given that new settlements will be located on pastures and treasury land, the risks that these settlements pose on the new sites should be duly considered, and the risks associated to building in farming areas should be meticulously assessed.

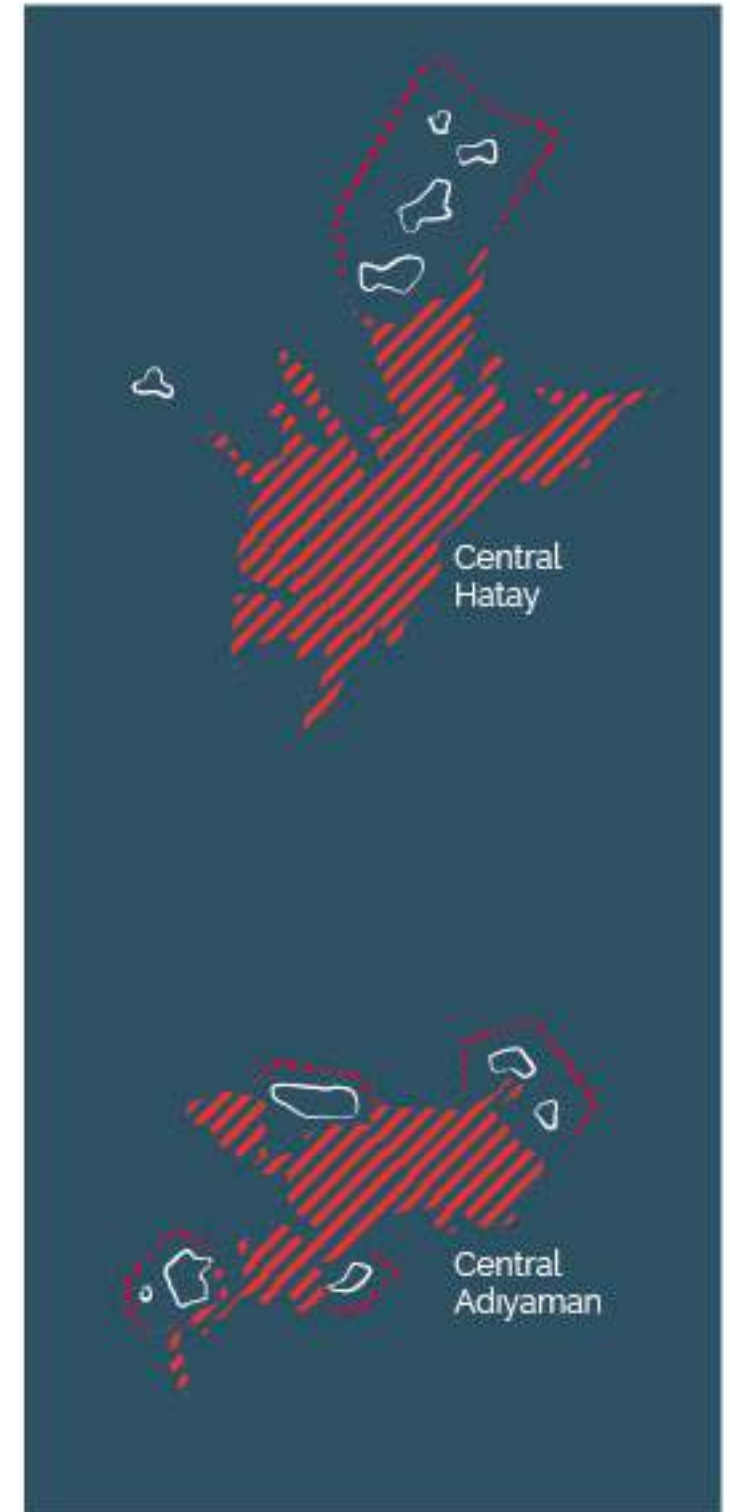
In order to prevent urban sprawl, planning and transportation strategies that encourage compact and pedestrian considered urban growth along with smart growth strategies should be adopted.

The Red Lines Should Be Defined

In some districts, and particularly in Antakya and Adıyaman, the uncontrolled sprawl of built-up areas resulted in significant harm in farming areas. Pastures and olive gardens on the hills owned by the state are designated as new settlements and reserve areas. Such a site selection, on one hand, intensifies the risk of “sprawl;” and also exerts pressure for increase construction on the agricultural land located in between the “satellite city” and the existing settlement.

The red lines regarding the sprawl of settlements should be clearly defined. Reserve areas should be selected by considering both the capacity of existing settlements and the risk of sprawl into farming areas.

The earthquake profoundly impacted the macroform in Antakya, Adıyaman, and Kahramanmaraş. The earthquake created “massive voids” in these settlements. The message implied by the nature in relation to the uncontrolled sprawl of the macroform should be duly considered, and new density corridors and centers should be formulated in existing settlements.



New urban scenarios for all of the settlements (especially for Antakya and Adiyaman) should be discussed. Various strategies and implementation tools should be formulated to ensure that protected sites and historic bazaars are redesigned and revived.

4. Blue and Green Covers Should Be Designed

The fundamental step to take when planning the earthquake-hit settlements in water geography is to revisit the blue and green traces. The waterways and the fault lines that pass through or near the 11 cities hit by the earthquake as well as earthquake prone areas should be addressed as a part of the system of green and open spaces.

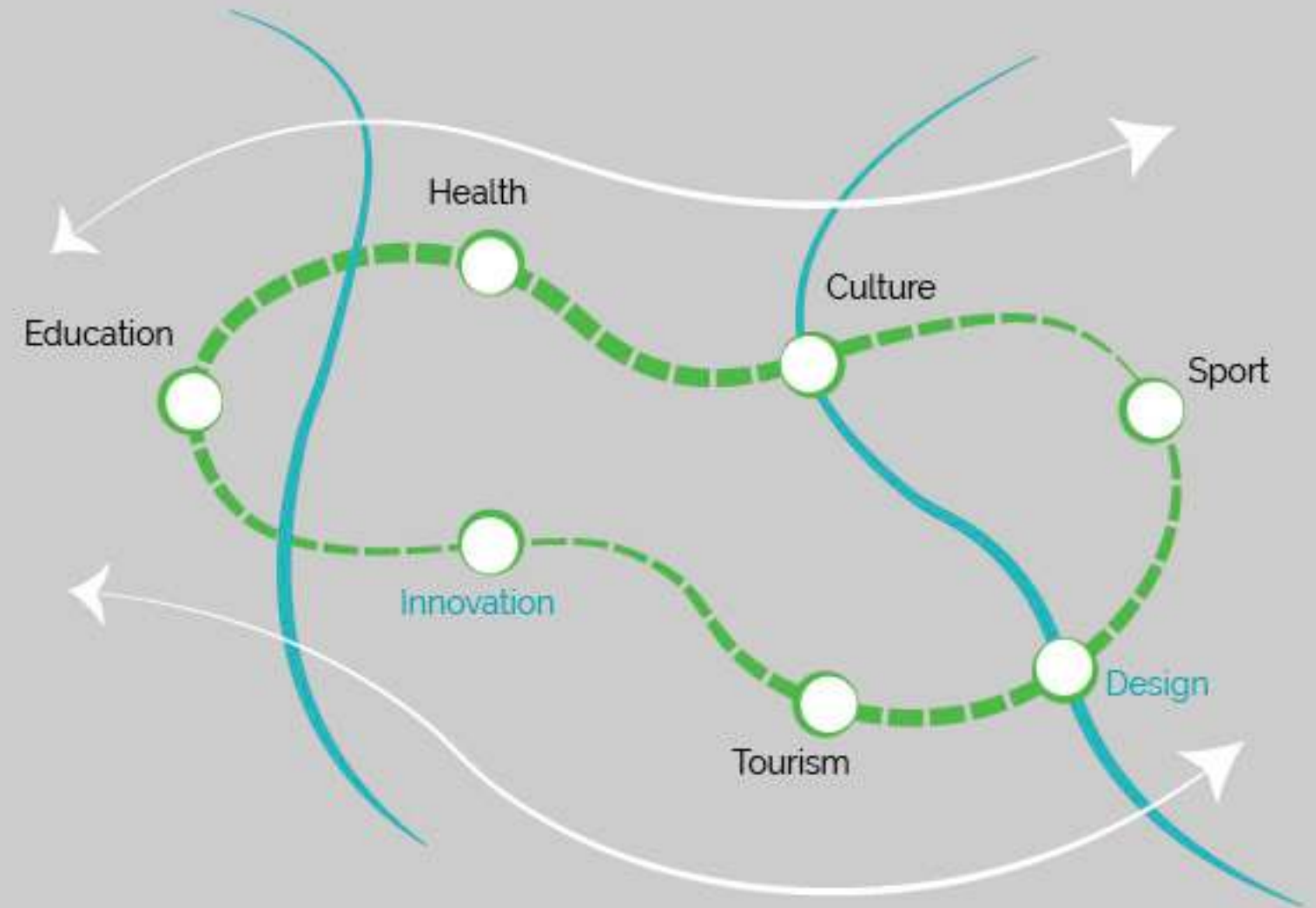
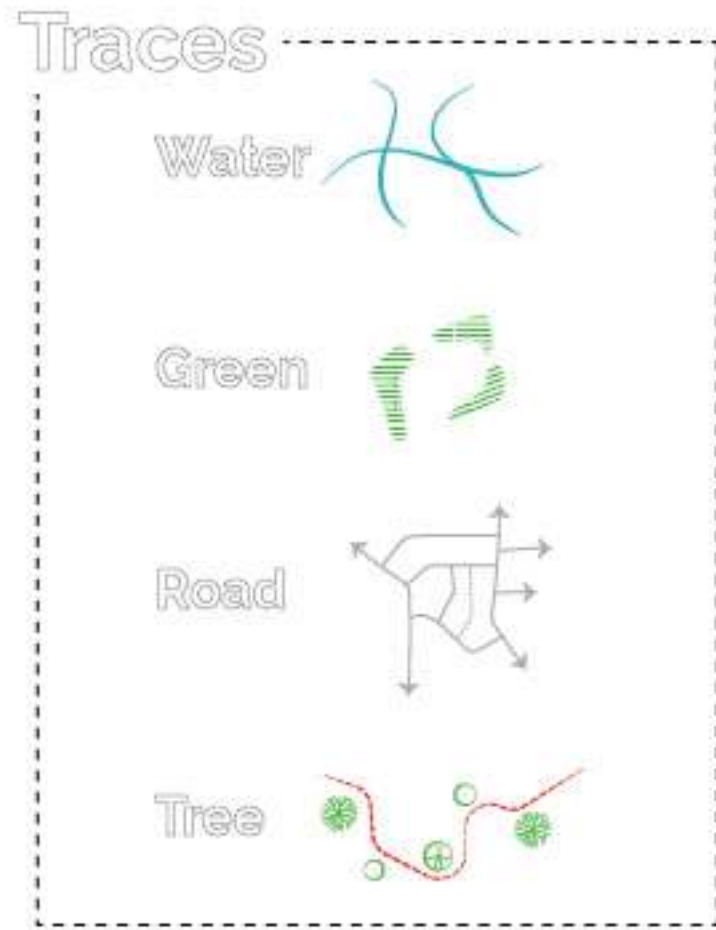
The blue and green cover should be designed in a similar fashion to the urban transport system. Thematic focal areas and corridors should be a part of the cover. The blue and green covers should also serve as evacuation routes and post-earthquake assembly areas.

Today, blue and green economies produce investments and products with high added value. Furthermore, blue and green covers should also weave the story of blue and green economic development. In other words, the balance between economy and ecology should be well established in the strategy for new settlements.

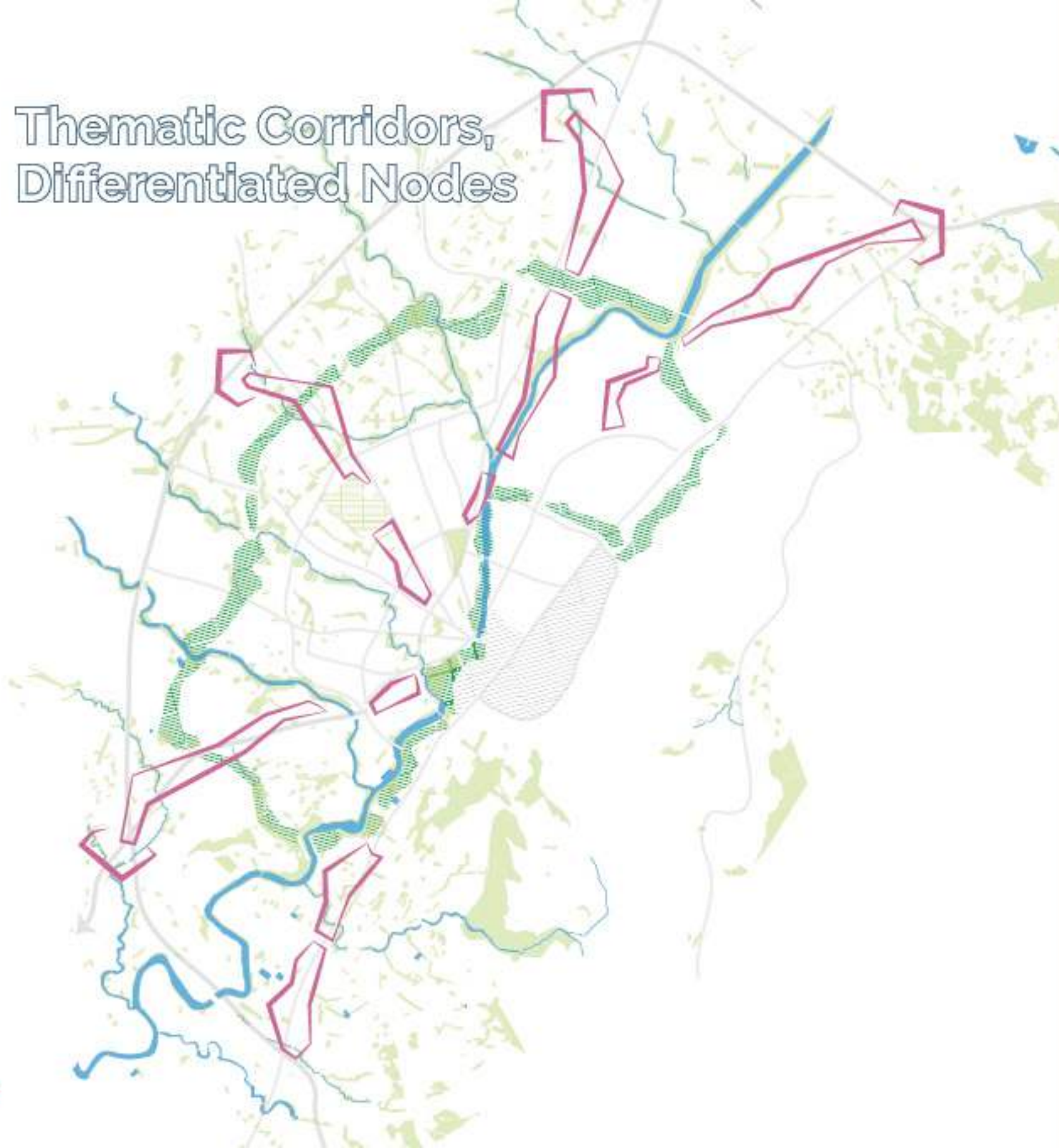
The spatial construct of the Antakya and Adiyaman city centers, which were hit hardest by the earthquake, should be built on innovative development corridors as well as accessible,

diverse and different thematic focal points that are reinforced by public transport systems, and a strategy that is based on a green network and resilient urban fabric that restricts uncontrolled urban sprawl and identifies the direction for growth.

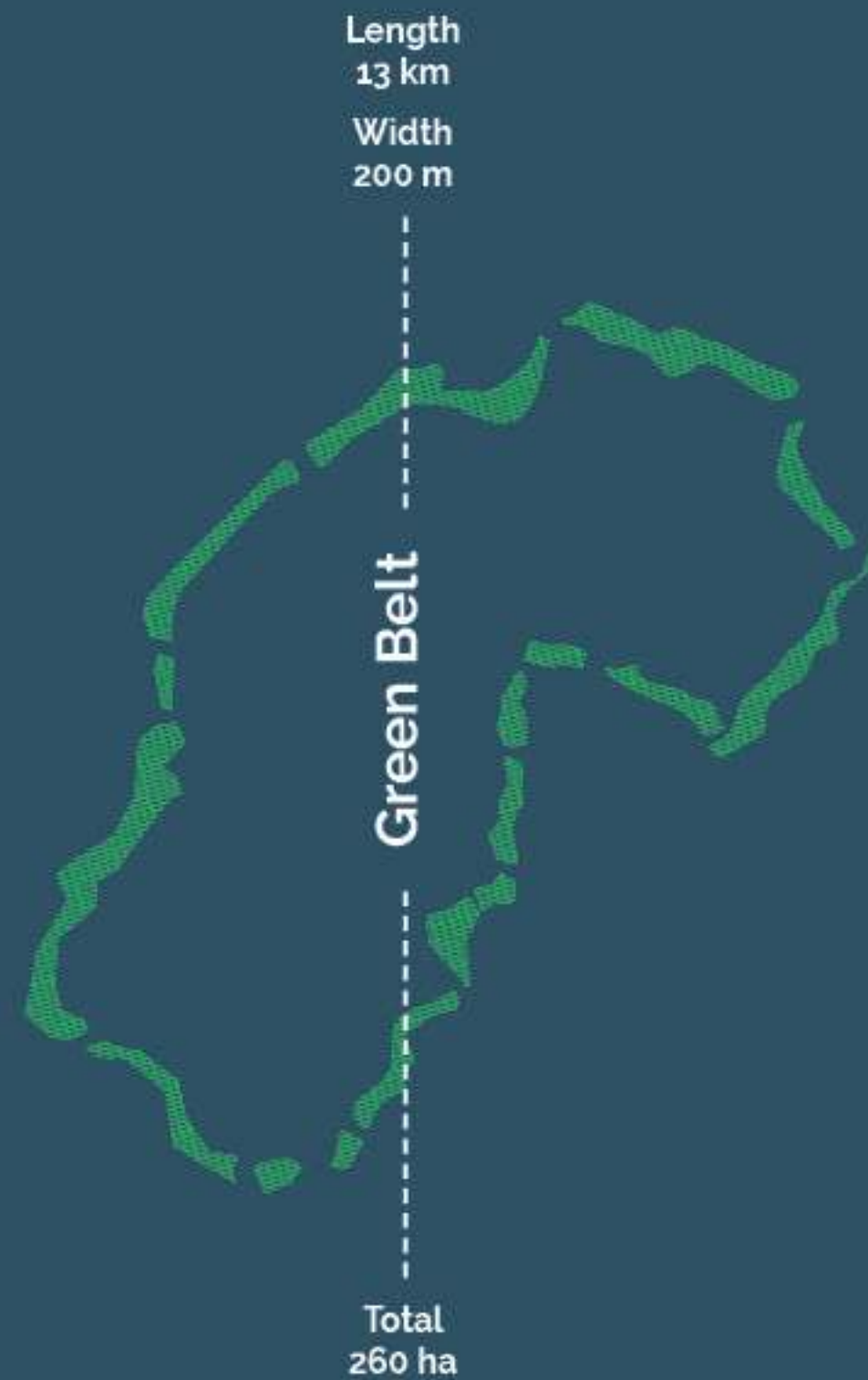
The spatial construct of the blue and green cover, which consists of belts, axes, and focal points, should address integration, accessibility, continuity, and diversity. The green belt, on the other hand, should be designed such that it creates added value for the areas it passes through and includes public space.



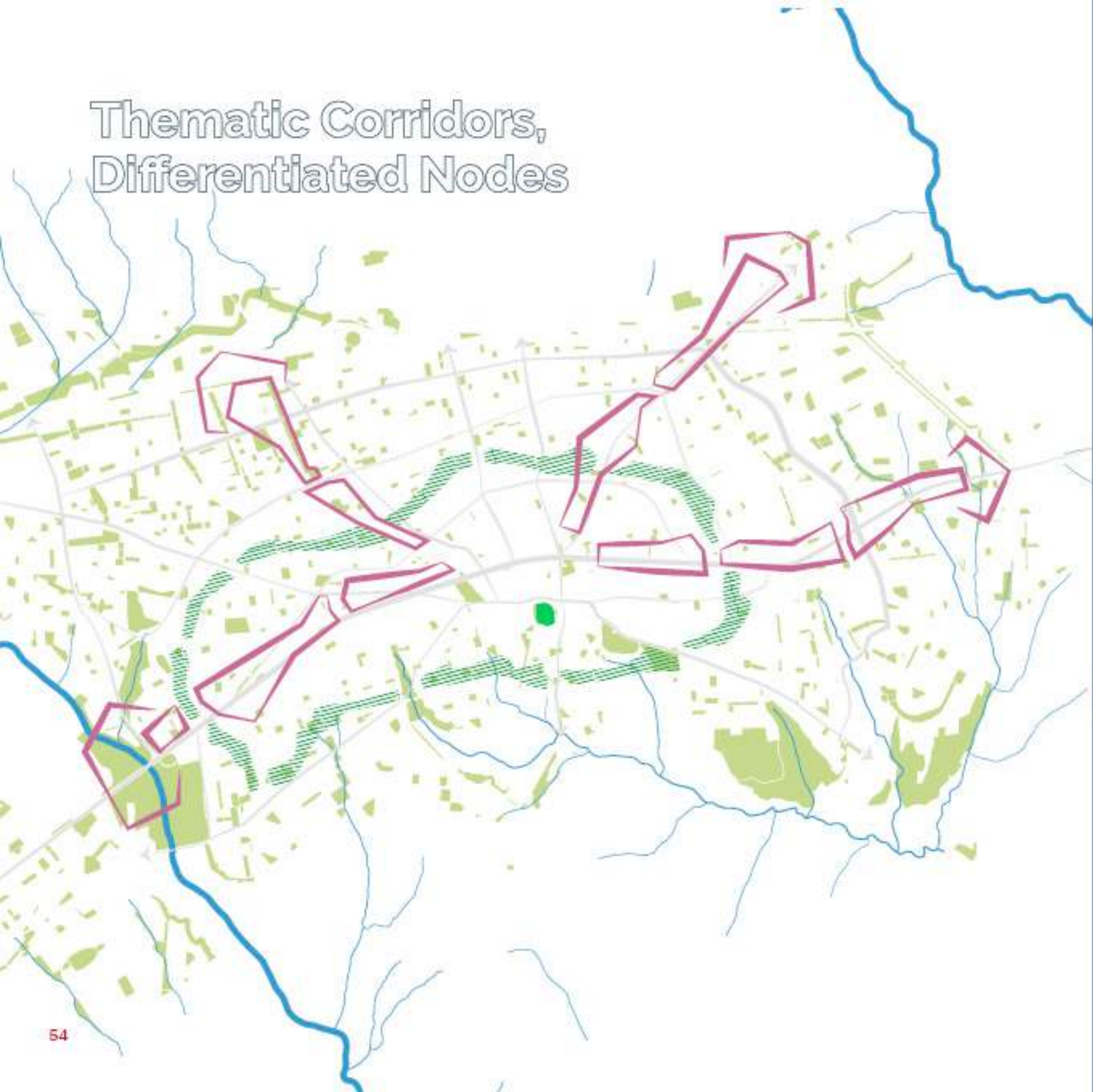
Thematic Corridors, Differentiated Nodes



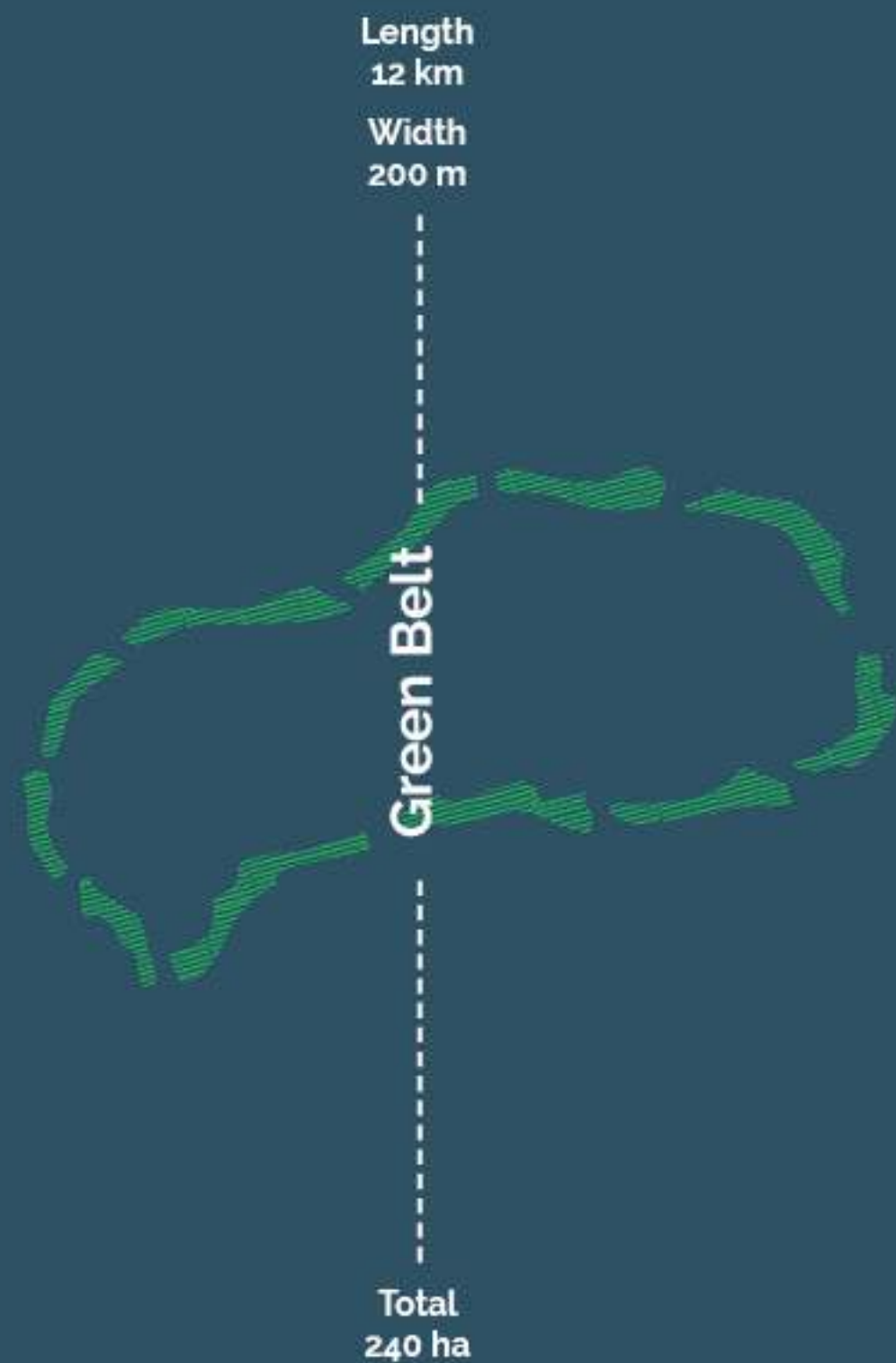
Centaral Hatay



Thematic Corridors, Differentiated Nodes



Central Adiyaman



5 Partnerships and a Fund Should Be Established

When settlements are reconstructed, answers should be found to many questions including:

- How new communities will be created,
- Whom will be involved in the execution of projects of different scales,
- How projects will be financed, how the value-added will be shared,
- How partnerships between the private, public and non-profit sectors will be formed, and
- How local and volunteer organizations will be involved in the process.

A “**dual structure**” should be developed in order to ensure that the comprehensive recovery does not only address the spatial dimension but also includes the social and economic dimensions.

Project Development Partnership (PDP)

The first component should be the “**Project Development Partnership**” (PDP) that brings together stakeholders from construction industry, the public sector, the private sector and civic organizations. The purpose of the partnerships is to ensure investments in housing, commercial, and public projects, to reach agreements, to construct the shared infrastructure, to achieve the coordination of projects, and to secure funding for the investments.

When it comes to partnerships, the public-private partnerships in projects such as the Portakal Çiçeği Valley and Dikmen Valley projects in Ankara,

Turkey as well as the Paddington-London, 22@ Barselona, Solidere-Beirut can be taken as examples for success. In addition, and for new settlements, the “urban co-operatives” model, which is the outcome of the Batikent Project (in Ankara, Türkiye), can be considered.

Social Impact Partnership (SIP)

The second component should be the “**Social Impact Partnership**” (SIP) that enables social recovery and economic revival. The purpose of this partnership is to provide the active participation of those affected from the earthquake when developing projects that mitigate social injustice and encourage economic development.

The SIP should be formed with the participation of district municipalities, district governorships, mukhtars (neighborhood leaders), civic organizations, and social impact entrepreneurs, and the primary aim of the SIP is to increase the quality of life in temporary shelters, emotional and physical rehabilitation, and education and employment. Moreover, the SIP should also be in charge of creating an actionable and sustainable local environment; collecting suggestions from, raising the support of and ensuring the participation of the general public in projects and programs; improving the skills of local residents to ensure that they have the required qualifications in the job market.

The “PDP” should provide the “SIP” with the necessary funding for “**social impact programs**,” “**social impact entrepreneurship**,” and projects that create social impact in urban and rural areas such as “**supporting co-operatives**” (especially women’s co-operatives).

Regional Development Fund (RDF)

It is estimated that the cost of recovery in the earthquake-hit region will reach more than 150.0 billion USD. A new financial system should be designed to find the funding needed and to allocate the resources. Central and local governments should create a large fund to pool the loans and grants provided by domestic and international financial institutions and aid organizations.

The management of such funding is extremely critical to achieve the construction of 318,000 homes in one year, to improve the social and economic conditions of about 2.6 million people who live in temporary shelters, and to establish an economic system for the 324,000 small business owners and 276,000 business managers.

To resolve the funding issue, a financial system that connects the treasury (with the aid of international funds), banks, and users should be enabled. A “**Regional Development Fund**” that resembles the mass housing fund should be established. The resources from the GAP administration and the regional development agencies should be accumulated in this fund.

The social and economic development resources in the fund should be distributed evenly between different institutions. Calls should be made, and 1/3rd of the resources in the fund should be allocated to be used by local governments, the private sector and non-governmental organizations. Three institutions that join together should receive resources from the fund.

6 Innovative Methods Should Be Developed

In the earthquake-hit settlements -especially in Antakya, Adiyaman, Kahramanmaraş, Malatya city center, and Gaziantep (Islahiye-Nurdağı)- massive voids in the neighborhoods and in the traditional bazaars are what is left behind of the buildings that collapsed. Given that the buildings with moderate damage will also be demolished, such voids will increase both in number and in size.

In these areas, zoning designations will be reformulated during reconstruction. After demolition, condo ownerships or construction servitudes will be converted to land ownership. The new zoning regulation will not allow for the high development rights and; therefore, new methods should be formulated for ownership rights to be merged, transferred, and converted into securities.

The development rights for individual plots can be merged for an entire project, or development rights for individual plots may be transferred and used in central areas. These methods were implemented with success for the first time in the Portakal Çiçeği Valley and Dikmen Valley (both in Ankara, Turkey) transformation projects. Such methods, which are common and successful in Europe, should be extended to the cities hit by the earthquake.

The transfer of development rights (TDR) may help to ensure the transformation of earthquake prone areas where development rights are decreased; the development rights that pertain to a certain plot may be transferred to another project or reserve

area, or converted into securities. This method involves the sale of development rights instead of the plot itself.

TDR is a land use method, and in order to succeed, it should be clearly explained to local governments, to land owners, to investors, and to the general public. The system is on a voluntary basis; and thus, it would be very helpful to perform pilot public-private partnerships to further improve and popularize the system.

7. Uniqueness and Diversity Should Be Sought in Designs

The earthquake hit 800,000 units (collapsed-moderately damaged). Given that some buildings will be demolished due to the lack of harmony with the pattern, the “one million homes program” will occupy the agenda.

The political decision to construct more than 300,000 homes in one year implies that there will be extensive construction efforts both in new settlements and in existing settlements. However, apart from financing and construction capacity, planning and design are the topics of top priority.

Local identity is a precious asset in the geography of diversities. The production of standard projects with the “11 cities, 11 architects” approach is a mistake. Drawing on the experiences gained at TAK Kadıköy-Kartal, the Vision Atelier in İstanbul, and Nilüfer Design Atelier in Bursa, “design ateliers” where local and national designers can be brought together should be established. Local and young

designers in particular should be invited to participate in the process.

The planning and design processes should go hand in hand. The urban fabric should be revisited, and a new spatial construct should be planned by considering the harmony between the city, the neighborhood, and the building block. Planning and design principles should be identified for each scale. Strategic Design Guides should be prepared as a mechanism that helps with providing guidance, advice, diversity, control, and execution.

The call made by the Anatolian Design Atelier (ATA) for “new lines based on old traces” (<https://bit.ly/eskiizleryenicizgiler>) can be used as an example. In particular, basic design principles in



planning and architectural design should be clearly identified in the guides that will be prepared. The basic design principles for building blocks, streets, and buildings should be defined. When designing building blocks, capacity, integration, connection, and diversity should be considered.

8. Social Impact Assessment (SIA) Reports Should Be Prepared

The earthquake caused great damage on social life, on urban space, and on regional and urban economies. More than 50,000 people lost their lives, 3,000,000 people had to migrate, and more than 2,000,000 people live in temporary shelters. “Social Impact Reports” should be prepared for the region where 42% of the total building stock (collapsed, moderately damaged, and slightly damaged), 21% of the cultural heritage, and 29% of the total bed capacity is destroyed and more than 8,000 small business owners lost their business.

SIA reports should be prepared separately for each city that was affected, and the SIA reports should cover economy, spatial organization, overall life, and cultural and natural assets. These reports would be critical when it comes to using external funding during the restructuring process.

Given the difficulty to manage the process, the SIA reports should include recommendations to ensure minimal relocation, provide opportunities for improvement of income and creation of jobs,

specify participatory social impact designs, and provide options for participation and organization.

SIA reports should also address many other topics including but not limited to the site selection for new settlement areas; the identification of landfill sites; the recycling of the rubble; the compensation of the loss; the improvement of income; the mechanisms for participation, consultancy, information, complaints, the feeling of security, the prevention and mitigation of pollution, the protection of biodiversity and the ecosystem, climate change, the protection of the cultural heritage, mandatory and voluntary relocation, loss of business, education, the protection of the rights and benefits of vulnerable groups, public health and security.

The “social impact assessment” guide prepared by the Vision Atelier along with the “social impact design” report prepared by Kentsel Strateji for the World Bank may be helpful. (www.kentselstrateji.com)

9. Vulnerable Heritage Should Be Protected

The civil and monumental heritage in the geography of the firsts and the unique was damaged to a great extent. 21% of the cultural heritage in the region was damaged. The rubbles of any collapsed and damaged heritage in the earthquake-hit cities, and especially in Antakya, should be removed by experts.

Platforms that bring together experts who are trained and qualified in post-earthquake recovery

and preservation of cultural heritage should be formed, and ecosystem networks should be established.

The removal of the rubble of the ordinary buildings is almost finished, whereas artifacts of cultural heritage lay around. It is possible to build collapsed buildings again; however, it is impossible to bring back the cultural heritage. Cultural heritage is the outcome of thousands of years with unique tangible and intangible components.

A multidimensional program should be launched to protect and exalt the cultural heritage. **“Cultural heritage impact assessment”** reports, which calls for domestic and international collaborations and covers protected urban areas, civil architecture artifacts, and monuments, should be prepared. In line with these reports, action plans that help to revitalize the abstract and concrete heritage should be prepared.

New models and programs should be prepared in order to revive the economy and the cultural heritage in the protected areas that are also home to the historic bazaars in the city centers of Antakya, Adiyaman, and Malatya.

10. Call for Action: A White Paper Should Be Prepare

For the future of the region, a strategic and operational perspective should be adopted, and an inclusive and participatory process and a

system should be designed. For this purpose, a **“white paper”** that includes the main strategies and action areas as well as administrative, financial and legal models should be prepared and should serve as a road map.

The white paper should be made up of sections that aim to **“understand,” “plan,”** and **“design”** the region.

In the section on understanding the outlook, concepts such as identity, culture, character, layers, lifestyle that make the earthquake-hit region unique should be addressed, and the region should be re-explored. The anatomy of water geography should be revealed. In addition, strategic analysis and basic indicators should be employed, and the impacts of the earthquake on place and life in general should be presented. These should be easily comprehensible and visible for all those who contribute, and especially for decision-makers.

In the section on planning, **“new century, new stories approach”** should be adopted, the strategic priorities for the region should be identified, and the tools for implementation should be defined. The “regional development strategy framework,” “urban alliances” based on the basins, “focal points for common investments,” and the proposal for the “new city model” should be extensively discussed. The growth of urban economies should be formulated based on innovation and creativity in the economic sectors (such as trade, tourism, manufacturing as well as IT, technology, and design).

In the section on design, it should be acknowledged that **“design goes beyond zoning plans and architectural projects,”** and design proposals should be developed for all aspects of life including management, public spaces, construction, financing, legal processes, relocation, organization and communication.

The white paper should be prepared in an inclusive and participatory atmosphere, and it should be shared with the general public.

The Second Century Movement Should Be Launched

In this very year that marks the beginning of the second century of the Republic of Turkey, the disasters that have happened and any potential risks should be duly considered, and urbanization policies in Turkey should be revisited. The white paper should serve as a guide to launch the **“second century movement”** that blends the strategies back in the republic’s founding years such as **“cities of culture,” “industrial cities”** with new generation expectations.

Global trends such as **“urban renaissance,” “next century cities,” “smart cities,” “resilient cities,”** etc. should be studied to discuss the principles and modes for **“developing cities,” “cities of culture,” “dynamic cities,” “hub cities,” “cities that share,” “garden cities”** that are unique to Turkey.

The cultural and natural abundance and the diversity found in Anatolia proves to be a great potential to create regional and urban

identities. To redefine the damaged identity of the earthquake-hit cities, local and regional assets that will diversify the differences of each city should be considered.

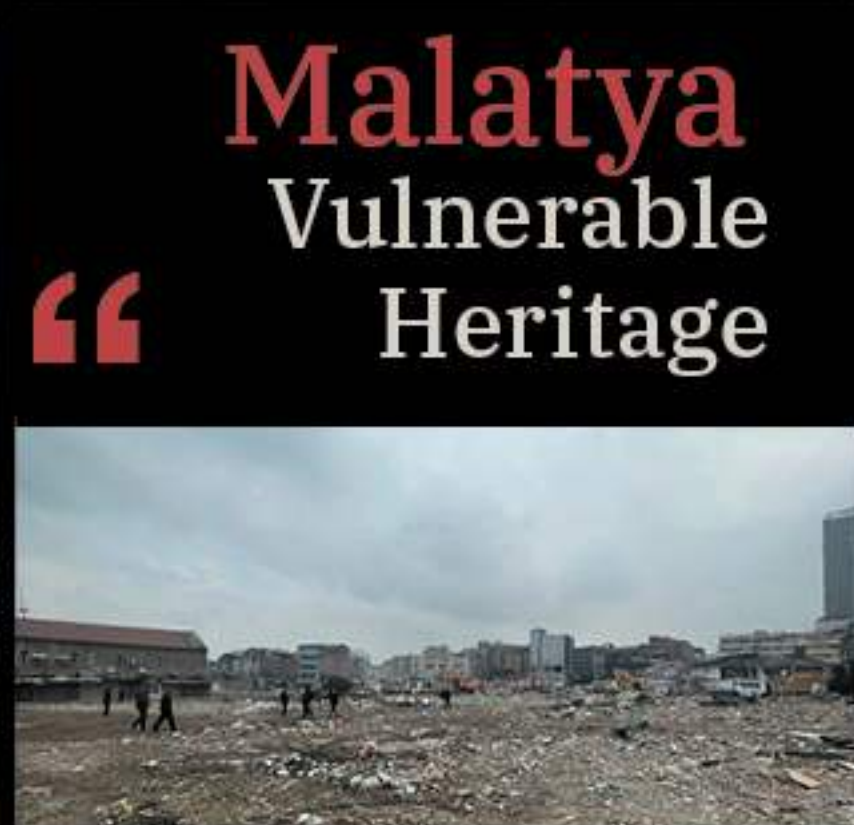
From now on, we should avoid zoning planning, and instead we should perform urban planning. Unfortunately, the conventional zoning planning approach has been focused solely on shaping ownership and granting development rights. The current urban form, insufficient urban facilities, unbalanced densities, inadequate land-use decisions are all outcomes of the current zoning planning approach. From now on, Turkey needs an urban planning perspective that duly considers scientific and strategic analyses, and that highlights quality, aesthetics, art, and design.

In this respect, the ‘81Kent81Vizyon’ (‘81Cities81Visions’) effort we launched with the participation of young designers at the Vision Atelier on August 17, 2013, may be very helpful.



“ **Antakya**
Vulnerable
Heritage





“ Malatya
Vulnerable
Heritage



“

Life
Trauma





“

Life Trauma





Antakya

Spatial Trauma





“
Malatya
Spatial
Trauma





Adıyaman

Spatial Trauma

“





Kahramanmaraş
Spatial
Trauma



Gaziantep

“ Spatial Trauma



Wreckage

“

Spatial
Trauma





Public Buildings

“ Spatial Trauma





“ We are
standing tall

