



TERRITORIAL APPROACH TO ADDRESS CLIMATE CHANGE AND ENERGY CHALLENGES:

Arkhangai, a pilot Aimag!

COMPONENTS OF CLIMATE ENERGY TERRITORIAL APPROACH IN ARKHANGAI PROVINCE

DIAGNOSIS & MOBILIZATION OF LOCAL STAKEHOLDERS

- Community-based climate vulnerability & risks assessment with participatory approach covering the 19 Soums
- Stakeholders mapping & analysis of Soum structure and resources
- Exchange visits in Khenti & Bayankhongor Provinces
- Public awareness raising events in 31 Bags in 11 Soums reaching 2500 people



MAINSTREAM CLIMATE AND ENERGY CHALLENGES INTO TERRITORIAL PLANNING

- Training of 430 elected members and 45 technicians - including 111 women in 18 Soums
- Strategy and action plan of the Aimag & 6 Soums mainstream climate change and energy transition challenges



capacity building
information
awareness



IMPLEMENTATION OF THE PLANNING THROUGH DEMONSTRATION ACTIVITIES

- Construction of 2 passive solar greenhouses for the agricultural sector
- Improve production capacities of passive solar greenhouses in schools and hospitals
- Building of a 110m² energy efficient building for the victims of domestic violence in Tsetserleg, the capital city of Arkhangai Aimag

AMPLIFICATION/ DISSEMINATION

- National valorization event in Ulaanbaatar involving Ministries and international partners
- Definition of a financial strategy to develop and disseminate activities
- Nationally Determined Contributions (NDC)

Arkhangai Aimag at a glance

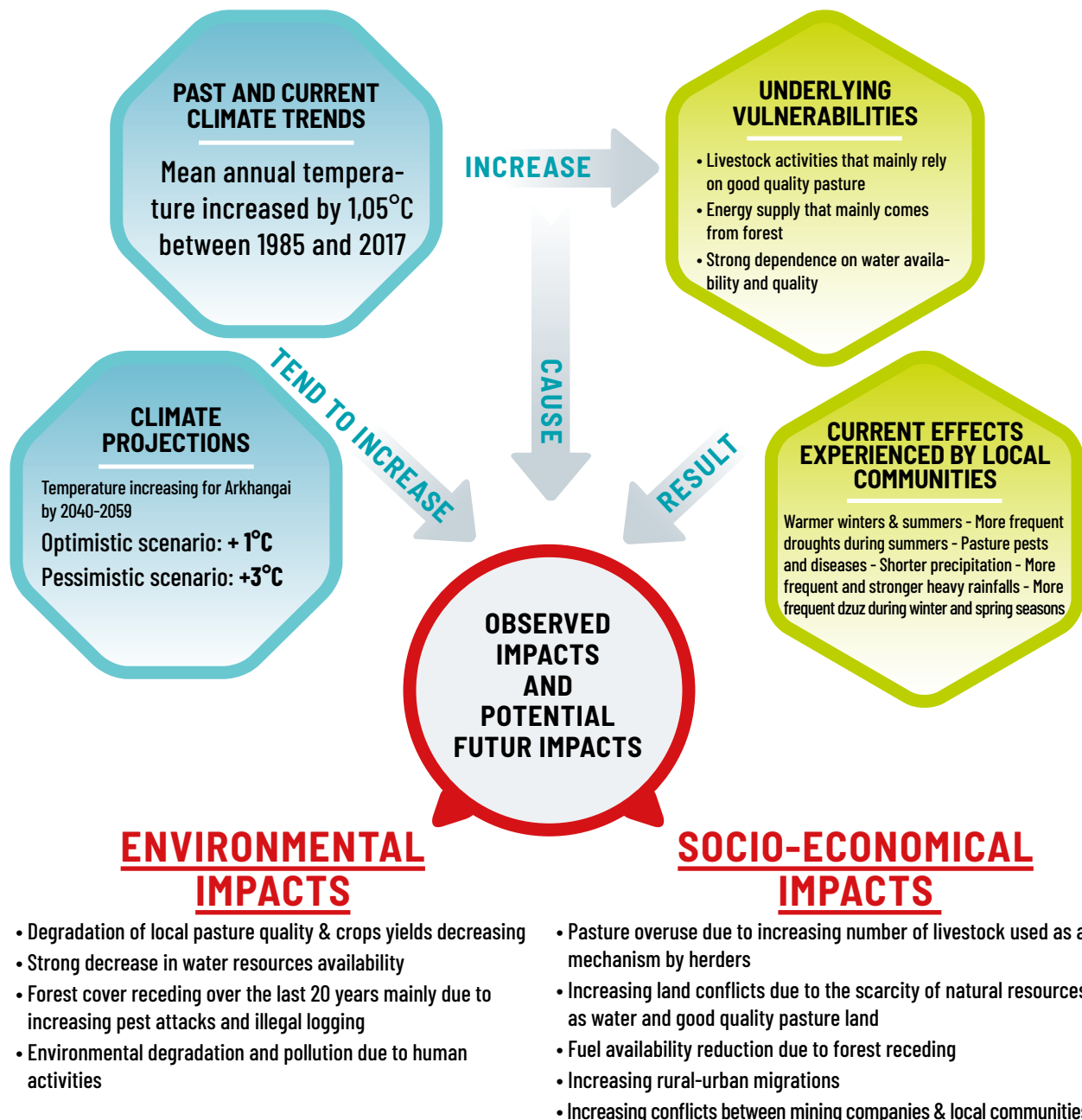
- > Population - **41%** urban VS **59%** rural
- > The aimag's largest economic sector is agriculture, predominantly pastoral animal husbandry employing **75%** of the working population
- > **18.2%** of its total territory is covered with forest. This surface area has diminished by **156 000 hectares** due to forest fires, illegal logging and forest pests in the last decade
- > Surface and groundwater levels are decreasing; **2.8%** of rivers, **25.2%** of springs and **12.6%** of lakes are dried up, some pastures are abandoned and water quality is deteriorating
- > Desertification rate is high in **8%** of the aimag territory, moderate in **10%** and low in **33%**

Main climate change mitigation and adaptation challenges

Mongolia's climate can be described as highly continental with warm summers and long, dry and extremely cold winters. Average temperature rate varies between -26°C in January to $+28^{\circ}\text{C}$ in July. Extreme fluctuations in both temperature and precipitation, are accentuated by the country's vast and topographical diversity. Located in central Mongolia, on the northern slopes of the Khangai Mountains, Arkhangai Aimag has water resources with large rivers providing a potential for clean energy source and water collection. Annual average precipitation rate is 232.3 mm. In order to identify the Aimag's main vulnerabilities to climate change, a com-

munity-based climate Vulnerability Risk Assessment (VRA) was conducted in a participatory and iterative approach. Main results are put in evidence that Arkhangai is facing a global warming since 1985 with seasonal disparities. Local people are extremely aware of the changing climate and weather patterns. They feel negative changes in pasture, forest and water resources, which affect their living conditions. Climate projections of $+3^{\circ}\text{C}$ from 2040-2059 and $+6^{\circ}\text{C}$ from 2080-2099 tend to confirm the existing global warming trends with potential disastrous consequences for Arkhangai local communities.

EFFECTS AND IMPACTS OF CLIMATE CHANGE IN THE ARKHANGAI PROVINCE



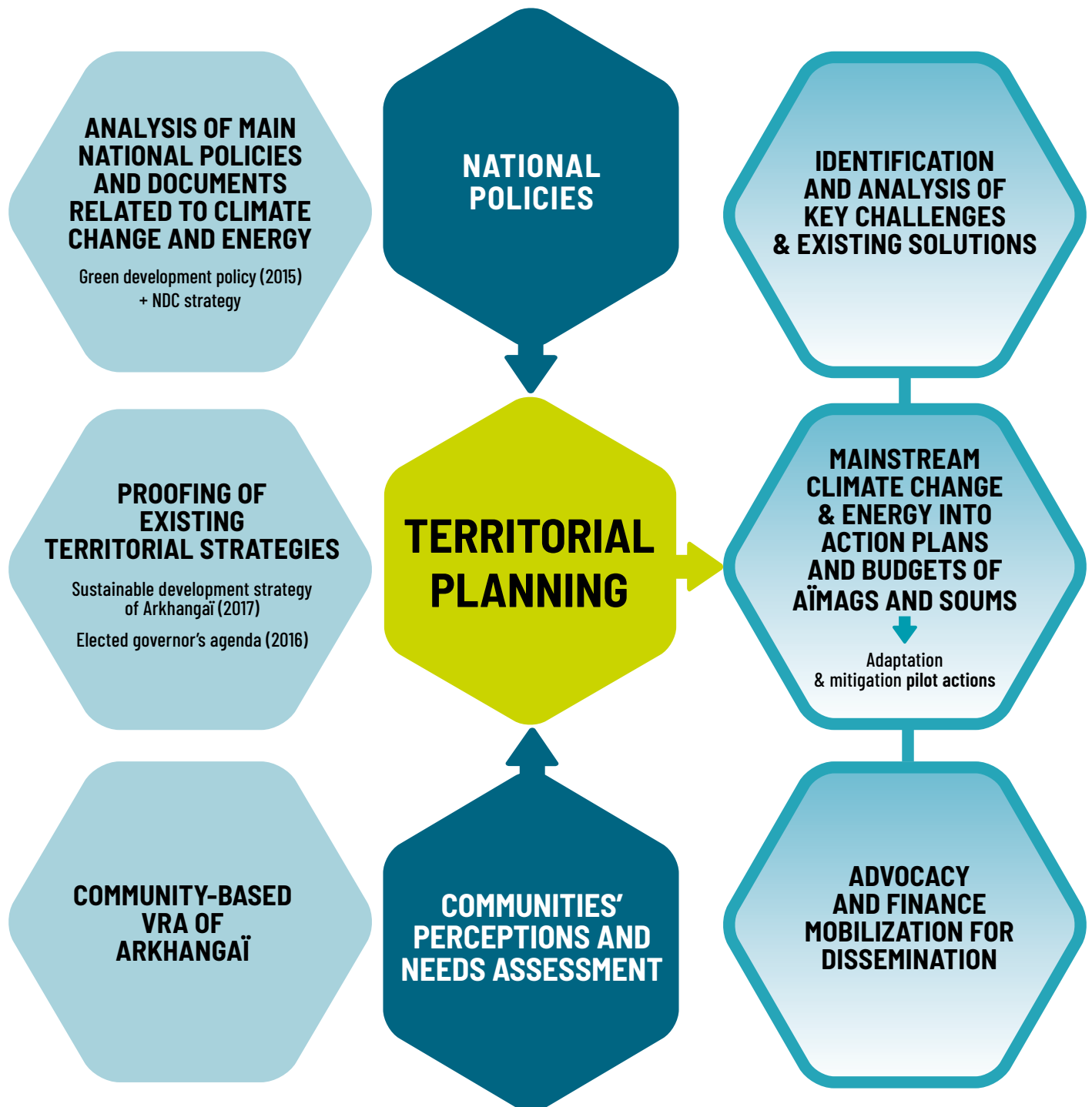
The Arkhangai, a pilot Aimag to implement energy transition and mainstream climate change issues into its development strategy & local policies

To face those challenges, Arkhangai Aimag consisting of 19 soums and 101 bags, developed a Province level policy "Sustainable development strategy 2016-2026" in 2017 in line with the Sustainable Development Goals of Mongolia and National Green Development Policy. Through CEMAATERR program, elected technical staff of the Aimag and Sums

raised their abilities to understand and address climate change and energy challenges.

To mobilize and formalize local stakeholders' commitment, the Aimag government established a steering committee, which is chaired by the vice-governor and formed 9 representatives of local key institutions.

CLIMATE ENERGY TERRITORIAL PLANNING OVERVIEW OF ARKHANGAI PROVINCE

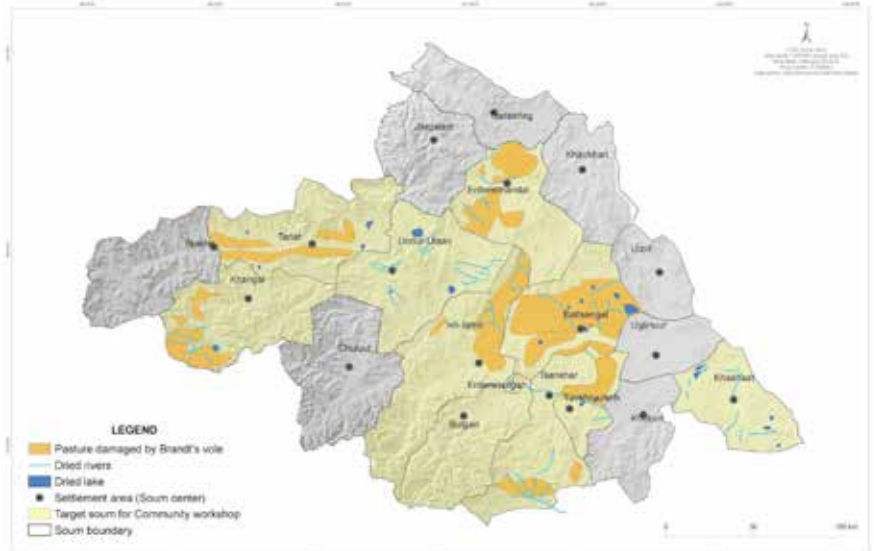


Strategy and priority orientations related to mitigation and adaptation challenges

Adaptation options at short, mid and long terms identified considering the potential evolution of the climate situation in the Arkhangai include:

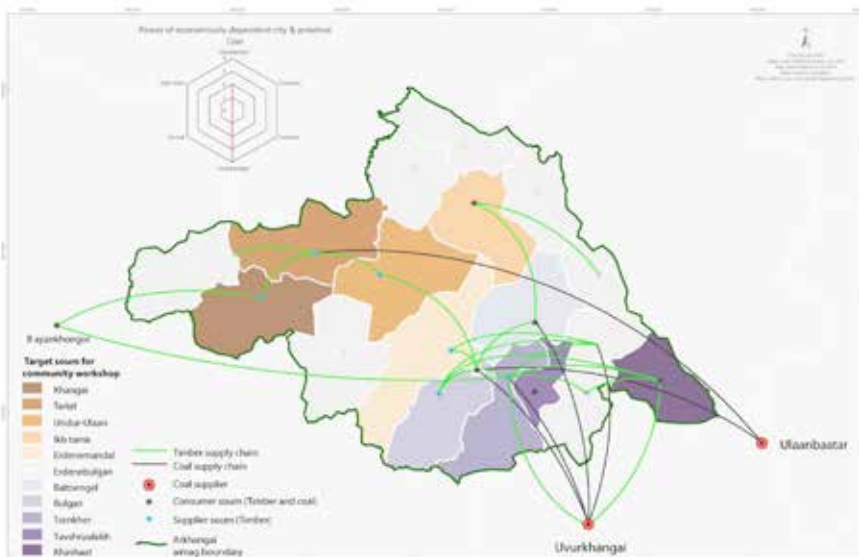
- Capacity building and awareness raising for local community members and relevant officials on climate change and its impacts
- Decreasing forest and water resources depletion and degradation
- Introducing and implementing pasture allocation system
- Revisiting and developing policies to address the increasing land conflicts
- Supporting value-added production of livestock production
- Strengthening the implementation of rehabilitation activities, legally budgeted from profits made from natural resource exploitation such as mining and forests
- Constructing watershed to better provide and manage water resources for livestock

PASTURE DAMAGED BY BRANDT'S VOLE, AS IDENTIFIED BY LOCAL COMMUNITIES



ADAPTATION

ECONOMIC FLOW MAP - TIMBER & COAL AS IDENTIFIED BY LOCAL COMMUNITIES



MITIGATION

Mitigation options: Analysis of the flow of energy sources as identified by local communities shows that coal is bought from coal mines in Ulaanbaatar & Uvurkhangai. In the absence of coal mining to meet local fuel demands, wood is dominantly used for heating of apartments in the Aimag centers and homes; but the timber issued from Arkhangai forests is mainly sold to the capital city users. **This limited internal flow within the province area emphasizes the need to initiate energy transition through:**

- Reduce & optimize energy consumptions
- Develop demand side management measures
- Increase efficiency of energy and heat supply system
- Reduce the electricity loss
- Explore alternative fuel sources
- Increase cooperation among public and private actors

MONGOLIA

AVERAGE SURFACE AREA
55 313 km²
(3,6% of national territory)

ARKHANGAI PROVINCE

AVERAGE POPULATION
96 000
inhabitants
(3% of national population)

AVERAGE DENSITY
1,7 people/km²



Energy efficient safe house for victims of domestic violence
Tsetserleg

Through CEMAATERR program, Arkhangai Aimag :

- > **Commits** through the definition of an energy transition strategy in order to increase resilience to climate change, reduce Greenhouse Gases (GHG) and environmental pollution. Through its 2018-2019 action plan, the following sectors are identified as priorities:
 - *natural resources management for adaptation goals*
 - *housing and tertiary buildings (private and public), industries and public lighting for mitigation goals*
 - *awareness raising and capacity building of local stakeholders as transversal measures*
- > **Demonstrates the key role of subnational entities** to contribute to implement Sustainable Development Goals (SDGs) on the ground in line with national commitments
- > **Put in place collaborative schemes** with private sector and local civil society in order to define and implement ambitious mitigation and adaptation projects
- > **Illustrates the potential** to promote sustainable green buildings standards and models to reduce energy consumption and improve the comfort of users
- > **Plans to implement** an ambitious policy sub program dedicated to promoting energy efficiency and renewable energies
- > **Seeks to mobilize partners and financial resources** in order to disseminate lessons learnt and upscale pilot initiatives

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