



# Catalyzing Innovation

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**SPATIAL PLANNING FOR LAND USE AND PROTECTION  
AS AN ANTI-POVERTY TOOL IN RURAL AREAS:  
CASE STUDY OF INNOVATIVE APPROACHES  
ON THE AGRICULTURE AND RURAL DEVELOPMENT SUPPORT PROJECT  
FOR UKRAINE FUNDED BY THE U.S. AGENCY FOR INTERNATIONAL  
DEVELOPMENT**

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## **Abstract**

The poverty rate among the rural population in Ukraine reinforces the need to change the rural development model. Land reform, reform of power decentralization, and local self-governance are underway in the country. Land is the main resource, but communities lack experience and tools for land resource management. Approaches and tools developed by the USAID-funded Agriculture and Rural Development Support (ARDS) project are feasible for helping newly-established communities set up a system for spatial planning and efficient land use and protection based on modern GIS-technology; and to resolve community development issues of environmental, social, and investment nature. Public discussion of community plans and decisions adopted later by the local authorities are an important component of this system. The proposed methodology has been tested in pilot communities and enables the mitigation of corruption risks in land relations, as well as improves well-being in rural areas.

## **Key Words:**

Cadastre, community, land, land survey, planning

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## 1. Introduction

Poverty is a major characteristic of rural areas worldwide. According to experts, rural areas account for most individuals in poverty; by 2030, 60 percent of the poor will remain in rural areas.

Rural populations in Ukraine face significant poverty and traditional social distinctions between urban and rural populations. Key challenges for rural Ukrainians include high unemployment, increased migration to urban areas, a diminishing network of social and cultural establishments, the depreciation and obsolescence of material and technical facilities in rural areas, and a lack of resources to preserve and renew rural production capacity. These factors all contribute to the rise of poverty in rural populations in Ukraine and are relics of the Soviet past, when villages were subdivided into those ‘having potential’ and those ‘lacking potential.’ In Ukraine, poverty risk increases as population size decreases; rural poverty is almost double that of large cities: 29.7 percent compared to 17.1 percent, respectively.

The high incidence of poverty among rural Ukrainians reinforces the need to change the rural development model. New approaches for land reform based on decentralization principles lead to more efficient use and management of rural territories. A community ‘having potential’ may be formed from villages ‘lacking potential.’

## 2. Background

### 2.1. Formation of amalgamated territorial communities

Ukrainian decentralization reform is aimed at setting up a modern system for local governance based on the European values of local democracy development and empowering amalgamated territorial communities (ATCs) with authority and resources, which will enable local economic development and provision of high-quality and accessible public services for the population. ATCs play a crucial role in ensuring citizens’ interests in all spheres of life.



Figure 1. In 2015, territorial communities started to establish amalgamated communities in Ukraine

Source: <https://decentralization.gov.ua/news/10467>

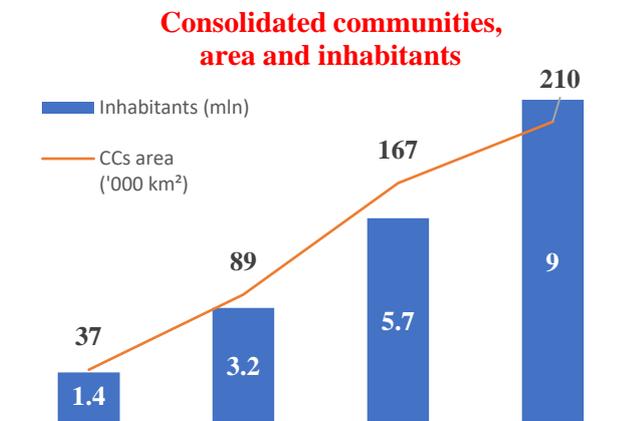
In Ukraine, voluntary amalgamation of villages, towns, and raions (districts) began in mid-2015 and by the end of 2018 4,010 territorial communities formed 876 ATCs (see Figure 1).

According to a monitoring report prepared by the Ministry of Regional Development, Building, Housing, and Communal Services of Ukraine, nine million people (25.5 percent of Ukraine’s total

population) now reside in ATCs. For comparison, when the process of forming amalgamated communities began in 2015, 1.4 million people resided in 159 ATCs (see *Figure 2*).

ATCs now account for 209,600 square kilometers (see *Figure 2*), which is 37.6 percent of the total territory of Ukraine (excluding temporarily occupied territory of the Autonomous Republic of Crimea, and Donetsk and Luhansk oblasts).

Almost 7,000 local councils (63.4 percent of the total number of councils) are not yet part of ATCs. Pursuant to long-term plans approved by the Ukrainian Government, 8,846 councils are to be consolidated into 1,285 ATCs, with a total area of 457,300 square



*Figure 2. In four years, Ukraine consolidated an area of 210, 000 km<sup>2</sup> with 9 million inhabitants*

Source: <https://decentralization.gov.ua/news/10467>

kilometers, or 82 percent of the total territory of Ukraine (exclusive of temporarily occupied territory of the Autonomous Republic of Crimea, and Donetsk and Luhansk oblasts).

The procedure to transfer state agricultural lands into communal ownership by ATCs commenced in 2018: 646 ATCs obtained titles to 1.45 million hectares (14,500 square kilometers). This initiated the formation of the communal ownership land bank, which will serve as the basis for rural development. Creation of ATCs covering such a large part of the territory and population requires the systemic development of an efficient system for land resource management to meet the needs of these communities.

## 2.2. Community capacity to manage land resources

The practical process of forming ATCs repeatedly reveals problems that require legislative or regulatory resolution. There are several unresolved issues, both strategic and immediate, creating risks to the further successful implementation of reform, including the lack of community capacity to manage land resources.

Land is usually considered a natural resource, a means of production, and the location for infrastructure facilities. Land administration in Ukraine is still managed by state agencies, even though there is no longer a state monopoly on ownership of land. Currently, land administration and management are complicated, burdensome, and lack transparency. Due to deficiencies in land administration procedures throughout Ukraine, citizens and legal entities:

- lack equal access to land;
- are forced to obtain excessive permits and approvals;

- are subject to strict regulations and controls by state agencies;
- face risk of corruption;
- lack protection of their rights to land.

Reforms must guarantee land rights to residents and ensure protection of their rights pursuant to the Constitution of Ukraine. However, the pace of required reform legislation has been slow; 876 ATCs have been created, but these communities:

- lack relevant authority to manage land resources;
- lack information required for decision-making;
- lack relevant experience, skills, and comprehensive tools for efficient land management to ensure economic development and attraction of investments.

Newly-created ATCs have a vested interest in the efficient use and protection of lands and are incentivized to manage resources in their territory. The Agriculture and Rural Development Support (ARDS) project, funded by the U.S. Agency for International Development Mission for Ukraine (USAID), introduced pilot projects in two ATCs to attempt to resolve some of the issues managing land resources at the local level, and to identify challenges and solutions to local land management. These pilot projects identified new opportunities for rural development arising from decentralization in Ukraine.

Analysis of issues faced by ATCs confirms that almost all communities faced a wide range of typical challenges:

- Lack of clear boundaries of territories under ATC jurisdiction;
- Lack of authority to dispose of lands in state and communal ownership;
- Insufficient local budget revenues from land fees (tax and lease payments);
- Inability to plan activities due to lack of information on land resources;
- Land pollution (litter, dumping, animal burial sites, radiation pollution, etc.);
- Inability to satisfy needs and interests of citizens to obtain land parcels;
- Lack of proposals to attract investors and conduct business;
- No areas reserved for community development;
- Improvement systems not serviced nor duly maintained;
- Illegal use of forests.

To address these issues, the ARDS project developed a methodology to identify required resources and authorities, and to collect, analyze, and systematize data on land resources and spatial planning for land use and protection.

### 3. Approaches and methodology

#### 3.1. Land planning as a development tool

In many countries, increased opportunity for local development using local resources is a major incentive for decentralization. In Ukraine, rural communities rely on land as the primary, and sometimes only, resource for community social and economic development to increase living standards.

During task identification for the ATC pilot projects, the following challenges emerged:

- Which information on land should be available to ATCs and how should it be collected?
- How can ATCs obtain communal ownership and other rights to land?
- What are ATCs' key land resource needs and how should land resources be efficiently used?

Innovative approaches were needed to respond to these challenges:

- engagement of state agencies to collect and analyze territory spatial data for accuracy, reliability, and relevance;
- introduction and use of geo-information technologies, rather than paper maps;
- publication of all available data on land and resources on the community website;
- consideration of community needs in comprehensive planning for land use and protection, defining efficient land use mechanisms and complying with environmental standards;
- involvement of businesses and local authority in the planning process and holding open public discussions.

Through decentralization, local self-government bodies are incentivized to manage land in a more efficient manner than central agencies. Territorial communities govern land-use through short- and long-term planning. Plans are developed using quantitative data, including land surveys and measures of social, environmental, and commercial activities. Nearly all commercial activities can be funded by local businesses, with published maps detailing legal and local requirements on where investment facilities may be established in communities. This level of transparency reduces the risk of corruption and increases security of land titles.

This approach to local-level land resource management increased the capacity of local communities in pilot ATCs to develop their own resources and attract investment.

#### 3.2. Tools for land resource management

An ATC with capacity is a community with enough revenue, infrastructure, and human resources to enable resolution of locally-significant issues by local self-government, serving the interests of community residents. The first stage for introducing land resource management includes identifying the available powers of local self-government in the following areas:

- approval of land-use documentation;

- establishing boundaries of the territory under community jurisdiction;
- development and approval of a land surveying program;
- community development planning and budgeting;
- land resource management (funding land surveying, control over land use, protection of lands, etc.);
- disposal of communal land;
- approval of land appraisal results;
- determination of rates of land tax and lease payments, establishment of tax rates for property and natural resources;
- participation in settling land disputes.

Current Ukrainian legislation prevents consolidated communities from exercising all required powers related to land resource management.

The second stage for introducing land resource management includes identifying financial provisions for land management. Financial sources may include:

- Local budget, to which land fees are paid (land tax and lease payments); it is important to ensure that land fees are collected not by increasing land taxes, but by all land owners and users paying a fair tax;
- State funds and programs, funds from which are directed to implement investment programs and regional development programs;
- International technical assistance provided by donors on a free and non-repayable basis;
- Charitable assistance for social, environmental, and sustainable community development projects;
- Financial institutions for implementation of various programs, from economic development to energy efficiency.

The third stage includes organizational support to communities by in-house and invited experts on land surveying and urban development. To approve all issues related to community territory planning and its documentation (which is currently the most complicated and time-consuming process), it is useful to set up a working group consisting of representatives of different executive agencies, local self-government, businesses, and the public. In addition, communities require hardware and GIS-software for efficient land resource management. ARDS used ArcGIS, developed by ESRI (USA).

### 3.3. [Introducing land resource management](#)

Modern governance requires a clear idea of community resources and their efficient use. This information is a key tool for local authorities to manage lands and ensure ATC development. This is exactly why it is important to have accurate and up-to-date information on land resources as one of the

main sources for local budgets. It is necessary to avoid duplication in storing information and to maintain its accuracy, reliability, and completeness.

The following steps were defined to introduce land resource management.

1. **Data collection**. Obtain up-to-date information on ATC land resources from the agencies and institutions currently authorized to maintain, update, and use the available information. The ATC can organize data collection by sending requests to enterprises, institutions, and organizations for relevant information (it is optimal to obtain information, especially graphics, in electronic format).
2. **Establish an electronic database**. All data should be systematized and analyzed for relevance, reliability, completeness, accuracy, and timeliness. GIS software enables entering all information on ATC land that has been surveyed into a database. The database should include all raster and vector data containing semantic information in a unified coordinates system.
3. **Form an address registry and electronic cartographic base** for spatial territory planning and land resource management. The cartographic base should be a vector map with the following layering:
  - community boundaries;
  - boundaries of administrative and territorial units in the ATC and boundaries of village/town council territories;
  - buildings, constructions, utility systems;
  - center lines and traffic routes of streets and roads;
  - boundaries of restricted-access facilities;
  - boundaries of environmental facilities, historical and cultural sites, and religious sites;
  - boundaries of water objects;
  - boundaries of cadastral areas and blocks;
  - boundaries of forest lands;
  - land boundaries entered into the State Land Cadastre;
  - boundaries of land parcels and land formerly in communal ownership;
  - other required objects approved by the Working Group members.
4. **Comprehensive identification of natural resources** within community territory and determination of major characteristics.
5. **Outline of current land resource use**, including:
  - ATC and settlement boundaries;
  - boundaries of land-use sites (living areas, land under individual farms, and other land);

- agricultural land pursuant to the Procedure for Maintaining the State Land Cadastre (plowed fields, tilled fields, hay meadows, perennial plantings, sands, natural shrubbery, vegetation, etc.);
- buildings and constructions;
- center lines, streets, and roads.

By analyzing the system for current use of land resources, it is possible to detect land swamping, afforestation, pollution, and degradation occurring on community territory; detect land used ineffectively or contrary to designated purpose; and identify unoccupied land plots.

6. **Outline land use restrictions**, including:

- ATC and settlement boundaries;
- water objects;
- forests;
- nature reserve objects;
- facilities used for rest and recreation;
- engineering infrastructure facilities;
- cultural sites;
- availability of mineral resources on ATC territory, and restrictions on their land use;
- limited access facilities pursuant to the classification of the state sanitary rules for urban planning and development;
- protected zones;
- protected sanitary zones;
- special land use areas;
- roadside clearance zones (on principal roads, etc.).

A detailed description of restrictions and land use, the type and extent of restrictions, and the regulatory documentation establishing the restrictions should be attached.

7. **Plan for land improvements and land protection measures**, including:

- afforestation and creation of recreational facilities;
- establishing or restoring woodland belts and other shelterbelt plantings;
- hydro-technical amelioration (irrigation and draining);
- conservation of low-output lands or lands under technogenic pollution and determination of possible future use, in particular for agricultural needs and creation of artificial water and other recreational territories.

8. **Outline spatial planning and future land use**. Land sites for attracting business investment, business setup, and creation of new jobs should be identified and indicated, as well as land for

privatization, transfer into private ownership through auctions and other means, and different land-use types for urban development, forestry, agricultural, and other needs. Measures indicated should be subdivided into the following:

- Scheduled land use measures;
- Social measures to be funded from the local budget or grants;
- Commercial activities requiring investment attraction.

A spatial planning system should reflect the results of unified documentation on ATC territory management, developed alongside with the spatial planning process.

9. **Monetary land evaluation (adjustment)**: tax zoning of community territory and development of economically-justified proposals regarding tax rates for property and natural resources.
10. **Publicize program and hold public discussions**, considering public and private interests, elaboration of materials, and publication. Information should be made available on the community's website, with hard copies of the plan available in the local self-government office. Publicizing should be done to engage citizens in spatial planning and the effective use of resources, and to ensure transparency in decision-making about the use of community land.

The information obtained provides significant advantages:

- It enables informed decision-making on land issues, without delays;
- Analyzed, structured, and geo-coded information enables maps, lists, extracts (plan of current ATC land use, spatial location, and area of abandoned land parcels not covered by leases) and finding alternatives for revenue;
- Zones with health risks and negative environmental impact can be identified; protected zones can be established to safeguard the health and life of residents and, when needed, protect restricted-access facilities and ensure conditions for their normal operation;
- It provides a baseline for preparation of urban development, land use documentation, and comprehensive spatial planning;
- It helps resolve or even prevent land disputes, reduces the number of requests to authorities, and, consequently, reduces corruption risks in land relations;
- Application of geo-information technologies and elimination of hard copies streamlines the use of information in land use and urban development; all information on resources, restrictions, utilization, etc., is contained in the unified information system.

Thus, the approach and methodology enable introduction of a model for transparent and public community resource management at the local level.

#### 4. Benefits of the methodology for managing land resources in pilot communities

The proposed methodology has been tested in Ukraine in two pilot communities: Kipti ATC (Chernihiv oblast) and Palanka ATC (Cherkassy oblast). The two pilot projects applied the methodology for development planning based on modern geo-information technologies and the innovative approach for collection and analysis of spatial information in the community's territory for efficient and effective land resource use. Implementation strictly followed a principle of openness, i.e. all information on land was made open and available for public access in real-time on the community websites. These were the first projects in Ukraine to provide an overview of unoccupied lands and how they could be used according to community and local resident interests. Measures for future land use were developed and published on the [Kipti ATC](#) and [Palanka ATC](#) websites to support the pilot projects. Data collection proved to be the most complicated step. Around 30 percent of institutions provided incomplete information, and with delays.

##### 4.1. Kipti ATC (Chernihiv oblast)

The pilot project was implemented in collaboration with the All-Ukrainian Association of Village and Town Councils. Six village councils (eight settlements) covering 29,500 hectares (295 square kilometers) were incorporated in the ATC.

ARDS confirmed the possibility of changing an existing inefficient land disposal system to a decentralized model for resource management, in which publication of long-term use and land protection mapping becomes a tool for community economic development and an incentive to fair competition among business.

Kipti ATC developed plans for long-term use and land protection.

1. Land use planning:
  - 1,700 hectares of land reserve in state ownership for transfer into communal ownership;
  - 1,000 hectares of leased agricultural lands in state ownership for transfer into communal ownership;
  - 2,500 hectares of forest lands formalized for use by a communal enterprise.
2. Social projects to be funded from the local budget or by attracting grant investment:
  - Centers for garbage collection and sorting;
  - Market in Kipti village (estimated 0.5 hectare);
  - Sport stadiums in the Progress and Kipti villages.
3. Commercial activity projects, for which investor funds should be attracted:
  - Construction of an eco-village close to Rozivka village;
  - Centers for collection and storage of farm produce and processing of mushrooms and berries in Progress, Vovchok, Kipti, and Pidlisne villages.

Spatial planning identified revenue opportunities for the local budget through formalization of communal ownership rights to reserve lands (2,578 hectares) outside settlement limits, including 328 hectares of plowed fields; four hectares of tilled fields; 1,113 hectares of hay meadows; 1,024 hectares of pasture lands; and 114 hectares of perennial plantings. It was also revealed that lease rights had been formalized for only 68 hectares out of a total 540 hectares of agricultural roads.

Land inside and outside of settlements was identified for free privatization and future use to respond to the needs of special and other target populations, primarily: employees of state and social enterprises currently not subject to share distributions, military veterans, internally displaced persons, and others. In total 65 percent of community land plot in use was allocated to mentioned above target populations, that represents 702 hectares and 1,403 hectares of outside and inside of settlements respectively.

Forest protection bands of a total area of 74 hectares and 156 hectares of forest lands will become communal ownership.

Revenue to the local budget from agricultural land leases is estimated up to UAH 4 million (\$142,600) annually (see Figure 3), and revenue from forest lands leases will exceed UAH 530,000 (\$19,380) annually.

Introduction of land resource management facilitated the transfer of 2,700 hectares of state-owned agricultural land into communal ownership, and, based on land auction, lease payments increased by up to 10 times.

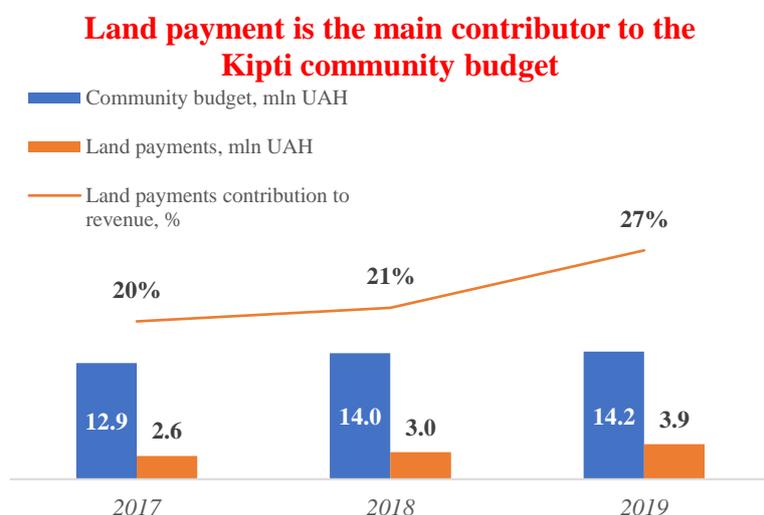


Figure 3. Land payments will contribute one third of revenues in the Kipti community budget

Source: Kipti community data

The Kipti ATC pilot project provided numerous positive results:

1. The community obtained data on land and resources under their decision-making authority and jurisdiction in the coordination system;
2. Reserve lands, of which the community was previously unaware, were identified for privatization and transfer into ownership and use;
3. Land areas were offered for transfer into communal ownership, including unrecorded abandoned woodlands, fields, agricultural roads, etc.;

4. Locations for various social and commercial facilities were planned, which included a local market, eco-festival grounds, garbage collection and sorting, and centers for handling and processing of individual farm produce.

#### 4.2. Palanka ATC (Cherkasy oblast)

The pilot project was implemented in partnership with the All-Ukrainian Agrarian Council. Eight village councils (eight settlements) covering 23,500 hectares (235 square kilometers) were incorporated in the ATC.

The area has significant environmental resources available for eco-friendly agriculture and recreation. However, there is a need to develop and implement a plan for effective land use and protection. Land resources, being some of the most fertile *black soil* in the world, are of exceptional importance for local economic development. Based on the pilot project, ownership rights to a significant share of land have not been properly formalized; transfer into communal ownership, sales at auction, and change of designated purpose are all required for more than 2,000 hectares. Based on preliminary estimates, land surveying of these plots will increase community's revenue by 56 percent bringing additional UAH two million (US\$ 73,538).

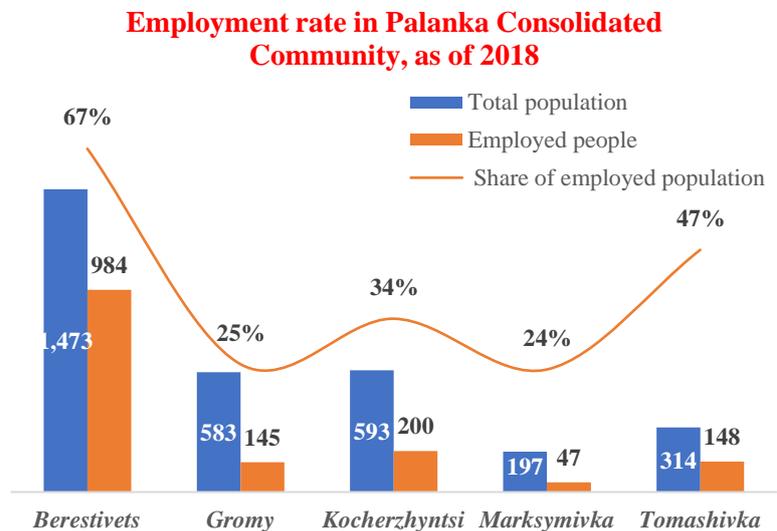
There were several major quantitative indicators for planning land transfer into communal and private ownership in this project.

1. 98 hectares of reserve land to be transferred into communal ownership, titles to be distributed at auctions, and investors attracted;
2. 449 hectares of leased land parcels in state ownership to be transferred into communal ownership;
3. 48 hectares of reserve wooded land to be transferred into communal ownership;
4. 92 hectares of agricultural roads to be transferred into communal ownership, with subsequent lease;
5. 215 hectares of forest bands to be transferred into communal ownership, with subsequent lease;
6. 1,361 hectares of land within the boundaries of residences and on individual farms subject to privatization, including 1,087 hectares within the limits of existing residences and 274 hectares within the limits of existing individual farms.

The ARDS project attempted to integrate the unified spatial documentation containing aggregated information on community resources, forms of ownership, quantitative data, restricted-access facilities, and land use restrictions with the economic profile of the ATC, including analysis and assessment of actual development.

The ATC profile, based on detailed characteristic of ATC land resources, provides a more accurate assessment of the community’s social and economic status, which, no doubt, affects the choice of development priorities. A major innovation of the ATC profile is the evidence-based accurate data of Palanka ATC land resources. Development of the ATC profile proved that a specific approach was required for collecting and analyzing data on individual households, which supplies almost one-third of food products on the local market.

A significant share of land lacks title formalization, which contributes to shadow employment and corrupt practices. Thus, employment appears to be one of most serious social and economic challenges for the Palanka ATC’s development (see *Figure 4*).



*Figure 4. Palanka ATC is a typical community, with only 50 % employment rate among working-age people*

*Source: Palanka community data*

The very high unemployment level among the employable population (around 50 percent) and the low level of unemployment applications to employment centers affirm a significant shadow economy. Around 120 people have been registered as unemployed (2.2 percent of the employable population), and the employed, as a rule, have extremely low salaries. Seasonal employment and shadow employment are wide-spread, which is verified by the demand for labor among the community’s largest employers, who provide transportation for seasonal workers from rural settlements (50-60 kilometers away) and from other regions. Interviews determined that the average income exceeds official statistics. In 2017, the average salary was around UAH 7,100 (US\$284) in Palanka ATC settlements, around UAH 8,000 (US\$320) at the largest farming enterprises (400 employees), and more than UAH 7,300 (US\$292) for local self-government and educational institutions (around 300 employees). Small-scale (family) farming plays a significant role in the population’s income. Interviews identified an average income of UAH 45,000 - 85,000 per person annually (US\$1,700 - 3,100).

However, Palanka ATC has quite high economic potential. Planned land use and organization of community territory, according to preliminary expert estimates, could increase revenue to the local budget by 2 to 2.5 times. The community is uniquely positioned to develop tourist and recreational infrastructure for visitors to natural, historical, and cultural reserve areas, especially in cooperation with neighboring ATCs and e-business development.

Based on the results of the unified documentation on land resource management and the Palanka ATC profile, key priorities for community development were identified:

- Comprehensive use of local resources;
- Infrastructure improvement;
- Enhancement of agricultural raw material processing;
- Development of recreation and tourism;
- Ensuring energy efficiency, energy preservation, and balanced development.

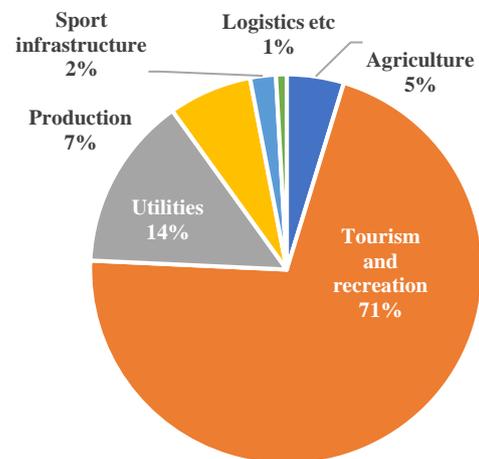
Each of the priorities is aimed at economic diversification, creation of new types of activity, job creation, and local initiative development. The priorities may be implemented primarily by small- and medium-sized businesses. At the same time, the proposed activities are secured by the prospective plan for community land use (see *Figure 5*).

The community’s annual income (local taxes and duties) exceeds UAH 10 million. There is great potential to significantly increase budget revenues by eliminating shadow employment – more than 20 percent of annual budget revenue, based on expert estimates. Bringing commodity production out of the shadow economy and supporting the development of small producers, who farm lands either independently or with insignificant engagement of hired employees, is linked to the development of cooperatives, networks aimed at increasing production profitability, and the introduction of entrepreneurship in the form of family farms. Gender equality is a key factor contributing to low household production. Women are often responsible for hard and low-income work at home and for selling agricultural produce at the local market.

Based on the economic profile of Palanka ATC, two infrastructure projects were identified, and feasibility studies for both were prepared.

1. Development of an art center to produce ornaments, decorations, and souvenirs.
2. Establishment of a communal enterprise to provide housing and communal services, municipal improvement, and informational services in Palanka village.

**Planned land plot allocation in Palanka ATC**



*Figure 5. Palanka ATC developed land plots usage plans for 363 hectares* Source: Palanka community data

The first project supports businesses, non-agricultural employment of the population, and development of new crafts. The project *Palanskiy Dyvotvir* develops culture, arts, and education. A local craftswoman is ready to organize master-classes for school-children and share her experience; she has a shop selling crafts and a small workshop with the necessary equipment.

The project envisages the following results:

- Increased tourist attractiveness of the territory;
- Preservation of local traditions and folk arts and crafts;
- Creation of new facilities in the community;
- Support to non-agricultural employment of the rural population and development of new crafts;
- Provision of services to the population for the organization of trade and leisure in the community;
- Esthetic enhancements and promotion of national traditions among different age groups.

The second project sets up *Blagodar* communal enterprise to provide housing and utility services, municipal improvements, and informational services in Palanka village. The project is important for developing new connections in the local economy and is socially significant. ATC formation and budget revenues increases created the conditions for improving housing and utility services for the rural population, extending the range of household services, and introducing new educational and informational support for the community. The main marketing advantage is that most of the services have not previously been provided in the majority of ATC settlements, and generally, are not typical for rural areas.

Furthermore, a series of training sessions were held for the first time in Ukraine for ATC land surveyors.

The Palanka ATC pilot project achieved several valuable results.

- An audit of ATC land resources was completed and restrictions for business activities on community territory were identified. Information on ATC land resources and their use was obtained, and community boundaries were identified.
- Plans for effective use and protection of land with various designated purposes were identified, with the participation of community and local authority representatives, using modern geo-information technology, and maintaining up-to-date information on the status of community land resources;
- prospective planning for ATC land use was developed, aimed at sustainable community development, attracting local and external investors, and complying with environmental standards;

- unified documentation and cartographic electronic database were created to provide informational and analytical support for managerial decisions on efficient ATC land resource management;
- proposals on land transfers into communal ownership were developed, including for unrecorded abandoned woodlands, fields, agricultural roads, etc.;
- proposals for improving current legislation were developed.

## 5. Outcomes and benefits

- Introduction of local-level land resource management resolves most of the common problems faced by amalgamated territorial communities.
- Spatial analysis of data and GIS identifies wasteland locations and enables communities to plan for these locations in economic activities, including through auctions.
- Introduction of land resource management in rural communities increases revenues used for local budgets, gathering revenue from land fees through tax accounting of lands and of payers of land taxes and lease fees.
- Advanced planning enables formation of land plots suitable for transfer from state ownership into communal ownership.
- Measures for prospective land use reflected in community maps enables businesses and investors to choose the most suitable location for their activities and encourages fair competition.
- Investment in community facilities secured by land titles will improve rural social infrastructure, facilitate sustainable community development, reduce unemployment, and increase residents' income.
- Publicizing information on land resources and advanced plans for use and protection of lands becomes a tool for community economic development and has a powerful anticorruption impact.
- Pilot projects in communities serve as success stories of introducing efficient land management at the local level for other newly-created ATCs.

Community territory planning places responsibility on the local government and requires transformation of land resource management:

- State agencies related to land relations must change functions from granting permits and control to ensuring and supervising land use;
- Amalgamated territorial communities will act as the advocate for their residents in land relations, aiming to improve living standards in rural areas;

- Community members, including businesses, will have equal, unimpaired access to resources and information; they will be able to independently choose the most suitable location for their needs, and will be able to obtain land for their activities.

Therefore, solid pre-conditions will arise for positive change in societal attitudes towards land use and resource protection.

The pilot projects became part of a much bigger process, and experience gained has been extended to 79 amalgamated territorial communities in Luhansk, Donetsk, Kharkiv, Dnipropetrovsk, Zaporizhzhia, and Kherson oblasts, where the ARDS project will implement this initiative as a major component of its rural development program.

The ARDS project is working to incorporate the experience of the ATCs into law, enabling communities to efficiently manage all land in their territory, use resources efficiently and effectively, reduce corruption risks in land relations, and improve living standards in rural areas.

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