

UDC 728

## MOBILE HOMES VSIMDIM

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**Problem statement.** After the start of Russian aggression in 2014, with the support of Germany and The GIZ Foundation, seven camps for internationally displaced persons were constructed in different cities of Ukraine: in Kharkiv, Dnipro, Pavlograd, Zaporizhzhia, Kamianske, Kryvyi Rih and Nikopol. All of the camps were created as temporary housing but people have been living in these container towns for almost 9 years now. VSIMDIM is a Ukrainian multi disciplined team of professionals that develops mobile homes for temporarily displaced persons. We have developed a project of houses that can be transported in any place where there is the employability and access to city infrastructure.

**Purpose of the study.** Most often, when settlements for internally displaced persons (IDPs) are planned, the aim is to resettle as many people as possible in the shortest time and at the lowest cost, while the comfort of the residents might be disregarded. Such settlements are most commonly designed according to the communal (shared) principle, where the members of a displaced family have no personal space, and the kitchen and hygiene zones are shared with other residents. Construction of large-scale settlements requires a sufficient power supply for the arrangement of engineering networks, which are often allocated in the vicinity of the existing settlements. According to the global experience, and as it has been confirmed in Ukraine (Study "Rethinking the Container Town for IDPs in Nikopol" by Deutsche Gesellschaft für Internatio- nale Zusammenarbeit), building of large scale settlements for temporary settlers in areas remote from urban infrastructure makes it difficult for the post-war integration and adaptation of residents to the social and economic infrastructure of the region.

**Main results.** VSIMDIM, a separate housing unit for temporarily displaced persons, is equipped with all amenities: sleeping accommodations, storage space, kitchen, toilet, shower. The mobile home can be transported without lifting equipment on its own detachable chassis, using a 3.5 ton tow capacity tractor or on the platform of a truck with subsequent unloading. Without significant rework and for an additional fee, the house can be upgraded to become autonomous. The option of making the mobile home autonomous allows using it without reference to the central utilities plant (electricity, water, sewerage).

The living units are adapted to the minimum consumption of water. Thanks to this, water tanks can be used for water supply. Almost any plot of land with a slope of not more than 10 % and electrical power of 3 kW per house is suitable for placing the mobile homes. The time needed for the installation of the foundation is 6 hours and drainage, on condition that waste water tanks are emptied weekly.

Targeted placement of mobile homes VSIMDIM houses will allow to eliminate the difficulties of integrating resettlers in the future, because they: can be placed as part of micro-settlements on small vacant lots, which does not isolate the residents; can be moved quickly and cost-effectively to another site or even to another region; have all the necessary amenities inside the house, which creates a decent environment for family life.

The cost of a mobile living unit for four people is 12 000...13 000 USD. Production time is 2 weeks. When ordering a minimum of 20 units, the benefit of economies of scale will reduce the cost of the unit to between 10,500 and 11,000 USD. The future owner or balance holder of the house can additionally order the installation of the chassis and autonomous communications at a cost ranging from 3 500 to 10 000 USD depending on the configuration.

**Conclusion.** The benefits of the project for ukrainians:

- 1) Decent living conditions with all the amenities: toilet, kitchen, sleeping accommodations, storage space;
- 2) the mobility of the house: in case of unforeseen circumstances, it can be moved to another region;
- 3) possibility to house temporarily displaced relatives or friends in a separate living space on one's own plot of land;
- 4) possibility to upgrade the living unit and use it as a country house or a mobile home for traveling in the post-war period;
- 5) possibility to make an investment by purchasing a mobile home: it can be sold or rented.

Benefits for the ukrainian government:

- 1) Quick placement of people where required, in particular during the relocation (evacuation) of businesses;
- 2) easily scalable production: a staff of 100 people can produce about 100 housing units per month;
- 3) factory quality control, production stability;
- 4) housing is comfortable for temporary residence, which motivates dwellers to search for permanent housing in the future;
- 5) targeted settlement: economic and social integration of people into the existing settlements (higher probability of finding a job and the use of the existing infrastructure: schools, kindergartens, hospitals, stores, etc.);
- 6) resettlement and subsequent migration may occur on the professional basis: displaced persons of different professions come to the locality where their professions are most needed;
- 7) creation of new jobs and payment of taxes in Ukraine.

### References

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