

Report for the Ecological and Democratic Reconstruction of Kobané



Kobané Reconstruction Platform

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Report Prepared By: Inan Mayıs Aru

SUMMARY OF THE REPORT FOR THE ECOLOGICAL AND DEMOCRATIC RECONSTRUCTION OF KOBANE:

Kobané Reconstruction Platform is a civil initiative coming together for the reconstruction of Kobané after the war. Based on volunteerism, the initiative is formed by people who feel a responsibility for the reconstruction of Kobané and who believe that another world is possible. In this report, universal ecological principles are summarized and the importance of reconstructing Kobané in the framework of these principles is examined; and a layout for an action plan is outlined in which architectural and lifestyle models for an ecological Kobané are suggested.

A General View of the Current Situation in Kobané:

One of the cantons of the Rojava Autonomous Region, a radical democratic experience that emerged under the circumstances of a war, Kobané is a city surrounded by gangs and destruction. Unheard of by the world until ISIS besieged the city on the 16th of September, with a population of 30-40 thousand people and approximately 360 villages, this small settlement is considered one of Syria's important breadbaskets due to its location in the 2nd agro-ecological zone where there is relatively less drought. Today the war has hit the countryside as much as it has the city center. Since the 16th of September until February when ISIS retreated the city has been seriously destroyed. According to the administration's estimation 80 percent of the city is completely destroyed; houses, schools, hospitals, streets and the city's whole infrastructure is unusable. The situation in the villages is not any different. Already in the grip of drought since 2006, it will take a long time for nature to repair itself and for the soil to feed living creatures after the war.

The fact that the countryside of Kobané is still partially in the hands of ISIS, that there is no physical contact with other cantons of Rojava Atonomous Administration, that the only doorway to the outside world (Mürşitpınar border gate that opens into Turkey) is opened or closed according to the government's arbitrary implementations, and that humanitarian aid and supplies are not allowed to pass through here turns the city into a deserted island isolated from the rest of the world and this makes reconstruction after the destruction even more problematic.

In light of this, as an initiative formed by us civilian volunteers, we believe that the reconstruction of Kobané from an ecological perspective will both provide the people of Kobané with a more livable future, and a Kobané reborn in Rojava,

which has a democratic, ecological and gender-friendly perception, within the framework of ecological principles will be an exemplary experience to the world. We believe that the problem of finding resources for reconstruction of the city under war conditions can be solved with more appropriate local alternatives.

Principles of Ecological Settlement:



The world ecology, which we have been hearing much more frequently over recent years, comes from the Greek roots of ‘oikos’ (house) and ‘logia’ (research).

Although it is a discipline that examines the interaction between organisms and their environment, terms such as ecological architecture, ecological agriculture, etc. are used to describe the interactions between all organisms and the systems that are harmonious with nature and that do not destroy the natural systems. Although there are many different ecological perspectives, approaches and implementations from agriculture to architecture, from city planning to social structure, we can list the basic ecological principles as such:

- Participation: Whether it be the building of a house, or city planning, or agricultural techniques, an approach that is based on the interactions between organisms and their environment requires above all, direct democratic decision making processes in which all parties have a say. The basic characteristic of ecological structures is not that they are made with organic building material; it is that they are built through free, united and equal will without need for radical construction monopolies and this also carries within

it the right for everyone to be able to access this kind of structure.

If we are serious about “ecocities”, then these cities must first turn to the autonomy, creativity, authority and freedom of its own residents. Forcing the city’s residents to live in structures designed by a ‘genius’ designer or bureaucratic administration board would be anti-ecological.

- Localness: Today we live in the age of speed and transportation. Every second, all kind of supplies are being transported from one side of the world to the other at a fast pace. This is one of the things that destroy all kinds of interaction among organisms in a specific locality. On the contrary, natural cycles depend on the use of local resources. If local resources are used locally and if the balance between resources and organisms are sustained then each bio-region will continue to produce its own resources and will provide an opportunity for the real autonomy of those living there.

When it comes to ecological settlements, an approach that firstly centers on ecological architecture models using local material will increase the living standards of the residents while minimizing its external dependency.

- Sustainability: A city is not only made up of buildings, houses, streets and infrastructure. The ability of settlements to host long living communities depends on whether the interaction between resources such as food, energy and water, and the organisms that use them is designed around energy efficient models. If harmony based on the diversity of biological systems is not prioritized, it will be impossible for a city to be sustainable. For this reason, environmental conditions define the boundaries of economic and

social structures in the design of the city.

- Diversity: A prerequisite of sustainability, diversity should not be only understood as the conservation and enrichment of biological diversity, but as the observance of the principle of diversity in all forms of structure and models. From architecture to water use, from agriculture to husbandry, a city that encompasses diversity and variety will have the ability to repair itself much faster in the case of natural or man-made disasters, such as war. For this reason an ecological city should support diversity in terms of architectural models, energy saving plans, food policies, social institutions and its relations.

Modular structures are basically built by bringing together many different elements so that each district, building, field, street, etc. support each other in a variety of ways and can easily be interchanged within the system. The removal or malfunction of one, or even a few of the elements from the system will not disrupt the sustainability of the system.

- Commonality: In an ecologic settlement, communities are not isolated individuals independent of each other. A genuine ecological settlement is a whole of small communities and neighborhoods that preserves their organic bonds. Besides participatory decision making mechanisms, the practice of daily life is also based on the principle of commonality in these communities. Instead of individual use of products and services, public tools and services are designed for communal and collective use; such as common laundries, common storerooms for agricultural tools etc.

Settlements founded within the scope of this ecological principles, both provide more livable spaces to their residents and does less harm to ecological balance paving the way for creation of self-sufficient communities. While building an ecological settlement, designs and models which address these basic topics are practiced:

- Energy efficient design: Designs to decrease energy usage to minimum and increase the comfort in a living space; ie. passive and active solar systems, wind energy, biogas and construction materials such as cob or straw-bale.
- Water saving: The limitation of water usage with the techniques such as rainwater harvesting, waste water treatment, reuse of domestic waste water in industry, drip irrigation for agricultural use etc.
- Population density: A design to prevent the accumulation of population density at the city center, and moreover the formation of a single center by making life attractive at neighborhoods and the countryside.
- Bio-diversity: Promoting diversity of fauna and flora in the area.
- Food autonomy: Urban vegetable gardens, public food parks and farms, located at the city periphery to address the food necessity of the city.
- Transportation: A transportation policy to prioritize and enable pedestrian access and cycling and offering electrical public transportation and delivery options.
- Clean Industry: An industrial zone which is sophisticated in recycling, renewable energy, reuse of waste water and solid waste management issues, located at the city periphery and designed to create a belt between fields, woods and the city.

3. The importance of an ecological rebuilding in Kobani:

The social and ecological crisis that we live in today is an inseparable whole. Democratic modernity in the face of capitalist modernity has to be built upon ecologic and economic communes, as earth-water-energy would not be used efficiently and free communities could not be constituted otherwise.

As stated in Rojava Charter of Social Contract Article 23/b: “Everyone has the right to live in a healthy environment, based on ecology balance.” Moreover, in the case of not establishing social structures based on ecological principles, leave aside Kobani or Rojava, humankind as a species will be wiped off the earth.

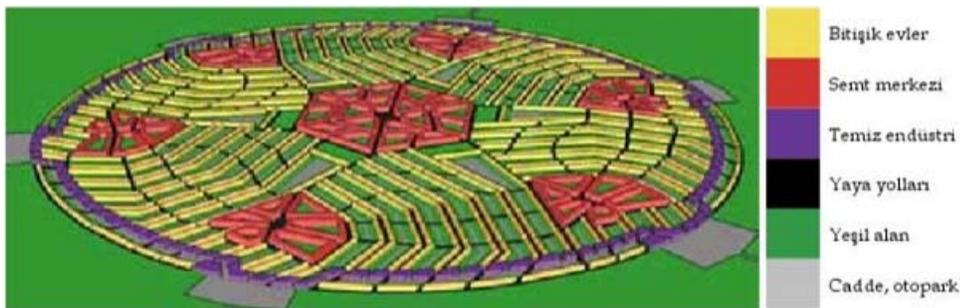
With this awareness, rebuilding of postwar Kobani with an ecological perspective would both provide a more livable future for the people of Kobani and set an exemplary experience that will introduce Rojava Autonomous Administration’s democratic con-federalism model with a democratic, ecologic, gender libertarian approach to the world. International solidarity which emerged under war conditions would change dimension upon the arrival of architects, city planners, natural farmers, volunteers from international ecology and environment movements to the region to rebuild Kobani.

Besides, ecological measures should be taken in the region that has been in the grip of aridity for a long time immediately to enable nature repair itself in the post-war period and become able to feed all the living beings including the humans. Otherwise this libertarian experience will be deprived from the opportunities of standing on its own feet and being sustainable from the beginning.

All aside, resource shortage in rebuilding of the city under war conditions could be overcome with more appropriate local alternatives. Techniques such as straw bale, cob, alker (gypsum-adobe) and earthship used in ecological architecture can help the recreation of the city without the need for capital-oriented construction monopolies.

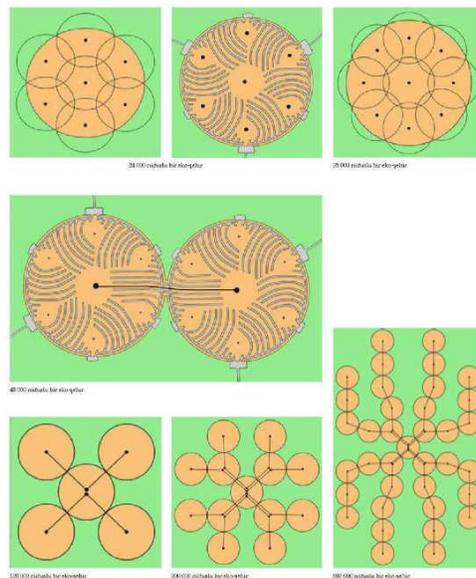
4. Ecological Planning and Architectural Models:

Structures and infrastructures built with ecological models lie at the very root of an ecological settlement. There are many infrastructural systems and architectural models that could be suggested in accordance with the related geography and/or climate systems affecting the settlement area. Each and every ecological settlement plan and architecture model is unique and field specific and cannot be implemented with premade planning or prescription. However, there are certain basic approaches that can be taken into consideration when planning for an ecological settlement.



Firstly, in terms of city planning, the settlement can be projected in a circular pattern in which there are more than one center and each center is connected to another with certain paths. Maximum 2 or 3 floor terraced houses or self-contained flats with common back yards are recommended. In this formation, houses represent more than 70% of the town property. Density is rendered without high apartment blocks. Without house density, a pedestrian and compact eco-city is unimaginable. Terraced houses do not only save up from total useable area but also emit less heat energy and therefore decreases the cost of warming. Multi-purpose city centers are pedestrianized and provide a 5-10 minutes distance to local shopping for each and every inhabitant. Common bazaars and little businesses are encouraged.

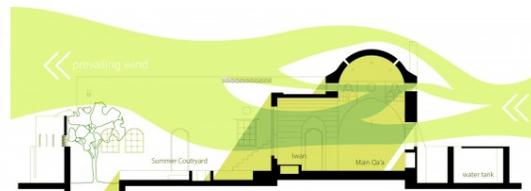
Within this model, streets are not infested with cars and instead of traffic jam, noise, pollution or dangers caused by motor vehicles, now they are social areas for child plays, neighbor meetings or friendly chit chats. Within this, pedestrian ways take up the position of highways and walking or biking around the city is safer and more delightful. Zebra crossings placed on the intersections of pedestrian ways and motorized streets give the right of passage to pedestrians. Therefore, continuity is not in favor of motorized ways but of pedestrian ways. Ambulances and fire service vehicles are not obligated to stop at the zebra crossings so there is no delay in response in emergency cases. Courier deliveries and refuse collection operations are organized in a way to have a minimal effect on pedestrians.



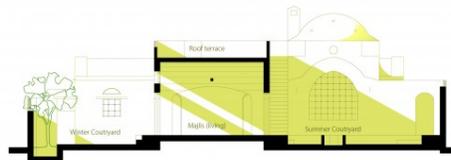
In architectural models, we recommend that local material usage, affordable cost, ease of use and heat insulation should be taken into consideration. As part of this report, among tens of different architectural models examining these 5 distinct models could especially helpful: Stone Buildings, Mud-brick Buildings, Aker Buildings (Mud-brick reinforced with plaster), Straw-bale Buildings and Earthship.

STONE HOUSE:

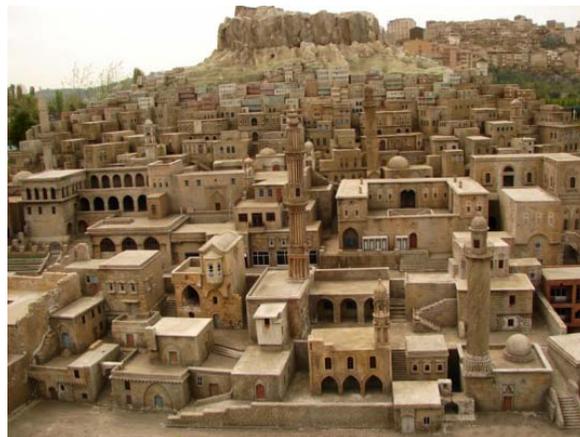
It's known that Armenian masonry masters, who were among the first settlers in Kobane area, heavily used stones in their buildings. Basalt mines surrounding the area provides a useful local resource for stone houses. Since the basalt provides the insulation, stone houses keep inside of the building calm in hot summer climate and in cold winters. As the building is clear from moisture, stone houses do not only please the eyes with its distinct architecture but also improves the life quality and health conditions. Since stone is a durable construction material, stone buildings can survive for long years even without need for maintenance. However, building these houses requires a certain level of masonry knowledge and hard labor.



Cross Section | showing Shading in 22-June, 3:00 pm



Longitudinal Section | showing Shading in 22-December, 11:00 am



MUDBRICK HOSE:

In traditional architecture of Kobane, between the stone house period and modern brick houses, we see that mud-brick house construction was heavily used. This construction method is not unfamiliar in the region and has been heavily used in Mesopotamia for centuries. Even today, using mud and clay as construction materials instead of cement and steel will provide a serious energy saving and improvement in reducing environmental pollution. Since construction materials can easily be obtained locally and construction method can be implemented smoothly without any mastery, these buildings are both ecological and economical. Heat insulation can be at different levels depending on the thickness of walls but anyways, it would be way better than the ferro-concrete buildings. Although the mud-brick houses require maintenance each and every year, the maintenance and reinforcements are quite easy. In case of a support with venturi funnels, squinch walls and heat pumps, these buildings are suitable for living in both summer and winter without use of a stove or air conditioner. Also, these buildings are among the best houses in terms of health considerations. Modern day health problems like asthma, bronchitis, rheumatism and joint disorders are rare among the people living in mudbrick houses.



ALKER:

Mud-brick reinforced with gypsum is known as “alker”(gypsum adobe). In other words, alker is a kind of mud-brick which is obtained via an addition of 10 – 20 % of gypsum to a suitable mud-brick mixture. Since alker stiffens quickly; racking in shade, twisting and drying processes that are used in mud-brick preparation method are not required. This provides an ease of use and affordability. The two most important disadvantages of clay usage in architecture are low pressure resistance and high moisture sensitiveness. However, mud-brick reinforced with gypsum is a highly moisture-resistant material with a smooth surface and low dust. In a standard mud-brick house construction, if agglomerate mud is used instead of bricks, typical wall height that can be constructed in a day’s work is about 60 cm. But with the quick stiffening ability of alker, all one floor can be built in just one day. Low moisture sensitiveness gives alker the ability to remain intact in wet situations and therefore prevents wear of the building in rainy weather. Since its heat holding capacity is increased with gypsum, alker provides more savings in terms of warming costs.



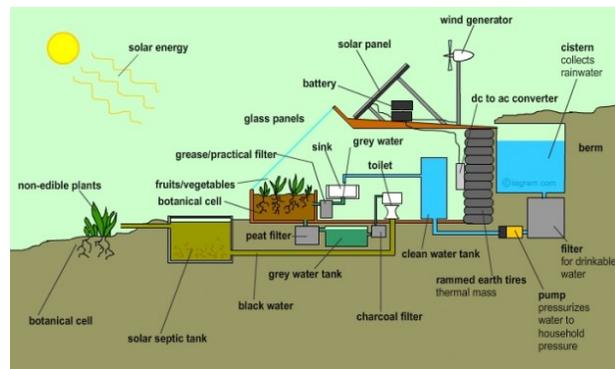
STRAW-BALE HOUSE:

Kobane region is regarded as the “breadbasket” of Syria and wheat or barley is grown in large portion of hundreds of hectares of agricultural land. Although it’s uncommon and could sound unfamiliar, straws of wheat and barley are also a very important resource for a construction material: straw-bale. Straw-bale house is pretty economic, easily made and does not require hard labor. Since it is a breathing structure, it’s healthy just like the mud-brick house. As it has a very good width and height ratio, it is quite flexible and highly resistant in seismic zones. A house built with straw-bale is up to 75% more economic in heating and cooling costs than a modern concrete building and up to 3 times more resistant to fire.



EARTHSHIP:

Earthship model, designed and patented by an American architect, Michael Reynolds, gathers different elements for building an ecological and energy efficient house model: collecting the rain water, producing energy through solar, wind and similar renewable energy systems, sewer refinement, thermal/solar warming and cooling, food production, construction with natural and biodegradable materials. For example, using old vehicle tires filled with sand and earth to obtain a thermo insulated and earthquake resistant construction material, these model houses fulfils different ecological functions at once. A lot of old tires could be obtained from the abandoned cars in Kobane after the war, and concretes of ruined buildings could easily be crushed to prepare inlays. Therefore excavation work after war, which is a serious problem, could also be solved with this construction method.

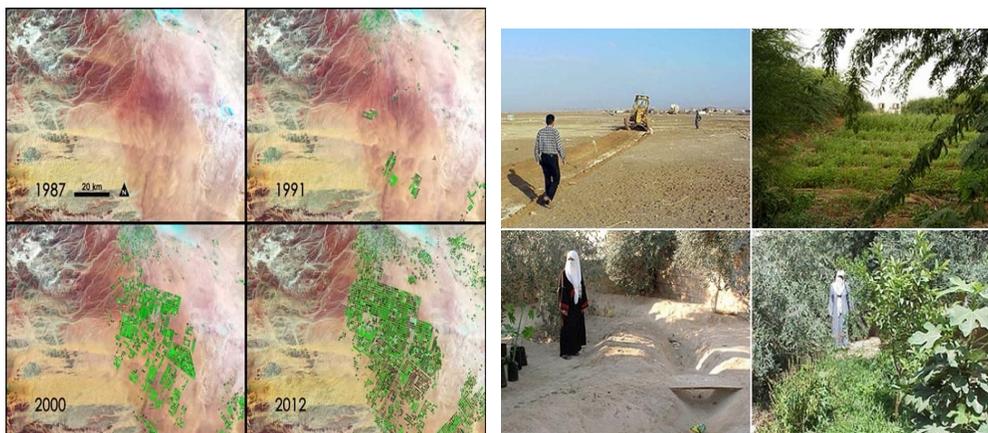


ECOLOGICAL AGRICULTURE MODELS:

When arguing about the ecological construction of Kobane, we should not limit the scope with a city based approach and should also remember that Kobane has more than 300 villages. A proper ecological construction plan has to consider also ecological and sustainable agriculture models for those villages. Feeding and balancing each other, the city and villages should be considered as a whole. If the demands of rural area and sustainability of agriculture are not met, city population cannot feed itself and a self-sufficient society could not be built.

Even though wheat, barley and lentil are the main agricultural products of Kobane and production of these crops have shown a significant increase even after the drought of 2006, when examined a little deeper one can see that the increase in the production is mainly achieved via irrigation. In recent years, deep wells have been deployed more and more for irrigation and this approach will most likely worsen the drought problem in coming years since it drains the underground water systems. In order to prevent this problem; policultural agriculture methods which are not dependent on producing single types of crop, determination of ancient local seeds not depending on water that much and culmination of these seeds (for example we know that the region has a unique eggplant), and water retention, vegetation and increasing rain fall strategies should be implemented under the supervision of experienced permaculture experts.

For more comprehensive sustainable agriculture policies, observation and field studies should be performed in Kobane rural are. The information gathered in these studies and permaculture and natural agriculture technics can be transferred to local people and village cooperative models can be developed.



5. Conclusion and Firts Steps to An Ecological

Construction :

When current situation and possibilities in Kobane are taken into account, it is clear that the reconstruction of the city will spread over a long time. Ecological rehabilitation in rural areas going hand in hand with the reconstruction of city and creation of a self-sufficient society should be aimed in the mid-term. In order to achieve that, committees for ecological architecture models should be established to inform local people and they should decide how to construct the new Kobane via common and collective decision making mechanisms. Within this process, straw-bale and earthship model houses, which the local people are unfamiliar, could be built and Kobane people could be informed about these ecological structures. Also people of Kobane should be informed about the ecological agriculture policies, permaculture and natural agriculture techniques and there should be pilot projects with volunteer peasants. Ecology could not be imposed from atop, and only could be formed with a collective approach. But in order to achieve that, there should be possibilities to explain and introduce alternatives to the models dictated by capitalist modernity. There are many experienced volunteer friends and a volunteer international net ready for informing and introducing these techniques, waiting for the approval of Kobane Autonomous Administration and people of Kobane.