Application of Sustainable Design Principles in Residential Areas of Rice Culture Communities

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Abstract. This research aims to explain the concept of sustainable design in the vernacular residential area of the rice culture community in Ciptagelar Village, located at Sukabumi Regency, West Java. Its settlement, including its residential area, was built based on the community’s belief in rice, which had been maintained for generations. The behavioral patterns and activities of the community are oriented toward the rituals of the rice cultivation cycle (rice culture). The people of this village always strive to maintain harmony between humans, nature, and the Creator through various rice cultivation rituals. The residential area's vernacular architecture is also influenced by this culture, which contains a number of sustainable design elements that are employed globally by architects and designers. This study identifies the implementation of nine key sustainable design principles according to Ardiani (2015) that are implemented in the vernacular residential area of the rice culture community. The qualitative method approach, this research finds that the rice culture communities of Ciptagelar Village have applied nine keys of sustainable design principles to its vernacular residential areas. Even though the principles of sustainable design are still relatively new, they have, in fact, been rooted in people's lives since long ago.

1 Introduction

Sustainable design is a notion for architecture that can both satisfy the demands of its consumers today and continue to do so in the future. Sustainable design takes into account not just the needs of its users but also the environment in which it is situated. Sustainable design must be environmentally friendly and have less negative effects on the natural world. But how is this concept applied by the rice culture community of Ciptagelar Village in their vernacular residential area?

1.1 Sustainable design principles

Sustainable design has nine key principles according to Ardiani (2015)1:

1.1.1 Urban ecology

In order to maintain natural life generally so that it can be enjoyed by future generations, sustainable design principles that apply how the link of interdependence and need between living things (people, plants, and animals) in a residential area is useful.

The criteria for urban ecology in sustainable design are:
- Protect the abiotic and biotic environments
- Protect flora and fauna and existing ecosystems
- Optimization of natural resources
- Natural nutrient balance1

1.1.2 Energy strategy

The idea behind an energy strategy for homes that reduces energy consumption, recycles wasted energy, and uses natural energy to create renewable energy with the help of either technology or non-technological means.

The criteria for energy strategies in sustainable design are:
- Utilization of renewable energy sources, such as solar, wind, hydro, and geothermal, for large scale and utilization of refined energy sources, such as biofuels and biogas, for small scale.
- Passive design (design results without specific technology) to achieve thermal comfort
- Efficient and targeted utilization of energy sources.
- Existing energy sources are reused in other energy sources (energy conservation).

1.1.3 Water

The idea of minimizing water consumption and making the best use of water energy in residential environments, one of which is by preparing it for reuse.

In a sustainable design environment, water is sought to be reused in daily activities. This is done through reprocessing, and only a small portion is disposed of. Therefore, in many sustainable design environments, water storage areas are provided.

The criteria for water use in sustainable design are:
- Water Efficiency
- Water Sufficiency

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1.1.4 Waste

Principles to reduce, manage and recycle residential waste. Excessive waste can be reprocessed to reduce it. The criteria for waste in sustainable design are:
- Reduce waste; reduce waste coming out of the building.
- Reduce excessive contamination in production.
- Waste is generalized over a year. Waste can also be processed into new energy, for example, for cooking.
- Reuse and recycle materials that are not absorbed by the soil.

1.1.5 Material

The use of materials related to the safety and comfort of building occupants. The materials referred here are materials that will be used, in use, and after use. The criteria for material in sustainable design are:
- Durable, long-lasting, resilient, and reclaimable that can be claimed to be.
- Non-toxic, that cannot be endanger the health of occupants.
- Biodegradable. Materials that can biodegrade, i.e., be absorbed in the soil, must be able to be processed again. But prioritize materials that can be absorbed by the soil once used.
- Materials that emit little to the air in the manufacturing process and in their use in buildings
- Materials that have a long life or are repairable materials.
- Materials that quickly grow back when taken (from fast-growing plants).

1.1.6 Community in neighborhood

This social relationship has a lot to do with a sustainable society. This idea is connected to community sociocultural life (sustainable society). Applying the idea of sustainability in one's own living places is advantageous.

This social resource is the balance between generations and within a generation itself. This type of communication in the neighborhood unit can also provide motivation for the sustainable efforts of their living environment, for example, by promoting a culture of planting, reusing water, and reusing waste into biomass.

The criteria for community in neighborhood, in sustainable design are:
- Human needs
- Social needs
- Community
- Diversity
- Human relationships
- Human rights

1.1.7 Economy strategy

This economic strategy promotes businesses in the green economy. This economic model is a people's economy that opens up as many opportunities as possible for small businesses, which are the biggest pillars of the economy. It is realized as the foundation of city life and the development of a country. An environmentally friendly realization is seen as an economic value that continues to be developed.

The criteria for economic strategy in sustainable design are:
- Reduce poverty
- Creating new jobs
- Reducing social inequalities that occur

1.1.8 Culture invention

Culture shapes the character of a nation and its identity. Things closely related to culture are customs that are transformed into dances, traditional food, traditional houses, and others. The nation's culture must be seen as a wealth that must be passed on to posterity to create a sustainable culture. Things that preserve culture can be tangible or intangible.

The criteria of culture invention in sustainable design are:
- Cultural adaptation and locality image of the culture where the building is built and modernized, or not.
- Traditional settlement culture

1.1.9 Operational management

In order to design a sustainable system, it is necessary to think about the maintenance operations of the systems and technologies used. Lack of maintenance can have an impact on damage and even prevent reuse, so maintenance operations are needed in sustainable design.

The criteria for operational management in sustainable design are:
- Maintenance needs
- Waste/discharge operational management
- Water operational management
- Operational management of new energy sources with new tools
- Operational management of natural resources

1.2 Rice culture

Rice culture is a belief system in a society that manifests itself in daily patterns of behavior and activities, architectural formations, economic systems, and other social structures. The hierarchy of rice field water distribution, which is comparable to the water distribution system in the human body, is one example of how the rice entity in rice culture has a spirit and soul that may be compared to humans in terms of both the life cycle and body components (Kusdiwanggo, 2017). Numerous activities related to rice culture give rise to their own culture and civilization. Every activity associated with the entity of rice and/or its derivatives will involve rituals because rice is highly revered. The existence of traditional settlements
that develop due to their agricultural demands is one example of civilization (Hamilton, 2003)\(^2\).

Numerous human civilizations have their roots in agricultural communities that made rice their main food source, particularly in Asia. Numerous tribes in Indonesia have continued to practice this kind of culture. In some civilizations, rice cultivation rituals have evolved beyond their original focus on providing food to become a set of values and beliefs that govern every aspect of daily life, from seed preparation to plant care to harvest to storage to distribution to use and consumption. The rice cycle involves rituals specific to each step. Ciptagelar Village is one of the Indonesian civilizations that continues to practice this rice culture.

1.3 Vernacular residential area in Ciptagelar Village

Vernacular design is a design work that is already known by the community because it is a design that arises from the community itself which is by the values that develop there (customs, beliefs) and by the (primary) needs of the community (Yuswadi Saliya, 2003)\(^3\) Vernacular design is based on knowledge of traditional practices and techniques. Some experts reveal some of the main characteristics of vernacular designs, including:

Victor Papanek (1995)\(^5\):
- Build your own design work (assisted by family, groups, or craftsmen/workers in their environment.
- Appreciate the quality of the craft
- Construction is easy to learn and understand
- Use of local materials (predominantly)
- Ecological (because it can be in harmony with the local climate, flora-fauna, and lifestyle)
- Human scale
- Experiencing technological developments

Rapoport (1969)\(^6\):
- Additive quality
- Not specialized
- Open with nature (this is what makes vernacular designs able to accept changes and additions)
- Important (significant) relationships between elements
- Simple construction, clean, and easy to understand
- Everyone knows the method/rules of manufacture (therefore a craftsman/worker is hired only if he/she knows the detailed rules)

From the statements above it can be concluded that vernacular design has sustainable design principles, which is implemented by the residential area of Ciptagelar Village. Ciptagelar Village is one of the vernacular villages that has carried on the rice culture legacy from the first generation to the present is Ciptagelar Village. For the sake of maintaining life harmony, the community continues to practice ancient rituals that are rich in holy cultural values at every stage of the rice production cycle. For the residents of this community based on the Figure 1, cultivating rice or farming is not a means of subsistence but rather a religious practice. Only married individuals (couples) are required to work on the farm because, in their culture, a pair represents the ideal human form. Unmarried persons are not permitted to possess huma (rice fields), although they are permitted to assist. From the time the rice is still in the nursery landscape until it eventually enters the residential area, the village community observes its customs.

![Fig. 1. The settlement of the Ciptagelar rice culture community](image)

There are five types of buildings in Ciptagelar Village, namely saung, cage, mosque, leuit and house. Of these five types of buildings, the residential areas are saung, leuit and house, with the house as the main residential area. The residential area referred to here is a roofed area that has daily domestic routine activities. The buildings in this residential area use a house on stilts system. In this village there are two types of houses, namely community houses and traditional houses. Traditional houses include imah, gede, tihang kalapa and bumi rurukan tihang awi. Imah gede is used for various traditional purposes and to accommodate guests, tihang kalapa is used for meetings of village leaders and residents, and is equipped with several guest rooms, tihang awi is the home of the village leader. The architecture of tihang awi, which is made from awi (bamboo), is forbidden to be copied by villagers. Residents' houses may only use wood construction (other than teureup, jackfruit and dadap wood).

The community house has a counting system based on "naptu" (the day of birth of the house owner). This is used, among other things, to determine the best day to build the house and the position of the main door so that the owner of the house always gets blessings and safety. As for the direction of the house, there is no specific rule, as long as it does not overshadow the building of the village head (tihang awi). However, although there is no specific prohibition, villagers avoid overshadowing their parents' houses when they get married and build their own houses. Therefore, children's houses are usually built in a more westerly area than their parents' houses. In this village, there can only be one head of household and one wife, as well as their children, because there can only be one
pangdaringan in a house. In Figure 2, this pangdaringan can only be accessed by women (wives). Men are not allowed to take the rice out of the leuit, pound the rice and access the rice in the pangdaringan. Pangdaringan is an empty space where rice entities reside in the form of rice that must be present in every resident's house (Kusdiwanggo, 2017). Pangdaringan is a sacred space, and must be owned by every Ciptagelar villager. This space cannot be a circulation area, but must be the last room in the house.

Fig. 2. The position of the pangdaringan in the community house (Kusdiwanggo, 2017).

There are various types of saung in Ciptagelar Village. However, the one that is still related to residential activities is the lisung, although it is not used every day. Each village community, either individually or in groups, has a saung lisung, which functions to pound rice as needed. As well as being used for domestic activities, the saung lisung is also used for various ‘celebration’ events and village ceremonies. Not all materials can be used for saung buildings. Rasamala and gadog wood are prohibited from being used to build saung. The saung is usually built using teureup wood (a type of jackfruit tree). Saung lisung has a South-North orientation, in accordance with the direction of the lisung which must cross South-North when in use.

Leuit or lumbung padi is a place to store dried grain. The design of the leuit building is made in such a way as to prevent rat pests from entering, protect from various weather conditions, such as preventing rainwater from entering, regulating temperature and humidity, and others. There are three types of leuit in Ciptagelar Village: leuit warga, leuit rurukan, and leuit jimat. Leuit warga is a leuit owned by each head of household. Each head of household may own more than one leuit warga. Leuit rurukan is a leuit owned by the village leader, which functions for the logistics of his family and for the purposes of village traditional activities. The leuit jimat serves as the village granary. Leuit jimat is filled from the harvest of the community in mutual cooperation, and can function as a "savings and loan" leuit, meaning that it can be used by the village community with a "borrowing" system and can be "paid" at a later date. The prevailing agricultural pattern in Ciptagelar Village uses an acculturative agricultural pattern between huma and paddy fields. Berhuma is the original early cultural agricultural pattern, while rice farming is an assimilation. Berhuma is planted on dry land and relies on rainfall, while bersawah is planted on wet land that relies on water from irrigation. This tradition was then passed down to the next generation. Starting from sorting seeds, planting, harvesting to storing rice, everything is done traditionally.

The residential areas of Ciptagelar Village in particular, and the settlement area at large, are planned with various customary rules that are highly preserved. We can see this area in Figure 3. However, it does not rule out modernity and various new technological developments, as long as they do not violate the applicable customary rules. In general, these customary rules always refer to harmony and harmony with nature. But specifically for all treatment of rice, there should be no interference from new technology at all. Furthermore, how is the suitability of sustainable design principles according to Ardiani (2015), in the residential area of rice culture communities such as Ciptagelar Village?

Fig. 3. Ciptagelar Village (Kasepuhan Ciptagelar – Gelaralam documentation).

2 Research methods

The method used in this research is a literature study and qualitative approach in a 2-step manner. The first stage is to identify and describe the 9 principles of sustainable design by Ardiani (2015): urban ecology, energy strategy, water,
material, community in neighborhood, economy strategy, culture invention, and operational management, which will be used to collect data and analyze. Then the second stage identifies the application of the 9 principles of sustainable design in the case studies studied. After conducting a two-stage analysis, the results are interpreted.

3 Discussion

The following discussion explores the relationship between the 9 principles of sustainable design according to Ardiani (2015) in the rice culture residential area of the Ciptagelar Traditional Village. Each of these principles will be reviewed one by one, and how they are applied to the object being studied.

3.1 Urban ecology

The Ciptagelar village community (Kasepuhan Ciptagelar) practices the rite of ngalalakon, which entails relocating from one location (which is still on the Kasepuhan property) to another in accordance with the instructions given to the village leader by the ancestors through wangsit. The ecology of the Ciptagelar community is carefully considered in every action, and this has an impact on their residential places in particular. As little as possible is "harmed" to the land. Every time they engage in land-related activity, they will conduct rituals in a systematic way. Tractors, bulldozers, and excavators are not permitted on the property. Only conventional implements like hoes, forks, or animal help are used by people.

The only surface area of the building's base, which is on the foundation, is on the roof of the stilted house that serves as the village's residence. Natural materials that do not harm the environment are also used in the construction. The community now relies on the management of the forest landscape, which makes up 80% of the village's overall landscape and provides a source of clean, cold air. The woven bamboo walls of the long, thin residential structures have apertures and gaps that allow air to enter. Even with this type of house, sunlight can be brought into the structure in an ideal way.

3.2 Energy strategy

The layout of Ciptagelar Village's residential sector is designed to make the most of the sun's potential as a source of energy. The residential area's construction is thin-longitudinal to optimize lighting and reduce power consumption. During the day, this region is illuminated by natural light, and at night, by electricity.

The Microhydro Electric Turbine (PLTMh) technology provides power to Ciptagelar Traditional Village. The Ciptagelar village uses a Solar Electric Turbine (PLTS) in addition to the PLTMh to broadcast the village wifi facility. The community thereby receives the most recent information available, despite the village's remote position.

3.3 Water

The key to a comfortable and peaceful life for the Ciptagelar community is how to befriend nature as a field of life, and how to maintain harmony between forest, land and water. In this village there are a number of springs that are used for various village needs, both large and small. A number of rivers that are the source of household irrigation include Ci Baren, Ci Sono, Ci Barenkoko, Ci Karet, and Ci Sarua. Upstream, there are also many tributaries and small rivers such as Ci Salada, Ci Kuntir, Ci Asahan, Ci Hariang, and Ci Dadap. Ci Baren and Ci Sono are said to originate from hundreds of small rivers upstream.

The ancestors of Ciptagelar strictly forbade the destruction of water sources, therefore the existence of three types of forest (leuweung) in this region, namely Leuweung Tutupan, Leuweung Titipan and Leuweung Garapan is highly preserved.

Ciptagelar Village utilizes water to generate electricity for the village. There are four PLTMh that can fulfill the electricity needs of Ciptagelar Village. In 1997, the Cicemet turbine with a capacity of 50 kVa was built by JICA Japan. Then the West Java government built the Situ Murni turbine with a capacity of 50 kVa in 2006. Furthermore, the Cibadak and Ciptagelar PLTMh were built in 2013-2014. All these turbines utilize the Ci Sono water flow, which is always flowing. The landscape of the village consists of 80% forest (50% is off-limits, 30% can be utilized), 10% fields and paddy fields, and 10% residential areas. With the division of forest areas like this, Ciptagelar Village has excellent water sources that are able to drive microhydro electric turbines. In addition to driving electricity, water is also used for farming, fish ponds, animal husbandry, and irrigation of rice fields idea of minimizing water consumption and making the best use of water energy in residential environments, one of which is by preparing it for reuse.

3.4 Waste

In line with the concept of sustainable sources, which is in line with the understanding of sustainable design, namely optimizing existing materials by minimizing the use of new materials where at the end of the life of the building can be used for other things, so as to minimize the waste generated.

3.5 Material

Nature-sourced resources were used to construct Ciptagelar Village. The soil surrounding the house must not be present in its walls, columns, or roofing since doing so would be "like being buried alive." Living humans need to show respect for nature because the house is a location of activity.

A straightforward stone foundation and a stilt system are used in house construction. Cubicles and ceilings are built of palm fiber or kurai, while walls are made of wooden planks. Wooden boards make up the floor of the house (tutaban), which is occasionally covered by palupuh (woven bamboo drapes arranged in a row like window treatments). Due to the utilization of only natural, quickly biodegradable materials, the buildings have a relatively
short lifespan. Homes don’t necessarily need to be built
with new materials because they are made of simple
materials and may be readily moved if the village
participates in the ngalalakon custom. Some buildings
have begun to employ glass.

3.6 Community in neighborhood
Residential building construction in Ciptagelar Village
is carried out manually with the help of community
workers and is done so cooperatively. Due to the lack of
complicated space planning, the construction procedure
was quick. Likewise, when a building is shifted during
the ngalalakon ceremony procession. Every action is
taken together.

3.7 Economy strategy
Different than rice, the residents of Ciptagelar Village
also cultivate various types of crops. Some raise
chickens, soang (a species of goose) that are released in
the village area, vegetables and secondary crops, fish,
goats, sheep, and buffaloes in cages. People can also
move, work as laborers, manufacture crafts, and engage
in other activities.

The agricultural products belong to the Ciptagelar
villagers. In addition to personal consumption, it is also
used for various other purposes. There are four types of
rice produced during harvest: pare anyareun, pare	atali, pare jekat, and pare girik. Pare anyareun is
paddy that is reserved for selamatan events and does not
enter the leuit. Pare tatali, is rice that must be set aside
at 10%, one of which is to fill the talisman leuit, pay the
abah (village head) employee, and various other
traditional needs. Pare jekat, which is rice for zakat
purposes and will be given to the poor and villagers who
do not own rice fields. Pare girik, which is rice that acts
as a tax for the customary government. All rice crops
and their derivatives are prohibited from being traded.

3.8 Culture invention
Ciptagelar Village uses a traditional, organic rice
farming system without fertilizers, but at this time the
community has abundant food reserves because they have
never experienced crop failure. In meeting their
food needs, this village uses an agricultural system by
using traditional patterns for farming procedures.
Although the harvest is only once a year, the village has
created food independence by having 8,000 rice barns
arranged in a linear row in the rice field area. Thousands
of barns are the stock for 30,000 residents for the next 3
years.

Ciptagelar village has a ritual called ngalalakon,
which is the process of finding a new settlement as the
capital of government to replace the old one. This results
in the kasepuhan always moving and there is an
abandoned settlement, called tari kolot. In every move,
usually the architecture of the new village will adopt the
form of the old village, but with some adjustments or
design developments in the new building (vernacular).

3.9 Operational management
In several aspects of its way of life, Ciptagelar Village
follows customary laws, such as how to preserve the
environment in which it lives so that it is sustainable. The
inability to enter Leweung Tutupan and Titipan is one of
them. This is done to ensure the sustainability of the forest,
the abundance and clarity of the water, and the survival of
the species.

In terms of long-term food storage, the residents of
Ciptagelar Village are adept at doing so, so that this
village's food security is preserved. The leuit has a number
of ways for storing rice. If necessary, one of them is
permitted to borrow pare. so that no inhabitant goes without
food.

4 Results
Based on the discussion of the relationship between
sustainable design principal according to Ardiani (2015) and
its application in the residential area of rice culture
community in the Ciptagelar Village, the following results
were obtained.

4.1 Urban ecology
Application of urban ecology criteria in the rice culture
residential area of Ciptagelar Village:
- Various plants are cultivated.
- Paddy fields, as the main crop, are very well preserved
- Replanting of trees used for village purposes, for
example, to build houses and leuit
- Green areas are maintained in the form of 3 types of
forests ("leuweung tutupan", "leuweung titipan", and
"leuweung garapan"), that provides a source of clean, cold
air.
- The residential area building is a stilts construction
building that has minimal touch points to the ground.

The people of Ciptagelar Village are very concerned
about the ecology of their settlements and residential areas
in particular. All aspects related to nature and ecology are
preserved by customary rules.

4.2 Energy strategy
Application of strategic energy criteria in the rice culture
residential area in Ciptagelar Village:
- Residential areas use passive air conditioning systems
for heating and cooling.
- The use of construction materials with short delivery
distances (local materials) so as not to require fuel for
delivery
- Renewable energy sources

Ciptagelar Village has been able to use renewable
energy by utilizing water and solar elements in their daily
lives, both in residential areas in particular, and settlements
in general.
4.3 Water
Application of water criteria in the rice culture residential area in Ciptagelar Village:
- Water conservation
- Water reservoir in ponds
- Irrigation of rice fields
- Animal husbandry
- Use for energy

Several things do not yet comply with the criteria:
- Suboptimal reuse of gray water (from washing)
- Composting from black water

Ciptagelar Village has customary rules that strictly prohibit the destruction of water sources, so that the water in this village can be utilized optimally.

4.4 Waste
Application of waste criteria in the rice culture residential area in Ciptagelar Village:
- Building material waste can be used or recycled in Ciptagelar Village to prevent waste from being produced.
- Re-use of domestic waste (re-use of bottles, plastic containers, etc.)

Several things do not yet comply with the criteria:
- Suboptimal reuse of domestic waste
- No reprocessing of liquid and solid waste into energy sources (biomass, biofuel, etc.).
- Not optimal waste processing at the nearest landfill due to people's unfamiliarity with operating waste processing machines. Eventually, it was abandoned.

4.5 Material
Application of material criteria in the rice culture residential area in Ciptagelar Village:
- re-use, using existing building materials
- recycle, using recyclable materials
- The use of materials that, if taken for use in a building, grow back quickly, such as bamboo, and several other types of wood trees.
- Using local materials
- Re-utilization, reuse of materials
- Natural materials that decay quickly.

4.6 Community in neighborhood
Application of community in neighborhood criteria in the rice culture residential area in Ciptagelar Village:
- Respect and care for living communities to improve the quality of human life
- Promote a community that is concerned about the environment and implement it together in their neighborhood
- Eco-urbanism in a sustainable neighborhood, in this case promoting a sustainable system of living organisms' ecology in their living environment as rice culture communities
- Familiar with socialization and helping each other.

- The residents of Ciptagelar Village have a highly effective structure in place for cooperation.

4.7 Economy strategy
Application of economy strategy criteria in the rice culture residential area in Ciptagelar Village:
- Indigenous village communities are permitted to make the best use of work on nature as long as they do not break customary law.
- The community is self-sufficient, they never starving, all villagers at least always have rice to eat.

Several things do not comply with the criteria:
- Opens up new local business opportunities
- No industrialization

4.8 Culture invention
Application of culture invention criteria in the rice culture residential area in Ciptagelar Village:
- Residential revitalization
- Preserving the way of carpentry
- Using local labor
- Preserving rice culture

Ciptagelar Village has practiced food sovereignty. Although the buying and selling of rice and its derivatives is prohibited by customary law, the people of Ciptagelar Village will not feel hungry because the rice stock is always available in the leuit.

4.9 Operational management
Application of community in neighborhood criteria in the rice culture residential area in Ciptagelar Village:
- As the village uses local materials such as wood, in order for them to last, they must be maintained and preserved. So, the residential area must be kept in operation.
- The traditional laws of Ciptagelar Village are able to preserve the viability of its communities and surrounding environment.

5 Conclusion
The principle of sustainable design as demonstrated by Ciptagelar Traditional Village: urban ecology, energy strategy, water, waste, material, community in neighbourhood, economy strategy, culture invention, dan operational management - is mostly in line and in connection with the principles of sustainable design according to Ardiani (2015). Both can be concluded as principles that are based on sustainable design. There are several things that must be considered because they not yet meet the criteria:
- Water: Suboptimal reuse of gray water, composting from black water, and suboptimal reuse of domestic waste.
- Waste: No reprocessing of liquid and solid waste into energy sources such as biomass, biofuel, etc., and not optimal waste processing at the nearest landfill due to
people's unfamiliarity with operating waste processing machines.

- Economy Strategy: Opens up new local business opportunities, and no industrialization.

Even though the principles of sustainable design are still relatively new, they have in fact been rooted in people's lives since long ago. We are invited back to learn local wisdom, respect nature, and use it as needed.

At the end of 2022, Ciptagelar village carried out the tradition of "ngalalakon" by moving and then changing its name to Kasepuhan Gelar Alam. In its new location, it is hoped that we can conduct further research.

There are several topics that can be studied for future research, such as:
- The application of the principle of sustainable living in their new village (Gelaralam Village).
- Mapping the typology of Gelaralam Village.

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