Enviromental Utilities of Settlement In Bandar Lampung. (Case Study: Kampong Jembatan Beton Way Blau)

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Abstract. The high rates of population growth and urbanization made competition increasingly prevalent residence. Kampong city more and more and allows for the creation of a settlement is not livable. with The good System Utilities Infrastructure at a settlement can make these settlements to be healthy, fit for habitation and give comfort to the people who live in the settlement. This study aims to: determine the existing utility infrastructure in the neighborhood of the Kampong Jembatan Beton Way Blau, knowing the problems that arise in the utility infrastructure in the neighborhood of the Kampong Jembatan Beton Way Blau and know the effort that can be done to make a healthy housing environment. Qualitative Research Methods. The research approach is Literature and case studies. Literature studies were made by outlining a theory about the river and the settlement of Kampong Kota, Theory of utility infrastructure in settlement , residential utility Infrastructure Standard (SNI) and the Regulation of Cipta Karya (PU). Case Study on Kampong Jembatan Beton Way Blau. The data consists of two, namely primary and secondary data. Primary data is interview, observation, documentation and questionnaires. While the secondary data obtained from the institution concerned (BPS, Planning, settlement profile). Both of these data describe the physical and non-physical condition. Physical condition consists of the road network, drainage network, Clean Water Network, Network Wastewater, Waste Network, Grid, Network Telephone Network and Fire. While the non-physical data consists of social and economic conditions of the people in the settlement. The analysis is done by comparing the data obtained with SNI and literature, summarizes questionnaires and Improvement Efforts Providing design of the existing problems in the utility infrastructure in the neighborhood Kampong Jembatan Beton Blau. The result of research got a few things about the utility infrastructure in the neighborhood of Bandar Lampung settlement case study Kampong Jembatan Beton Way Blau. Utility infrastructure in Kampong Jembatan Beton Way Blau in the category is not good, so the atmosphere settlements into slums and unhealthy. Utility Infrastructure Improvement Strategy Settlement Kampong Jembatan Beton Way Blau: 1. Utilization of government subsidies for the maintenance and repair of public facilities that are already available 2. Utilization of government subsidies for the widening and improvement of roads, provision of public telephones, toilets and public waste disposal, building on Coral Midshipman, PKK, cooperative. to keep the facility that has been and will be. Keywords. utility; kampong; settlement.

1. Introduction

The environmental conditions are dirty, the circulation path is small, the lack of sanitary facilities, buildings huddled together so that the lack of lighting the sign and building materials are combustible to be dangerous if the in settlement fires. Poor sanitation (waste water, and sewage), inadequate drainage network, lack of landfills and poor behavior makes the riparian population as land to dispose of waste that can cause flooding. Of the various problems that exist are perceived utility infrastructure is not very good and disrupt the activities of people around that lack of sanitary facilities, network Poor sanitation and lack of landfills, road and drainage networks that do not fit the needs and the floods that hit every year. With the existence of these problems, this research needs to be done.

1.1 Utilities Environmental Infrastructure Settlements

Based by Law No. 1/2011 (Housing and Settlement Region) can known various types of residential infrastructure as specified in Article 28-30, include :

1. Plan completeness fewest infrastructure including roads, drainage, sanitation, and drinking water.
2. Plan means completeness least include houses of worship and green open space (RTH).
3. Plan completeness public utilities at least covers, including KWH meter electricity network and the telephone network.
4. Planning infrastructure, facilities, housing and public utilities should consider the needs of infrastructure, facilities, and public utilities for people who have physical limitations, such as the disabled and the elderly.
5. Planning infrastructure, facilities, and public utilities can be performed by any person Every person referred to in subsection (1) must have expertise in the field of planning of infrastructure, facilities, and public utilities in accordance with the provisions of the legislation. (Article 30)

Infrastructure utilities and the environment is the place or the tools used by the public public that allows the environment to function properly.

1.2 The concept of a residential area of infrastructure utilities healthy

There are several important aspects of the concept of the arrangement of the settlement area of infrastructure utilities, ie clean air, river water is clean, the water supply of individual and public, disposal of domestic waste water, waste management, housing and settlement, landscape and urban forest, schools, markets, recreational sports facilities and children's playground as well as the arrangement of the informal sector.

1.3 Road Network

Environmental of settlements must be provided roads for movement of people and vehicles, and serves as the access for rescue in an emergency. In planning the road network, should refer to the technical regulations on road infrastructure development of settlements, the road network and road geometry applicable, especially about the manner of the public planning of the road network the movement of vehicles and people, and access to a rescue in an emergency drainage in settlement in urban areas. One of the technical guidelines stipulated in the road network of technical guidelines residential road infrastructure (road network system and geometry).

1.4 Types of infrastructure and utility

Type and utility infrastructure on the road network to be supplied is set according to the classification of the settlement which is based on the hierarchy of streets, roads and class function area / residential neighborhood at the same explanations in this table explain the relevance of other utility infrastructure networks, namely drainage , as an element that will be involved in the planning of this road network.

1.5 Requirements, the criteria, the need forspace and land

Road a good settlement should be able to provide security and comfort for the movement of pedestrians, cyclists and motorists. Furthermore it should be supported by the availability of the supporting infrastructure, such as pavement, sidewalk, drainage, landscaping, traffic signs, parking and others.

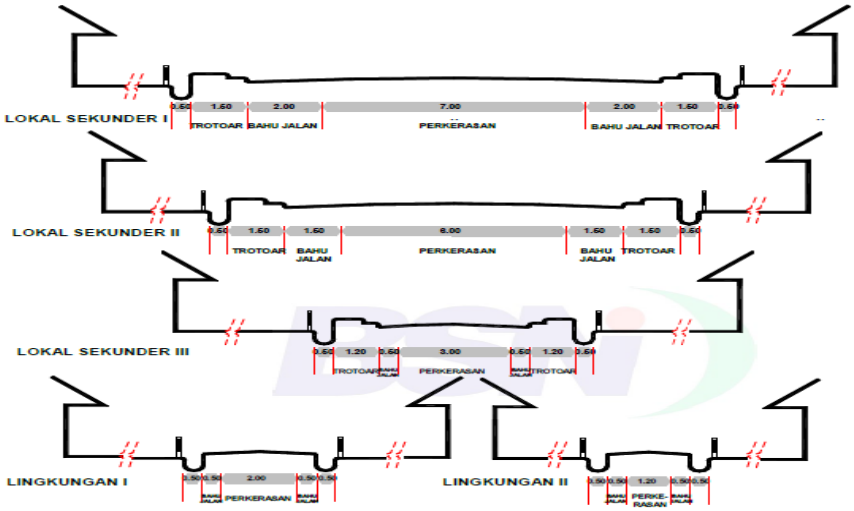

Figure 1. Network Systems and Geometry Way Pieces street by classification [1]

Hirarki Jalan Perumahan	Dimensi dari Elemen-eleman Jalan				Dimensi pada Daerah Jalan			GSB Min. (m)	Ket.
	Perkerasan (m)	Bahu Jalan (m)	Pedestrian (m)	Trotoar (m)	Damaja (m)	Damija (m)	Dawasja Min. (m)		
Lokal Sekunder I	3.0-7.0 (mobil-motor)	1.5-2.0 (darurat parkir)	1.5 (pejalan kaki, vegetasi, penyandang cacat roda)	0.5	10.0-12.0	13.0	4.0	10.5	—
Lokal Sekunder II	3.0-6.0 (mobil-motor)	1.0-1.5 (darurat parkir)	1.5 (pejalan kaki, vegetasi, penyandang cacat roda)	0.5	10.0-12.0	12.0	4.0	10.0	—
Lokal Sekunder III	3.0 (mobil-motor)	0.5 (darurat parkir)	1.2 (pejalan kaki, vegetasi, penyandang cacat roda)	0.5	8.0	8.0	3.0	7.0	Khusus pejalan kaki
Lingkungan I	1.5-2.0 (pejalan kaki, penjual dorong)	0.5	—	0.5	3.5-4.0	4.0	2.0	4.0	Khusus pejalan kaki
Lingkungan II	1.2 (pejalan kaki, penjual dorong)	0.5	—	0.5	3.2	4.0	2.0	4.0	Khusus pejalan kaki

Figure 2. Network Systems and Geometry Roads Classification street in a residential neighborhood [1]

1.6 Drainage Network

Environmental of settlements must include drainage network's rules and technical requirements set out in regulations / laws that have been *enacted*, especially about the manner of the public planning of drainage network in urban settlement . One condition is a SNI 02-2406-1991 [2] about Procedures for public planning of urban drainage.

1.7 Types of infrastructure and utility

Infrastructure networks are functioning drainage of surface water drain into the receiving body of water and artificial recharge or to the building, which should be provided in urban settlement . Part of the drainage network are :

Table 1. Section Drainage Network [2]

	Infrastructure
Water receiver	a. Source of surface water (sea, river, lake) b. Source of subsurface water (groundwater aquifer)
Complementary	a. Culverts b. Meetings channel c. Waterfall building d. bridge. e. *Street inlet* f. Pump. g. Sluice

Environmental management system of an area regarded as a product involving stake holders. In the House town of the system is usually unplanned and integrated. To create a system of drainage and sewerage good, we need a systematic concept. While the system has not been planned, namely the use of septic systems without regulation, drainage for rainwater runoff only with a small capacity and can not accommodate when it was raining hard. In the context of the House town or urban settlements usually people make their septic tanks, or defecate directly into the river. The city government pays little attention to the procurement of the sewerage system are planned for the community. Thus increasing population explosion coupled with the addition of new settlements, not offset by the manufacture of septic tank systems are required. A small septic tank with a retention time of 4 to 6 hours that can be applied on a scale of City Kampong housing, and does not require a large land area.

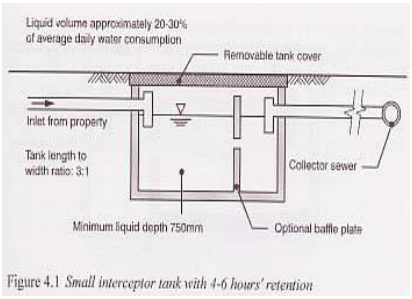

Figure 4.1 *Small interceptor tank with 4-6 hours' retention*

Figure 3. Interceptor simple in cramped conditions area [3]

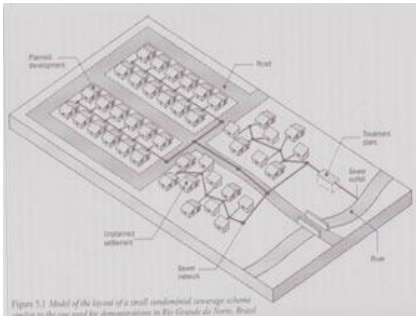

Figure 4. Drainage system Planned and Non Planned [3]

Structuring a planned and orderly environment, in this context can be seen in Figure 2.3, which shows a comparison of the pattern of regular settlement and planned settlement patterns that are not regularly accompanied by a sewer system dirty water. to create a waste disposal system on a regular basis from various systems above, we need a sewerage meet the quality standards of planning which can be adapted to circumstances on the ground.

In a society which has solid sewer system should follow several criteria :

a. Following the contours and topography.
b. The size depends on the capacity, and service.
c. Pipes node controller or contained in the bracket formations buildings.

As for the sewerage system in public to be distinguished residential units on 3 kinds :

1. Position Sewerage System House Occupancy This system is typically used in a residential area and a planned and orderly settlement.

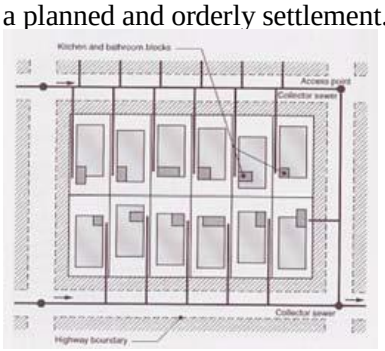

Figure 5. Systems sewerage position in front of the dwelling units [3]

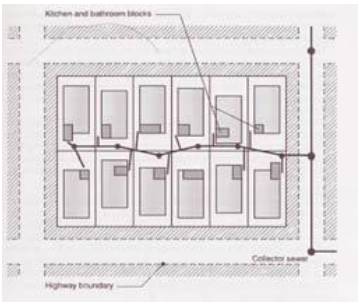

Figure 6. The concept of position behind the exhaust duct dwelling units [3]

2. Sewerage System Position Rear Occupancy This system is used to facilitate service and installation of the drain pipe connection of each dwelling unit. sewerage system can also be applied to units of residential forms the building blocks are different, both in terms of area and capacity.
3. Position System Combined Sewerage system was implemented if the situation is not possible. With this combination are expected in the operational implementation of installation is not costly, and because it is limited to the state of the land, contour, the physical state of the buildings, land surface and so forth.

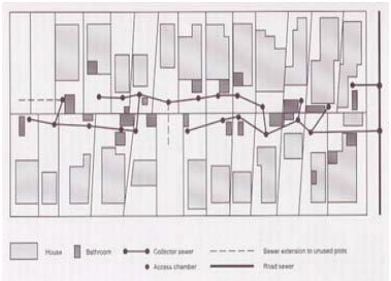

Figure 7. The sewerage system with concatenated [3]

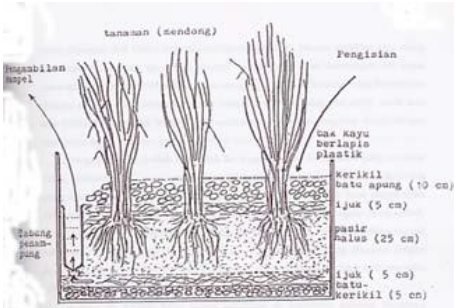

Figure 8. **Block Plant Sand Filters [3]**

The principle of this treatment is to create an optimal environment for the growth of organisms which will take colloidal materials in the waste. The method often used is the *"trickling* filter" and the activated sludge *(activated sludge).* Another way of waste water treatment and drainage are using bioremediation process plants. Waste water filtration as this has been done by some previous researchers where these plants can absorb and reduce the content of waste with the parameters. Sieve this plant does not require a large area, so its application is very supportive to process household waste, sewage *(treatment)* with Bedeng Plant sieve sand, which can be seen in Figure 2.6. While the plant used is a plant rushes *(Scirpus litorales),* kale plant *(Ipoema aquatica* Forsk),and talesan *(Thyponicum javanicum)* which is a plant that had been used in the research.

1.8 Clean Water Network

In public, every House should be served water that meets the requirements for domestic purposes. For that, the housing environment should include wastewater network's rules and technical requirements set forth in the rules / regulations that have been*implemented,* especially concerning the procedures for the public planning of water networks in urban residential neighborhood. Some of the relevant provisions are :

a. SNI 03-2399-1991 on Procedures Communal toilet Building Planning [4].
b. SNI 03-1745-1989 on Procedures Installation Hydrant System For Fire Prevention and Building On House Building [5].

1.9 Type element of planning

Types of planning elements to the water network must be provided on the housing in urban environments :

a. The need for clean water.
b. The water network.
c. Public taps; and
d. A fire hydrant.

1.10 Requirements and criterias

Some of criterias and requirements that must be met are :

a. Provision of clean water needs of
    1. Residential environment should have enough clean water from the water company or other sources in accordance with applicable regulations.
    2. If already available city water supply system or water supply system environment, each house is entitled to household connections or yard connection.
b. The provision of clean water
    1. Should be available the city's network or environment through house connections.
    2. Pipe invested in land use PVC pipe, GIP or fiber glass.
    3. Pipes installed on the ground without protection using GIP.
c. Provision of public taps
    1. Public One tap is provided for the number of users 250 inhabitants.
    2. The maximum service radius of 100 meters.
    3. The minimum capacity for public taps is 30 liters / person / day.
    4. The size and construction of public taps in accordance with *SNI 03-2399-1991* on Procedures Communal toilet Building Planning [4].
d. Provision of fire hydrants
    1. For commercial areas the distance between the faucet fire 100 meters.
    2. For residential areas the distance between the faucet a maximum of 200 meters.
    3. The minimum distance to the curb 3:00 meters.
    4. If it is not possible to make faucets wells required to make a fire.
    5. Fire hydrant planning refers to the *SNI 03-1745-1989* on Procedures Installation ffor Hydrant System Fire Prevention and Building On House Building [5].

1.11 Criteria Water Resources

In the provision of clean water in a residential area that includes the required elements: water purification methods, distribution networks, and the use of methods hydrogeologi for land and water resources development. As for the selection criteria need to be considered as a source of water is :

a. Aspect Quality, quality limits for drinking water depending on the relationship of quality with health conditions. The use of clean water still refer to the standard regulations issued by the government.
b. Quantity aspects, regarding the suitability of water use and how to use widely. Such as: the use of clean water for industry (small, medium and large), agricultural and household (domestic). Domestic water needs increase rapidly in accordance with the population, industrial alisasi, living standards and health. Even for specific areas such as urban, areas planned, have been assigned a long-term supply pipe, use of the tools of modern households.

Scarcity of drinking water, especially in big cities pantura cause consumption to the use of water is rapidly rising. The water requirement for drinking water consumption depends on the following factors as: the form of services or pick-up points in this regard: public taps, household connections, the distance of the point of taking raw water, ease of access to clean water), the cultural aspect in this case socialization scarcity of groundwater and etc., the last is the increased social and economic development.

Table 2. The need for clean water daily (liters / person / day) [6]

AREA RESIDENTS	**ll**LITER / PERSON / DAY
Cities, with Connection with some Faucet in Each House	30-300
Cities, with Connection with one Faucet in Each House houseand only one tap	15-120
Cities, with a Public faucet	10- 15
Cities, with Difficulty Getting Clean Water	4-25
Rural areas with the Public Hydrant or source closeness of	10-60

From table 2 can estimated that the need for clean water settlement settlement town is about 70-80 liters/person/day. The use of water can be classified into :

a. The use for domestic purposes;
b. Commercial and public use (schools, places of worship, clinics);
c. A leak (can occur because the connection is not good).

1.12 Waste water network

Environmentalof settlements must include wastewater network's rules and technical requirements set forth in the rules/ laws that have been enacted, terutam a public planning procedures regarding the wastewater network in urban settlement . One of them is SNI-03-2398-2002 on Procedures Planning Septic Tanks Using Infiltration System, as well as guidelines on the management of waste water communally in settlement applicable [7].

1.13 Type of planning element

Types element of planning on the wastewater network to provide to the urban settlement are :

a. Septic tank.
b. Leach field; and
c. The waste water piping network.

1.14 Requirements, criteria and needs

Settlement environment to be equipped with waste water disposal system which meets the planning requirements applicable plumbing. If the possibility of making a septic tank does not exist, then the settlement should be equipped with a waste water disposal system or the environment should be connected to the city sanitary sewer system or other processing methods. If it is not possible to create a leach field in every House, it should be made jointly leach field that can serve multiple Houses.

1.15 Network Waste

Garbage problem in urban areas, can not be separated from life and human activity. The more humanity to increasingly accumulate dirt that made so that the problem of waste and become a problem. Difficulty in eliminating this waste is partly due to :

a. Garbage too much is not comparable with the location environment.
b. Urban soils are already saturated due to the development process.

c. The majority of municipal waste is a difficult artificial garbage decay such as plastics, cans, metals and others.

Must be serviced residential neighborhood garbage disposal system which refers to: SNI 03-3242-1994 on Procedures for waste management in the settlements [8].

1.16 Type element of planning

Types of planning elements that must be provided is :

a. Wheelie bin
b. Trash bin
c. Dumpster (TPS)
d. Landfills (TPA)

1.17 Requirements, criteria and requirements

Distribution starts at the smallest sphere RW, Settlement, District until the scope of the city.

Lingkup Prasarana	Prasarana			Keterangan	
	Sarana pelengkap	Status	Dimensi		
Rumah (5 jiwa)	Tong sampah	Pribadi	-	--	
RW (2500 jiwa)	Gerobak sampah	TPS	2 m^3	Jarak bebas TPS dengan lingkungan hunian minimal 30m	Gerobak mengangkut 3x seminggu
	Bak sampah kecil		6 m^3		
Kelurahan (30.000 jiwa)	Gerobak sampah	TPS	2 m^3		Gerobak mengangkut 3x seminggu
	Bak sampah besar		12 m^3		
Kecamatan (120.000 jiwa)	Mobil sampah	TPS/TPA lokal	-		Mobil mengangkut 3x seminggu
	Bak sampah besar		25 m^3		
Kota (> 480.000 jiwa)	Bak sampah akhir	TPA	-	--	
	Tempat daur ulang sampah		-		

Figure 9. The procedure for the operational techniques of urban sewage treatment [1]

Due to a pile of garbage and not transported and disposed menimbulkkan good variety of disorders of environmental health *(hygienes),* aesthetic or other physical disorders. Waste can be divided into different types, namely :

a. Garbage: household waste with high humidity.
b. Rubish: paper, cardboard, wood, etc. (flammable), cans, glass, ceramics, metal, etc.
c. Ashes: dust, exhaust of combustion
d. Garbage Street: leaves, twigs, dead, etc.
e. Trash Building: rubble, residual iron, wood, etc.
f. Waste Industries: the discharge of industrial products

According to the composition of waste can be divided into several groups :

a. Household Waste 48%
b. Rubbish Commercial 31%
c. Waste Disposal 5%
d. Waste Other 16%

1.18 Electricity network

Environment of settlements must include planning the provision of electricity network's rules and technical requirements which refers to: SNI 04-8287.603-2002 on terms of electricity [9]. Installation of the entire installation in residential environments or in residential buildings must also be planned in an integrated manner based on regulations and the additional requirements apply, such as :

a. The Public Rules Electrical Installations (PUIL).
b. Rules applicable in the local area PLN.
c. Other regulations are still used as, among others AVE.

1.19 Type of planning element

Types element of planning in the electricity network should be provided on the housing in urban environments :

a. The need for electric power and
b. The electricity network.

Distance safe is the distance between the active / phase of the network to the objects around it either mechanically or electromagnetic did not leave a harmful effect. For a safe distance medium-voltage electricity network installation broken down as follows :

Table 3. Utility Pole Distance Safe In Settlement [9]

No	Description	Distance Safe
1	To the surface of the roadway	≥ 6 m
2	Balcony House	≥ 2.5 meters
3	Roofs	meters≥ 2
4	Wall Building	≥2 5 m
5	Antenna TV / radio tower	≥2.5 meters
6	Trees	≥to 2.5 meters
7	Train Tracks	≥ 2 meters of the roof of the train
8	Underbuilt TM - TM	≥ 1 meter
9	Underbuilt TM - TR	≥ 1 meter

1.20 Requirements and criterias

Some of the criterias and requirements that must be met are :

a. The provision of electric power needs
   1. Every settlement should get the power of electricity or from other sources and
   2. Each household unit should be serviced minimum electric power of 450 VA per soul and for the environmental facilities for 40% of total household needs.

b. Provision of electricity network
   1. Supplied electricity network environment by following the hierarchy of the service, where a large supply was predicted based on the number of dwelling units that fill the blocks ready to get up.
   2. Supplied electricity as street lighting poles placed on damija area (the right of way) on the side of the green line that does not impede the circulation of the sidewalk .
   3. Is provided electrical substations for every 200 KVA of electrical power that is placed on land that is free from common activities.
   4. As for the street lighting has strong illumination of 500 lux with a height of> 5 meters from the face of the land.
   5. As for areas under high voltage should not be used to shelter or other activity that is permanent because it would endanger the safety.

1.21 Phone Network

Environment settlement must include the telephone network's rules and technical requirements set forth in the rules/ regulations that have been implemented, especially concerning the procedures for public planning telephone networks in urban settlement.

1.22 Type of planning element

Type telephone network infrastructure and utilities that must be provided in urban settlement are :

1. The need for a telephone connection.
2. Phone network.

1.23 Criteria and requirements

Some of the criterias and requirements that must be met are :

1. Provision needs telephone

a. Connection each House environment needs to be serviced landlines and public telephone number landlines 0.13 per capita or by using assumptions based on the type of house as follows :
   1. R-1, high-income households: 2-3sambungan/house
   2. R-2, household middle income: 1-2 connection/house
   3. R-3, low-income households: 0-1 connection/house

b. It takes at least one public telephone lines for every 250 inhabitants (RT units) were placed on the center of activities of the RT environment.

c. Availability of public telephone interconnection must have a radius distance for pedestrians which is 200-400 m;

d. Payphone preferred placement in public areas such as public open space, neighborhood centers, or adjacent to the building environmental facilities; and
e. Placement of a telephone should be protected against the weather (rain and sun) that can be integrated with the needs of the public telephone user comfort.

2. Provision of telephone

a. Network.Each House environment needs to be serviced environments telephone network and the telephone network to the dwelling;
b. The telephone network can be integrated with movement network (road network) and network infrastructure / other utilities;
c. Electricity poles were placed in an area Damija (≈daerah of way, see Figure 1 on parts of the road) on the side of the green line that does not impede the circulation of pedestrians on the sidewalk; and
d. Automatic telephone stations (STO) for every 3000-10000 connection with the service radius of 3-5 km is calculated from *copper*center,which serves as the central control point network and customer complaints.

The data and information necessary to plan the provision of household landlines are:

1. Spatial Plan (RTRW) of the city and the development of the planned location, with regard to the needs of telephone calls.
2. The income level of the family and household activities to assume.
3. Needs telephone connection in the planned area.
4. The farthest distance houses planned to Automatic Telephone Station (STO) STO related to the needs in the area of the planned;
5. STO existing installed capacity; and a telephone network technology is applied, relating a service radius.

1.24 Networking Fire

Environment Fire Fighting Network of settlements must include appropriate provisions and technical requirements set forth in the rules / regulations that have been implemented, especially concerning public planning procedures Fire networks in urban settlement.

1.25 Type of planning elements

Of infrastructure and utility network type fires that must be provided to the urban settlement are :

1. The need for clean water sources.
2. Network pipes and fire extinguishers as extinguishers and hydrants.

1.26 Criterias and requirements

a. Fire Hydrant Network

Some of the requirements, criteria and requirements that must be met in the Provision Networks fire are:

1. For commercial areas the distance between the faucet fire 100 meters;
2. For residential areas the maximum distance between the faucet 200 meters;
3. The minimum distance to the curb 3:00 meters;
4. If it is not possible to make faucets wells required to make a fire.
5. Fire hydrant planning refers to the *SNI 03-1745-1989* on Procedures Installation ffor Hydrant System Fire Prevention and Building On House Building [5].

b. Network Fire extinguishers

Fire Tube Placement/ APAR (Equipment Fire Extinguisher) concerning requirements Installation and Maintenance Equipment Fire Extinguisher. These requirements include :

1. Easily seen, accessed and retrieved and are equipped with mounting pins APAR/Fire Tube.
2. High marking is the installation of 125 cm from floor just above one or group concerned extinguisher (APAR minimum distance/Fire Tube with a minimum of 15 cm).
3. Distance placement APAR/Tubing Fire one another is 15 meters or as otherwise determined by expert inspectors K3 or K3.
4. All Tube Extinguisher/APAR should be red.

Terms Signs Installation APAR/Tubing Fire :

1. The equilateral triangle with red base color.
2. The size of each side of 35 cm.
3. 3 cm high white letters.

4. Arrows 7.5 cm tall white.

2. Method

Study Approach Method of analysis approach used in this study were divided into two types of approaches :

1. Qualitative Approach divided into :
   a. Descriptive, a method of analysis by looking at the state of the object of study through the description, understanding or explanation of the analysis that are measurable and unmeasurable , In this study, the approach is descriptive intended to determine the conditions of activity of the settlement area of the study area and the existence of the activity and the spatial region, an approach to the amount of space available and utilized by the activity of the region and economic activity in the vicinity, all of which are intended to determine the cause untidiness neighborhood residential area.
   b. Normative, the method of analysis of the state of the object that is supposed to follow a certain ideal of rules or guidelines. The default rule is a standard set by the government as a legal basis, in this case in the form of regulations or standards to the trading area, housing and spatial planning department.
2. Quantitative Approach, is used to determine the factors that influence in the region. This method using numerical data so it can be concluded analysis.

From their research question or problem formulation obtained a research method descriptive, normative and quantitative. The analysis carried out can be described as follows :

a. Analysis of the characteristics of the dwelling.

Analysis of the characteristics of occupancy in the region is done by observing the following elements:

a. Data needed is the kind of work and changes in the function of the building. The analytical method used is descriptive analysis normative.
b. Display building and visual the physical conditions of existing residential buildings in the study area, both on the type of building and the shape and the building materials used. The data used is the type of building (permanent, semi-permanent or temporary), building materials used and the building area. Data can be obtained by field observations. While the analysis technique used is descriptive analysis normative.
c. Ownership status : Knowing how theof land ownership status and existing buildings in the suburb of River way Belau whether own or rent. This will affect the business owners to renovate and maintain the residential buildings they occupy. The analysis used the descriptive analysis.

b. Analysis of the availability of utility infrastructure supporting

Utility infrastructure availability analysis is done by looking at the condition and management of utility infrastructure services in the study area. Namely by identifying :

1. Road Network environment

Identification of environmental road conditions both types of building materials used, the pattern and its range. This affects the quality of the environment is formed, if the condition and its range is good and adequate and orderly pattern will produce good quality. Namely data necessary width of the road environment and the physical condition of the road. The analytical method used was descriptive.

2. Drainage network

Drainage identified not only artificial but also the river as a natural drainage. By observation can see his physical condition was good or not, also see how to maintain. The analysis used in this case is a qualitative descriptive analysis.

3. Sanitation Network (Water, Wastewater)

By observation, things you want to see in identifying sanitation is the type and the amount and conditions, whether each dwelling has sanitary facilities or those using communal toilets, as well as how his condition is good or bad. Sanitation is impacting on the quality of the environment, if people do not have their own sanitary facilities and still uses public sanitation or river, it will cause the area is seedy. The analysis is qualitative descriptive analysis.

4. Waste Network

Identifyinggarbage to see the facilities and infrastructure that supports the waste disposal and management of waste disposal in the area of the settlement. Trash that is well managed will help improve the quality of the environment is good too. Data can be obtained by field observations and assess the condition and its management. The analysis will be conducted with qualitative descriptive analysis.

5. Electricity Network

Identifying Electricity Network by viewing the many facilities and the distance between the pole that supports the management of the electrical network of the settlement area. Data can be obtained by field observations and record the condition. The analysis will be conducted with qualitative descriptive analysis.

6. Network

Phonewhich is identified as a means of public telephone. By observation can see his physical condition was good or not, also see how to maintain. The analysis used in this case is a qualitative descriptive analysis.

7. Fire Network

IdentifyingFire Fighting Network to see Availability of hydrants and fire extinguishers that supports network management fires the settlement area. Data can be obtained by field observations and record the condition. The analysis will be conducted with qualitative descriptive analysis.

c. Characteristics Analysis of Occupants

Characteristics occupantsalso affect the environmental conditions in the settlements. To determine the characteristics of the occupants, it needs to be identified and reviewed in terms of:

1. Economic Conditions
   In these economic conditions were curious about is the problem of income levels and types of community work the settlement areas Because it will affect the strength of the community in maintaining environmental quality. The data obtained is the type of work and the amount of monthly income communities. The analysis is used to analyze this is descriptive analysis.
2. Social conditions.
   Identify the social conditions of communities given the level of public education. This affects the education level of understanding of the usefulness maintenance of environmental quality. The data needed is the education level of the community. The analysis used is descriptive analysis.

2.1 Time and Place of Research

Researchis located on the road like martadinata, in the Settlement and Settlement Teluk Gedong Pakuan West Betung Bandar Lampung More precisely in Kampong Jembatan Beton Way Blau as a study, the execution time from March to July 2017.Administratively this region is bordered by:

1. Next the north bordering the Telok Betong District of north
2. South: bordering the Lampung bay.
3. East side, bordered by District Long.
4. West: bordered by Teluk Betung Barat.

3. Result

3.1 Environmental Analysis

Environmental analysis describes the existing facilities and adjacent to the site case study areas.
There are various means of surrounding areas Kampong Jembatan Beton Way Blau as shown below.

Figure 10. Surroundings Kampong Jembatan Beton Way Blau [10]

Figure 11. Area and Kampong Tapak Shape Jembatan Beton Way Blau [10]

Figure 10 illustrates the location of public facilities in the neighborhood Kampong Jembatan Beton Way Blau. around the settlement there are means of education that is Smp / Sma Foundation Budhisattva and Sma Negeri 8 / Smp Negeri 6 Bandar Lampung. to the west of the site also contained the old post office, while on the east side there is a pharmacy site solar and old police station.

3.2 Area and Land Shape

Shape Area and Land explain the shape or border site with the surrounding environment and explain the areas that are within the footprint in the study area. There are various shapes and heights within the site as well as areas and different usage described in the image below. Figure 11 describes the environmental footprint in the Kampong Jembatan Beton Way Blau found on the bottom of the siteLandshape *linear* with acontourdownhill towards the river. on the site which the red color describes the settlement settlement area Jembatan Beton Way Blau observed while the green color describes the restriction and an emphasis on Jembatan Beton Way Blau settlement along the river downstream.

3.3 Land Use Land

Land use footprint explain any arrangement which resides in the site study area and land use are within the footprint in the study area. Arrangement in the site as there are many different settlement and land uses within the site that are described in the figure below.

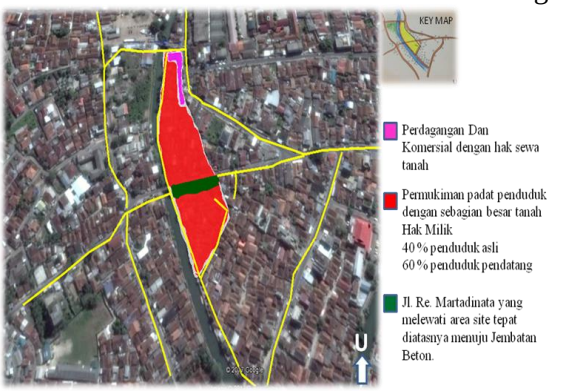

Figure 12. Land Use Kampong Jembatan Beton Way Blau [10]

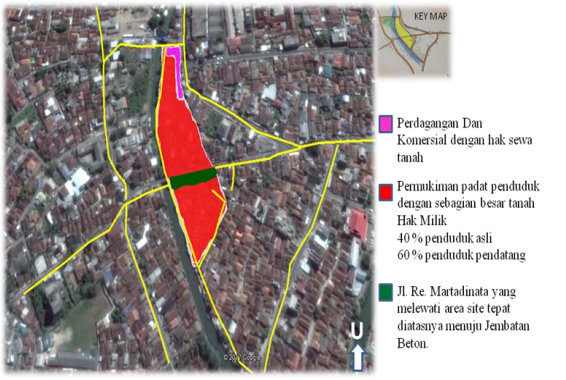

Figure 13. Topographic Map Kampong Jembatan Beton Way Blau [10]

Figure 12 describes the land use footprint in the neighborhood Kampong Jembatan Beton Way Blau that at the top of the site's pink describing land use as trade and commerce with land lease rights while

in the red images depict densely populated settlements with most of the 40% land property rights of indigenous people and 60% of migrants and the green color image above illustrates the way that the transverse web is the path Rec. Martadinata passing through the Kampong Jembatan Beton Way Blau.

3.4 Topographic Map

Topographic maps map type characterized by large or small scale in detail about the study area. explain conditions inside the site in depth. Site conditions in the study area were found on topographic maps Kampong Jembatan Beton Way Blau in depth from the contours, soil conditions, temperature, precipitation, wind, building demarcation lines, river banks line the basic building coefficient described in the figure below. Figure 13 describes the topographic map in the neighborhood Kampong Jembatan Beton Way Blau that the topography downhill towards the river at the bottom of the site south while disekitaran site lowlands and hills. former vacant land soil conditions at the site of reeds temperatures average 26-36 degrees Celsius, rainfall 2257-2454 mm / year wind from 2.78 to 3.80 knots. building demarcation line 0% 95% basic building coefficient river border line 2 meters. and site study area surrounded by roads Setia Budi, Re Martadinata road, street and road KH Hasyim Ashari Fish Door.

3.5 Legal Aspect

The ownership status of dwelling house kampong Jembatan Beton Way Blau mostly old people's House. Building density of the settlement in Kampong Jembatan Beton Way Blau. Density Jembatan Beton Way kampong house Blau and most dense. Broad community House page or yard settlement in Kampong Jembatan Beton Way Blau. spacious yard in the Kampong Jembatan Beton Way Blau mostly less than 10 m2. Material status in settlement settlement community house Jembatan Beton Way Blau. Material status in the settlement of Jembatan Beton Way Blau mostly non-permanent. The graph area of the page yard in settlements Kampong Jembatan Beton Way Blau can be concluded that from 91 samples of less than 10m² with a number of 62 respondents 10m² - 30m² totaling 18 respondents 60m² -100m² 2responden and 100m² - 300m ² numbered 0 respondents. thus explained that most of the houses Kampong Jembatan Beton Way Blau has spacious yard 10m² - 30m² at the house along the river banks that do not have the page area directly adjacent to the road network.

Status Houses in settlements Kampong Jembatan Beton Way Blau of 91 samples can be concluded that semi-permanent houses are 65 respondents permanent houses 20 respondents House nonpermanent 10 respondents and the other 3 respondents notion was bahwasannya House in settlement Kampong Jembatan Beton Way Blau mostly semi-permanent material of wood, board, triplik zinc etc. then at 5:10 on chart image building density 7 respondents: very solid 70 respondents: solid 13 respondents: fairly dense one respondent: no solid conclusion that the settlements in the settlement of Jembatan Beton Way Blau density of the building is very solid. House ownership status explained that 19 respondents: House alone 48 respondents: old people's House 19 respondents: contracting and 5 respondents: hire the conclusion that most of one dwelling house occupied by more than one household. The environmental conditions in settlement Kampong Jembatan Beton Way Blau unhealthy ranging from a small house inhabited by several heads of families in one house, high building density levels can cause a variety of problems. Based on the above analysis of settlement Kampong Jembatan Beton Way Blau in the category of settlements unhealthy ranging from a small house inhabited by several heads of families in one house, the density of high buildings can cause various problems such as the lack of sunlight inside the house, vulnerable against the dangers of the disease, inadequate yard yard wide at every house and House status, mostly in the category of semi-permanent wood-based material, boards and plywood so dangerous during a disastrous fire in the midst of dense residential buildings and densely populated.

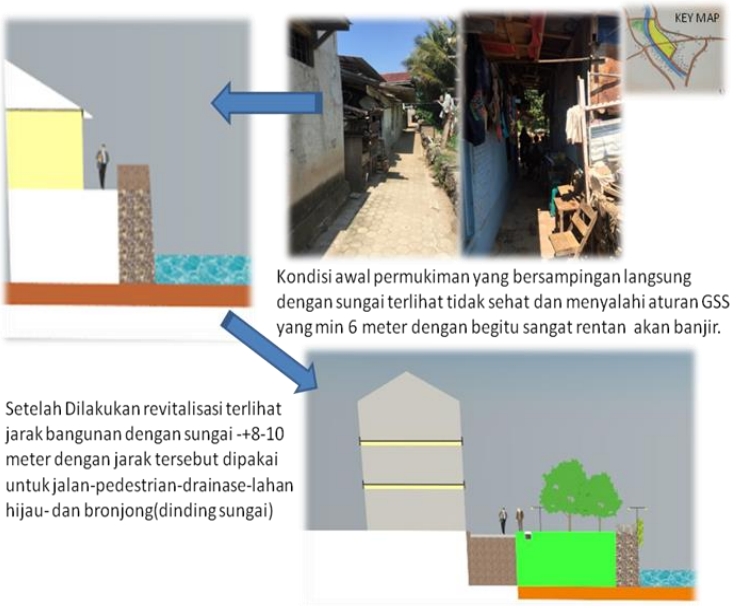

Figure 14. Revitalization Kp. Jembatan Beton Way Blau [11]

Figure 15. Width Jalan Kampong Jembatan Beton Way Blau [10]

After analysis it can be concluded that the kampong Jembatan Beton Way Blau including environmentally unsound and violated the rules of the settlement so it needs revitalization Kampong Jembatan Beton Way Blau. To improve the environmental quality of the kampong Jembatan Beton Way Blau is to revitalize the building uninhabitable by building houses vertical stacking three floors along the river way Belau especially those immediately adjacent with many buildings dikarnakan river's mouth is not worth so would create *space-space* that is to be used as green open spaces, playgrounds, as well as to support the mission of repair tissues such as roads, drainage, water clean-dirty, garbage and fire.

3.6 Road network

Figure 15 describes the environment around the road conditions in settlement settlement public house Jembatan Beton Way Blau. Most of the Jembatan Beton roads Way kampong kampong State Blau and fun Ivory is paving. The road condition in the environment of settlements of 91 samples averaging wear paving by the number of 60 respondents, krikiil 10 respondents, 13 respondents soil and asphalt 0 respondents. so explain that most roads Material in settlement Kampong Jembatan Beton Way Blau consists of paving (brick). and at 5:19 the picture describes the width of the road at different settlements ranging from 0.8 meters to 2 meters on average there is a narrowing of the expansion dikarnakan houses thus making the road like little alleys and the many citizens who make cages for farm animals and secondhand materials are stacked into a single timber, boards and zinc around the streets. so that the width of the road in settlement Kampong Jembatan Beton Way Blau that fall within the road environment II does not meet the standards. Based on the analysis above it can be concluded that the settlement Kampong Jembatan Beton Way Blau has a network Poor drainage area roads conical does not meet SNI and the narrowing road dikarnakan widening Houses and piles of waste materials, cages of animals unilaterally make settlement appear dirty. so settlement Kampong Jembatan Beton Way Blau is need for improvement to remove the impression that the slum and meet road standards in the settlement.

Figure 16. Revitalization Road Network Kp. Jembatan Beton Way Blau [11]

Figure 17. 3D Illustration Road Network at Kampong Jembatan Beton Way Blau [11]

Figure 18. Toilet Kampong Jembatan Beton Way Blau [10]

Figure 16 shows the result of revitalization of the road in the settlement of Jembatan Beton Way sni Blau to meet high standards and aesthetics that kampong settlements Jembatan Beton Way Blau to be healthy. Better road network to a standard way of settlement and mutual connection of the drainage network shown in Figure 17 and there is a green land along the road of settlements, especially along the Way Blau river.

3.7 Sanitation Network (Water and Wastewater)

Most in the settlement of Jembatan Beton Way Blau did not have a bathroom/ private septictank fun while on a settlement Ivory State has a bathroom / septictank.

Toilet place in settlement settlement communities Jembatan Beton Way Blau. especially those that do not have sepitenk. Most places everyday toilet kampong Jembatan Beton Way Blau who do not have sepitank in the lavatories of public lavatories that while the State kampong ivory that is more fun because most lots have bathrooms / private sepitank.

Clean water sources used by the society in Kampong Jembatan Beton Way Blau settlement for their daily needs. Most sources of clean water kampong Jembatan Beton Way Blau is a public well in the settlement.

1. Water

At settlement Kampong Jembatan Beton Way Blau seen from the drawing 5:23 on stock ownership shower room / wc private from 91 samples of 70 respondents said it had no bathroom (sepitenk) in the House and 20 respondents have a bathroom (sepitenk) and then at 5:24 on a graph where images do Toilet activity of 91 samples of 65 respondents chose public lavatories 15 respondents chose three respondents through neighboring river and five other respondents choosing it. It is directly proportional to the 5:25 of the chart image source clean water from 91 samples of 60 respondents from public wells 8 respondents subscribe taps 3 respondents have their own wells and 15 respondents through public taps. thus it can be concluded that most residents do not have bathrooms (sepitenk 0 and conducting activities Toilet facility communal toilets so that a clean water source average citizen in settlement Kampong Jembatan Beton Way Blau came from Public wells.

Figure 18 shows that it is now communal toilet facilities in the area situation is more dire by the extensive damage to various sides and piled them because damp moss, no treatment and the well water smelled of rust when the dry season arrives.

2. Wastewater

Figure 19. Sewerage citizens Jembatan Beton Way Blau [10]

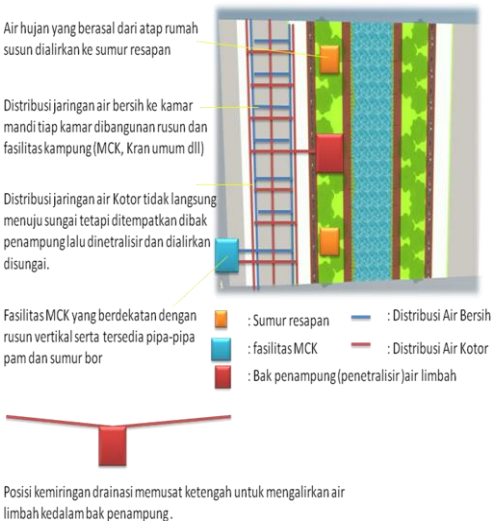

Figure 20. Revitalization Water Network Clean and Dirty [11]

Figure 19 shows a bathroom that stands above the drainage channel and the right edge of the river. The second bathroom is built so residents because of limited land to do so. then discharge drain dirty water

either household waste or *feces* directed toward the river without any process of neutralization.droppings *fecal* can make the flow of the river is being polluted and kampong Jembatan Beton Way Blau also lacks absorption wells as rainwater that can be used for communal toilet when the dry season after processing by neutralization. Based on the analysis it is concluded that poor sanitation networks in settlements Kampong Jembatan Beton Way Blau such as lack of water resources, destruction of communal toilet facilities are a source of clean water surrounding residents. hence the need for the improvement of sanitation facilities in settlement network Kampong Jembatan Beton Way Blau to create better sanitary facilities PDAM distribution pipe broader sepitenk manufacture and make the land tank to filter the wastewater of settlements in one place before being discharged into the river. Revitalization Water Network Clean and Dirty Kampong Jembatan Beton Way Blau can be seen in Figure 5:28 with the creation of a network of water pipes clean and dirty water organized.

Figure 21. Revitalization of toilet facilities Jembatan Beton Settlement Way Blau [11]

Figure 22. Drainage network Kampong Jembatan Beton Way Blau [10]

Figure 21 Network for clean water and dirty water to be better in terms of distribution and clean water pipes and sewage organized. and the availability of recharge wells that can be used to collect rain water that can be used when the wells dry dry season. providing a tank that is useful to neutralize the black water that the river water is not contaminated. toilet facilities that have met the SNI and provide free places for washing clothes drying area surrounding residents.

3.8 Drainage Network

Drainage Network Availability in settlement settlement communities around the house Jembatan Beton Way Blau. Sebgaian drainage channel kampong Jembatan Beton Way Blau drainage channels exist. Drainage Network connectivity in settlement settlement communities around the house Jembatan Beton Way Blau. Most of the Jembatan Beton Way Blau kampong has no drainage network connectivity. Drainage Network Conditions in settlement settlement communities around the house Jembatan Beton Way Blau. Most of the network conditions at the Kampong Jembatan Beton Way Blau smoothly. Drainage channel availability in Kampong Jembatan Beton Way Blau of 91 samples of 60 respondents have drainage around the house and 28 respondents have no drainage around the house. While the image of Graph Connectedness 5:32 Drainage Network. Of the 91 samples illustrates that the drainage unconnected to the river 69 respondents and drainage are connected to the river 22 respondents. then at 5:33 on chart image condition of drainage network of 91 samples of 9 respondents chose a very smooth 30 respondents chose current 30 respondents chose not smooth and 8 respondents chose very smoothly. Thus it can be concluded that most of the drainage network in settlement Kampong Jembatan Beton Way Blau unconnected or organized into rivers and many drainage function improperly. Figure 22 illustrates the drainage in the settlement have an average width of 15-20 cm

coupled with the amount of rubbish that berserahan towing making the clogged drainage and water flow is not running perfectly.

Based on the analysis above it can be concluded that in the settlement of Jembatan Beton Way Blau is the neighborhood that has good drainage networks ranging from no link with one another until the drainage towards the river (landfills) and size which do not meet SNI standards 20-30cm still many refinements and stagnating water flow so that the need for repairs.

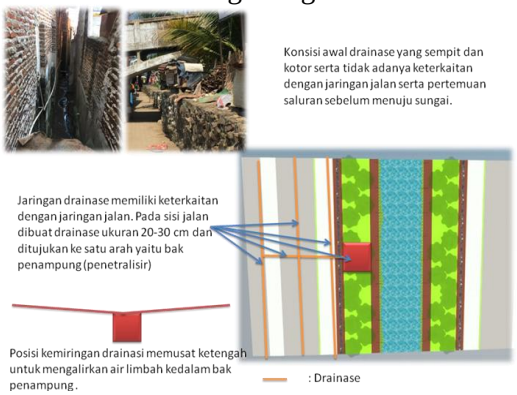

Figure 23. Revitalization of Drainage Network [11]

Figure 24. Revitalization of Drainage Network Kampong Jembatan Beton Way Blau [11]

Figure 23 shows the Revitalization of drainage channels that have met the ISO ranging from its size and has been integrated with the road network. Drainage network has associated with the road network. On the side of the road made of 20-30 cm size of drainage and water channels lanes heading in one direction, namely tank (neutralizer) as shown in Figure 23. The position of the slope and drainage streams converge into the middle to drain waste water into the sump.

3.9 Waste Network

Availability Garbage Disposal in settlement settlement communities around the house Jembatan Beton Way Blau. Most of the availability of a landfill in the settlement of Jembatan Beton Way Blau did not have. Availability Garbage Disposal other settlements around the community house in Kampong Jembatan Beton Way Blau. In the Kampong Jembatan Beton Way Blau Most people throw garbage. Availability of waste disposal facilities in settlement Kampong Jembatan Beton Way Blau can be concluded that from 91 samples of 21 respondents choose yes and 70 respondents prefer not to have their in settlement waste network. then at 3:39 on chart image availability of other waste disposal concluded that of the 91 samples, choose to throw in the drainage 18 respondents, 45 respondents river, vacant land in 10 respondents and 20 respondents chose the other. so explain that in settlement Waste Network Kampong Jembatan Beton Way Blau did not fully exist only some of my constituents who have landfills mainly 2 dilahan empty keg. Two small cans facilitated by RT for residents as a temporary dump but still many who throw garbage outskirts of the river. Based on the above analysis of the waste network in Kampong Jembatan Beton Way Blau Kampong well with the availability of two cask as landfills Samun dikarnakan a very little amount for area 1 Kampong hence the need for improvement by providing a garbage can distinguish between organic and non-organic.

Figure 25. Trash Condition in Kampung Jembatan Beton Way Blau [10]

Figure 26. The placement of trash cans 3d Kp Jembatan Beton Way [11]

Placement of trash cans that are differentiated between organic and non-organic as seen in the image above. Two placed pieces of trash cans were differentiated between organic and non-organic with its placement within range - + 50 meters placed on communal or public areas such as Figure 26 below.

3.10 Electricity Network

Electrical Connection PLN in settlement settlement communities around the house Jembatan Beton Way Blau. Most kampong Blau BetonWay bridge has connected the flow of electricity through its own connection. Electrical Connection PLN in settlement settlement communities around the house Jembatan Beton Way Blau. Most of the electrical power connected House kampong residents Jembatan Beton Way Blau less than 200 watts. The stock availability of electrical connections PLN in settlement Kampong Jembatan Beton Way Blau of 91 samples of 65 respondents chose the House they've connected to its own power 10 respondents chose their Houses have been connected to electricity 5 respondents did not have connections and 2 respondents chose the other. then how many watts of electrical connections that are connected from 91 samples of 55 respondents chose less than 200 watts of electric power used 25 respondents chose the 200-500 watt, 10 respondents chose 500-1200 watts and 1200 watts 3 respondents chose more. so explain that most of the electricity network in settlement Kampong Jembatan Beton Way Blau has connected kepermukiman average rat residents with electric power of 200 watts although there are still many who are connecting from neighboring connection. Figure 5.47 shows the power pole with high pressure power to facilitate the settlement of Kampong Jembatan Beton Way Blau spaced around the power pole - + 40-50 meters and there is a street light with a height of 5 meters from the road.

Figure 27. PLN electricity pole Kampong Jembatan Beton Way Blau [10]

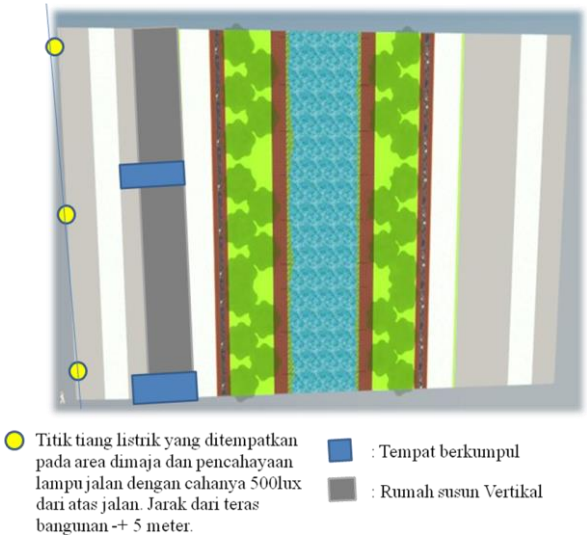

Figure 28. Pole placement point of electricity and street lighting in the settlement of Jembatan Beton Way Blau [11]

Based on the analysis above it can be concluded that the electricity network in the settlement of Jembatan Beton Way Blau in accordance with ISO standards and conditions are well maintained. so no need to hold in-depth repairs only replace the street lighting quality min. 500 lux and the distance pole with min 3 meter walls of the house where pole and provide electrical connections to people who have a connection from the neighbors and especially for those who do not yet have. Electric pole placement point (PLN) and street lighting in the area dimaja with distance - 5 meters from the building as seen in Figure 28.

Figure 29. 3D Illustration placement of electric pole and street lighting in the settlement of Jembatan Beton Way Blau [11]

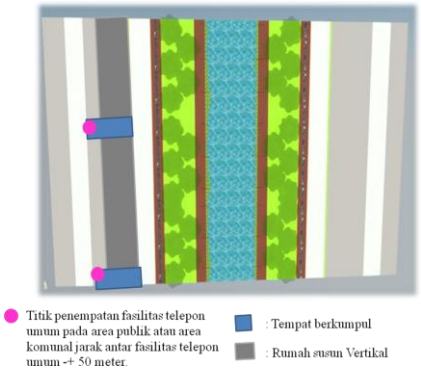

Figure 30. Point payphone Kp.Jembatan placement Concrete Way Blau [11]

Figure 29 shows improvement with pole spacing of about 40-50 meters, 3 meters from the building with the placement of poles in the reforestation area that has been equipped with street lighting.

3.11 Telephone Network

Connection Phone in settlement around the house Jembatan Beton Way Blau. Most telephone lines in the Kampong Jembatan Beton Way Blau nothing. The proprietary telephone connection of 91 samples of 11 respondents chose to have a telephone line and 80 respondents chose Neither a telephone connection dikarnakan economic factors that makeup that settlement communities Jembatan Beton Way Blau did not choose to connect a telephone network to their House, despite being available and most of them chose a more practical use of mobile phones as a means of communication. based on an interview with one of the residents around that there used to be a common teepon that can be used by residents but has now gone because it has been corrupted and lack of care. Based on the analysis above it can be concluded that the telephone network in the settlements Jembatan Beton Way Blau was available but most people do not want to have a telephone connection because of the financial problems we need to hold public telephone facilities to support the needs of the community in the settlement Kampong Jembatan Beton Way Blau in terms of communication. Point placement public telephone facilities in a public area or the distance between the communal area of public telephone facility - + 50 meters. As seen above there is a Figure 30.

3.12 Fire Fighting Network

Fire Fighting Network Availability in settlement around the house Jembatan Beton Way Blau. Most network availability fire kampong Jembatan Beton Way Blau nothing. Graph kinds of fires around the settlement public house in Kampong Jembatan Beton Way Blau. Most types of fire apparatus kampong Jembatan Beton Way Blau is more due to the absence of a network of fire. The network availability fires can be concluded that from 91 samples of all respondents chose not available on network availability fire and the type of appliance fires that is available there from 91 samples of all respondents chose the other because there is no single type of appliance fires provided there. Based on the above analysis it can be concluded that in the settlement Kampong Jembatan Beton Way Blau is no network for fire. the conditions of densely populated areas, and the high density of buildings and the number of building materials mainly lots of flammable materials are very vulnerable during a fire. so the need for improvement with By providing a network of fire such as the extinguisher on the wall of the flat with a mounting height 1.20 m from the bottom floor to the distance of placement among fire extinguishers 15 meters and hydrants are placed in a place easily accessible by vehicle, with a distance of 3 meters from the side of the road and radius placement of taps - + 150 meters.

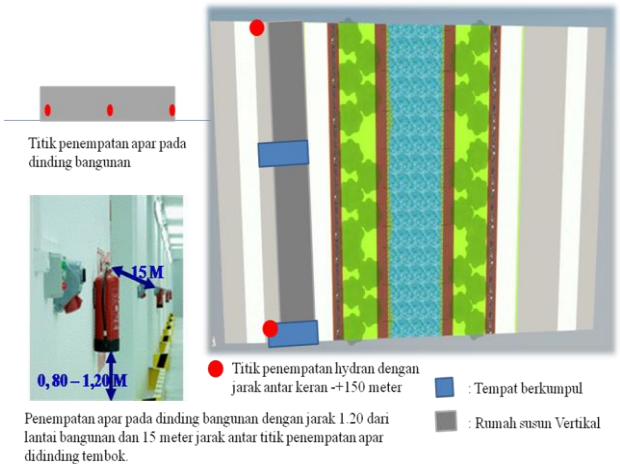

Figure 31. extinguishers and Hydrant placement point in Kp. Jembatan Beton Way Blau [11]

Networks such a fire extinguisher on the wall of towers and hydrants are placed in a place easily accessible by vehicle, with a distance of 3 meters from the side of the road and the radius of the placement of the faucet - + 100m and extinguisher placed on the wall with a distance of 1:20 from under the floor and 15 meters between aparseperti seen in the Figure 31.

3.13 Utility infrastructure Kampong Jembatan Beton Way Blau

Utility infrastructure has a wide variety of network distribution. at a settlement can be divided into 8 tissue ie road network, Sanitation Network (Water Supply, Sewerage) Drainage Network, Network Waste, Electrical Network, Phone Network, Fire Fighting Network. A healthy settlement can be viewed or seen from the status of facilities and infrastructure more complete it will be better for such a settlement. but to make a settlement to be healthy and comfortable not only in the completeness of its utility infrastructure but rather how his condition is maintained or not.

Table 4. Utilities Infrastructure Settlement Kampong Jembatan Beton Way Blau

No	Facility Utilities	Kampong Jembatan Beton Way Blau	
		Status	**Condition**
1	Roads Network	(0.8 m 2 m)	Not Good
2	Clean Water Network	(taps, wells)	Not Good (broken)
3	Network Sewerage	Yes	No good
4	network Drainage	(20 cm - 1m)	Not good
5	Network Waste	(2 Little Can)	good
6	Grid	Yes	good
7	Network Phones	Yes	good
8	Network Fire Fighting	None	-

Source: [11]

Conclusion from the above table that is the settlements have in common in terms of network status. Kampong Jembatan Beton Way Belau have the entire utility infrastructure network unless the network fires but not all utilities infrastructure network is in good condition and meet the national standards of Indonesia (SNI) as the road network yangsempit and tend to constrict in the settlements. and sanitation networks (water and sewage) a source of clean water coming from taps and wells drilled facilitated communal toilets were not good there are a lot of moss and dirt, many small drainage networks are rubbish strewn dirt. Table 4 describes the state of the environment of the utility infrastructure networks kampong Jembatan Beton Way Blau either status or current condition. Thus the need for the improvement efforts on the utility infrastructure facilities, especially in unfavorable conditions and do

not meet the standards that the settlement became a better, healthier and arranged neatly so worthy to live.

3.15 Revitalazation Settlement

In order to revitalize utilities Infrastructure in settlement needed the strategy. Settlement Strategy Kampong Jembatan Beton Way Blau

a. Utilizing government subsidies for the development activities of the Youth and the PKK as a forum for positive activities for the community to establish a special building for the activity.
b. Utilization of government subsidies for the maintenance and repair of public facilities that have been provided.
c. The development area for domestic industrial activity with the use of local human resources, so as to improve people's lives and reduce unemployment.
d. Utilizing Youth and PKK container for providing information about the existence of the danger of floods, threat of destruction of the River, The threat of fire how environmentally friendly.
e. Conduct rescue action / dissemination of information on natural disasters with greening.
f. Saving dikoperasi for the preparation of flats Vertical payment.
g. Utilization of government subsidies for the widening and improvement of roads, provision of public telephones, toilets and public waste disposal and the provision of a community center, building for Youth, PKK, cooperative and saranna *open space*.
h. Procurement vertical flats or houses along the riverbanks with the help of subsidies from the government at an affordable price and still qualify green land.
i. Adding green land means to minimize the danger of flooding.
j. Hold afforestation making terracing system riverbank area.
k. Using alternative flats that meet the standard, both the primary means and supporting facilities.

4. CONCLUSION

Based on the results, we can conclude several things about the utilites infrastructure in the settlement of Bandar Lampung (case study Kampong Jembatan Beton Way Blau). Utility infrastructure in Kampong Jembatan Beton Way Blau in the category is not good, so the atmosphere settlements into slums and unhealthy. In terms of utility infrastructure network conditions, conditions in the kampong Jembatan Beton Way Blau unfavorable. Not all networks are in good condition and meet the national standards of Indonesia (SNI), especially on the road network, sanitation networks (water and sewage) and drainage network.

The problems that often arise in the utility infrastructure in settlement such as the road network, drainage network, water supply network, sewage network and waste management network that is the lack of user awareness, especially people living around the in settlement. to maintain facilities that already existed and provided by the local government. Efforts to overcome the poor infrastructure in the settlements utility Kampong Jembatan Beton Way Blau, in order to make a healthy living environment and comfortable to live, namely: 1. The road network (Jembatan Beton Settlement Way Blau formed SNI road network, the road width - 1,5 - 2.5 meters and has terintegritas with drainage networks as well as the pedestrian side of the street, giving land greening of the trees around the house along the river way vertical stacking blau) 2. the network of water and sewage (Creating a network of water distribution to the bathroom every room with water towers and facilities the settlement (toilets, faucets public etc) with a system sump above. Creating a stream of rain water from the roof of flats supplied to recharge wells. Distribution of water networks Dirty indirectly into the river but was placed dibak container, and then neutralized and discharged into the river . with centralized drainage slope into the middle position to facilitate the flow of water waste into the tank) 3. Drainage Network (Make a drainage network that has a connection to the road network. On the side of the road made drainage measuring 20-30 cm, and directed to one direction, namely tank (neutralizer). The position of the slope and drainage streams converge into the middle, to facilitate the flow of waste water into the tank.) 4. Waste Network (Efforts to improve on both these settlements is to have both provide garbage

can distinguish between organic and non-organic with *range* its placement within- + 50 meter) 5. electric Networks (Make a pole spacing of about 40-50 meters, 3 meters from the building with the pole placement (dimaja), and has been equipped with street lighting, because compliance standards are not in need of repair, maintenance and administration only connection on residents who have not received and the connection is through a neighbor) 6. the telephone network (By creating a public phone as communal facilities, utilized together in both the residential location, so that people who do not have a telephone connection to his House, to make a call. laying payphone on the environment crate crowded communal areas, gardens, etc) 7. Fire Fighting Network (Premises n provides a network such as the fire extinguisher on the wall of towers, as well as the hydrants are placed in a place easily accessible by firefighting vehicles. a distance of 3 meters from the roadside and radius placement of the faucet - + 100 meters). Utility Infrastructure Improvement Strategy Settlement Kampong Jembatan Beton Way Blau: 1. Utilization of government subsidies for the maintenance and repair of public facilities that are already available 2. Utilization of government subsidies for the widening and improvement of road , provision of public telephones, toilets and public waste disposal, building for Youth, the PKK, the cooperative. to keep the facility that has been and will be.

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