Implementation of regional regulation of Lampung Province number 22 of 2014 on reproductive health of the community along River Basin Way Sekampung Lampung

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# Introduction

Watershed is a land area that is a unity of ecosystems with rivers and tributaries that function to accommodate, store and drain water from rainfall to the lak 2 or sea naturally (Law No. 7 of 2004). Based on Government Regulation No. 37 of 2012 states that watershed management is a human effort in regulating the mutual relationship between natural resources with humans in the watershed and all its activities in order to realize the harmony and sustainability of ecosystems and the increasing utilization of natural resources for humans in a sustainable manner. In addition, integrated watershed management has been regulated in Regional Regulation Number 22 of 2014 Lampung Province [1].

In Lampung there is a Provincial Watershed which is a watershed that passes several districts or cities in Lampung Province such as Sekampung watershed, Tulang Bawang basin, Seputih watershed, watershed watershed, Abar Kambas watershed at Mesuji basin. Hydrological Bandar Lampung City is passed by the rivers that enter the river area Way Seputih and Way Sekampung the Way Halim

River, Way Awi, Way Simpur in Tanjung Karang and Way Kuripan, Way Balau, Way Kupang, Way Garuntang, Way Kuala, flowing in the Gulf of Betung region. The watershed plays an important role for the surrounding community, such as the Sekampung River Basin. Sekampung Way function is very important for the community around either as a source of water to irrigate the fields and as a source of water for everyday purposes. The deterioration of Way Sekampung's water quality is inevitable. The area of paddy fields around Way Sekampung also adversely affects water quality degradation due to the increasing use of fertilizers. In addition, the increasing rate of population and industry also contributes to the decrease in the quality of Way Sekampung water. Tim Proper Year 2014 states that there are at least 16 companies / industries that dispose of waste into the river Way Sekampung.

Based on the report selected at the 2015 Presidential Staff Office, the watershed condition was damaged by illegal mining by local residents. Illegal gold mining along the watershed destroys the environment and the river water becomes turbid and mixed with diesel fuel so it can not be used for community activities. This factor also causes the quality of Way Sekampung water to decline. Water quality decreases and if it is still used for daily consumption can cause disease in the reproductive system of people around the watershed. This reproductive disease can affect children or adults, such as Fluor Albus (whitish / FB) and Urinary Tract Infection (UTI). Human activities that utilize watersheds have overstepped the boundaries and disrupted watershed functions and even damaged them. By-law No. 22 of 2014 Lampung is a government solution that can be used as a guide in conducting integrated watershed management. The existence of integrated watershed management aims to improve and prevent damage to the watershed. Based on Regulation Number 22 of 2014 Lampung, one of the goals in integrated watershed management is to realize the welfare of the community [1]. The welfare of society may include bio-physical, social, economic, cultural and institutional societies. In regulation, there is no specific description of what should be considered in the scope of public health. One of them is the health field that is not getting attention, especially reproductive health. Therefore, the study on the linkage of watershed management with health especially reproductive health needs to be done to realize the appropriate watershed and in accordance with the expected society or government. The purpose of the research is to know the impact of By-law Number 22 of 2014 on reproductive health before and after community implementation along the Way Sekampung River Basin in Lampung.

## 2. Methods

#### 2.1 Research design

This is an observational descriptive study with cross sectional approach. The research was conducted in Bandar Lampung area in 2012-2016.

# 2.2 Sample research

The population and sample of this research were the people along Way Sekampung River Basin who mainly lived in Bandar Lampung which was passed by Sekampung River Basin, Way Halim, Way Awi, Way Simpur in Tanjung Karang and Way Kuripan, Way Balau, Way Kupang, Way Garuntang, Way Kuala which flows in the Gulf of Betung region. Determination of sample size used Notoatmodjo [2]. There were 227 samples. Dependent variables are FB and UTI. Independent variable is the habit of drinking the waters of Way Sekampung watershed / water use of Way Sekampung River Basin for daily life. Selected samples were all age, female and minimum have resided at least 4 years.

### 2.3 Data analysis research

In this study, the data obtained from the interview with the reference questionnaire conducted on the sample. Data obtained from respondents' answers were processed, tabulated and presented in tabular form.

#### 3. Results

There are 2 (two) types of diseases related to reproductive health, namely FB (*Fluor albus*) and UTI (Urinary Tract Infection). The data are presented in the following table. Based on table 1, it can be stated that the respondents who experienced the incidence of FB 131 (57.7%) while the respondents who did not experience the FB is 96 (42.3%). Based on table 2, it can be stated that the respondents who experienced the incidence of UTI 90 (39.6%) while the respondents who did not experience the UTI is 137 (60.4%).

Table 1. Genesis of reproductive disease/FB (2012).

Fluor albus complaints	Frequency	Percentage (%)
Fluor albus	131	57,7
No Fluor albus	96	42,3
Total	227	100

**Table 2.** Occurrence of reproductive diseases/UTI (2016).

UTI complaints	Frequency	Persentage (%)
UTI	90	39,6
No UTI	137	60,4
Total	227	100

#### 4. Discussion

The result of the research shows that in 2012 the incidence of FB in community along Way Sekampung is still quite large, that is 131 respondents (57.7%) while those who have no FB complaint are 96 respondents (42.3%). In 2016, it is known that respondents who experience UTI is 90 (39,6%) while those who do not experience ISK is 137 (60,4%). FB and UTI is a type of reproductive disease that is often caused by poor personal hygiene and environmental conditions.

Kumalasari (2005) states that FB affects about 50% of the population and affects almost all ages. The data obtained is not in accordance with Kumalasari (2005) [3]. From the data obtained, in this study respondents with the incidence of FB is 57.7% where this figure is greater than Kumalasari research. FB is often associated with acidity of the area around reproduction because FB can occur due to an unbalanced pH [3]. The area around the normal reproduction has a pH <4.5 whereas the FB has a pH> 4.5 which produces a fishy odor. The presence of FB indicates that there is an increase in pH in the area around the reproduction and the level of external hygiene of the community along the Way Sekampung catchment is not good. External factors, among others, due to lack of personal hygiene [4]. The use of polluted water speeds up the FB process. In addition, FB is a simple reproductive disease, in fact FB is not easily cured. FB is not immediately treated will result in infertility / infertility and pregnancy outside the womb, FB is also an early symptom of cervical cancer that can end in death [4].

In 2016, respondents who experienced reproductive disease were 90 (39.6%), while those who did not experience UTI were 137 (60.4%). Based on the American College of Obstetricians and Gynecologists (2008) and Foxman (2000), UTI is a common urinary tract infection of about 25% of events [5]. The results of this study is still larger percentage, the incidence of UTI infection is 39.6%. Based on epidemiology, E. coli and Staphylococcus saprophyticus are the most frequent causes of UTI by 80%, especially at age less than 50 years [6]. Bacteria that cause UTI are often found in water or contaminated environments because there is a food supply for these bacteria to grow. Thus, frequent use of contaminated water causes pathogenic microorganisms to attack the urinary tract [7].

From these data can be stated that the incidence of reproductive disease is still large, especially in 2012 where there has been no implementation of Regulation Number 22 of 2014. In 2016 the incidence of reproductive disease has decreased up to 39.6%. Samples of the disease taken in the form of FB and UTI, although different both are still included in the type of reproductive diseases that cause the disease is the same and the main one is caused by personal hygiene factors. Based on Tim Proper (2014), it is known that there are 16 industries or companies that dispose of waste to Way Sekampung. Based on this it can be said that Way Sekampung water is still contaminated with industrial waste. Because there is industrial waste disposal into river bodies then affect the quality of river water. In addition, the decline in water quality is also caused by household waste and the habit of the people around the river who throw garbage carelessly. The decline in water quality is followed by increases in levels of coli bacteria and several other parameters. So the use of water Sekampung Way by the community is not enough to maintain personal hygiene and can still cause disease.

Integrated watershed management inRegional Regulation Number 22 of 2014 includes the following objectives:

- Achieve coordination, integration, synchronization and synergy between various parties in the management of natural resources and the watershed environment
- 2. Realizing optimal watershed water conditions including quantity, quality and distribution

- Realizing productive land conditions according to watershed carrying capacity and environmental capacity
- 4. Ashieving community welfare

The results obtained in this study indicate that the rate of reproductive diseases in the community along the Way Sekampung watershed in 2016 is smaller than in 2012. However, when compared with the studies that have been done previously the results obtained are still quite large percentage so that it can be concluded that the incidence of reproductive diseases is still large and needs special attention to improve the reproductive health of the community along Way Sekampung. In accordance with the objective of integrated watershed management in Regulation Number 22 of 2014, the management of the watershed environment and realizing the welfare of the community is still general and has not reached all aspects of the example of the health of its citizens. In watershed management, government efforts to save forests and critical land in the watershed have long been done. However, for watershed management and realizing the welfare of the community in the field of health is still less done even in some library searches that have been done no one has ever done research or explained about the impact of polluted watersheds to reproductive health of surrounding communities. The most frequent management focus is on land rehabilitation. Nevertheless, the Regulation Number 22 of 2014 in integrated watershed management is good enough.

#### 5. Conclusion

By-law number 22 of 2014 on integrated watershed management has not touched the community's reproductive health. However, the number of reproductive diseases in the community along the Way Sekampung catchment in 2016 was smaller than in 2012. Needed assessment and impact handling for the welfare of the community materialized. The results of this study were expected to be a contribution of thought in the integrated watershed management of Lampung Province.

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