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### Externality Analysis of Darul ‘Ulum *Pesantren* at Rejoso Peterongan Jombang

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**Abstract:** This study aims to analyze (1) the externalities of the Darul ‘Ulum *Pesantren* at Rejoso Peterongan Jombang and (2) how to model the externalities of Darul ‘Ulum *Pesantren* at Rejoso Peterongan Jombang. This research uses Non Positive paradigm with case study approach through following analysis stages: data reduction, data display, conclusion harmonized by the proposition and model findings. The qualitative is processed by Nvivo 11 software. The informants are the institution of Islamic *pesantren*, government element and the around society. The study findings are follows. First, Darul ‘Ulum *Pesantren* creates externality in form of solid and liquid waste and congestion. The positive externalities are economic agglomeration, happiness, sense of safety, improvement of social status and science transformation. Second, permissive culture of society around Darul ‘Ulum *Pesantren* becomes the basis to avoid conflict between society and Darul ‘Ulum *Pesantren*. Third, it creates “integrated solution for externality” model to internalize the externality of Darul ‘Ulum *Pesantren*.

**Keywords:** Permissive culture, *pesantren*, externalities, internalization of externalities

#### 1. INTRODUCTION

The *Pesantren* (Islamic boarding house) in Indonesia has grown very phenomenal along with accompany the development of Indonesian Country. There are at least 25.000 *Pesantren* in 33 provinces of Indonesia (Jamil, 2014). The development of Indonesian nation Indonesia stems from Jombang regency as an icon of “*santri* (Islamic student) city” in Indonesia. The *Pesantren* existence is also creates character of Islam in Indonesia quite different from the Arab community, birthplace of Islam; creating big Islamic leaders like Hasyim Asy’Ari as the founder of NU (Wahid, 2016). The *Pesantren* growth currently spread in 17 sub districts in Jombang regency or 80.9 percent of all districts throughout Jombang Regency have *Pesantren*.

*Pesantren* in Jombang Regency is an educational service with a strong religious base to gives great effect to environment. Darul Ulum is one from many Islamic *pesantren* in Jombang district. It is the largest

and phenomenal growth. It has grown into several *Pesantren* in form of agglomeration. Conceptually, agglomeration can occur not only because of the grouping of industries alone. The *Pesantren* growth is followed by higher population density in the, indicating the agglomeration as proposed by Xu (2009). These clustered boarding can linkage the *Pesantren* to social and environmental conditions (Borck, 2005) and economic dynamics (Storper, 2010).

The *Pesantren* within community settlement will have an impact on welfare and the externalities. (Bruce, 2001, Khusaeni, 2006). Nevertheless, the *Pesantren* also leads to changes in physical environment biologically, as environmental externalities. (Fauzi, 2010) The vehicle pollution during a big event is the reality at research site. This problem happens because the transportation loads that are not offset by provision of adequate infrastructure, in form of congestion. (Se-Hark Park, 1989). The congestion in a large event of this *Pesantren* consistent with Caroline (2000), that traffic jams occur when vehicles on one road must slow down the vehicle, and traffic congestion will be related to movement of vehicles on a road. In addition, environment also gets pollution due to waste from *Pesantren*. Therefore, surrounding population will bear the external costs of such activities in form of health problems and in long run the possibility of causing conflict (Fauzi, 2010).

Theoretically, externalities are created from difference between social marginal and private cost of a good. In case of environmental degradation, it raises a negative externality because there is no additional cost element in form of social cost included in final item price component. To reduce the impact of negative externalities, government intervention is necessary, mainly in form of taxation and subsidies for external producers. (Verhoef, 1999; Verhoef and Nijkamp, 2000).

The general pattern through tax and subsidy policy is not applied to Darul 'Ulum *Pesantren* as an external producer. However, the fact that conflict between *pesantren* with environment never happened. It is interesting to be disclosed the neumena behind it. This reality becomes interesting and at same time differentiate this research with other research, so that will be revealed more integrated model in solving negative externality in *Pesantren* context as religious education industry.

Based on above phenomenon, then the problem of this research is

1. What are the externalities created by the Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang?
2. How to model the externalities internalization of Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang?

Based on research problem formulation, the research purpose are below.

1. To identify and analyze the form of externalities that occur at Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang
2. To analyze the internalization model of externalities in Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang.

## 2. THEORETICAL BASIS

### 2.1. Externality

The liberalization and globalization development in economy can increase the acceleration of fulfillment of needs of people's lives, but other problems can also lead to eroded environmental quality. Each activity

has relevance to other activities. When all the interrelations between activities with other activities are implemented in according to market mechanism or system, the interrelationship between various activities do not cause problems. However, many linkages between activities without market mechanism will arise various problems. That can create the externalities. (Cullis and Jones 1992, Mangkoesobroto, 2000; Khusaeni, 2006).

It can be said that an externality is a side effect of a certain party's actions against other parties, both good and adverse impacts. The side effects have terms such as external effects, externalities, neighborhood effects, side effects (Sudgen and Williams 1990, Mishan 1971, Zilberman and Marra 1993) and their negative and positive effects can occur simultaneously. The externalities causes cost or benefits of market transactions without reflected in the price (Musgrave and Musgrave, 1986, Hyman (1999). Externality makes a third party affected by production and consumption Externalities occur because of influence of an action, and no compensation paid or received.

Positive externalities are the beneficial effects of an action by a party on another without the compensation of beneficiary, while the negative externality is happened if the impact to others without harmful compensation (Hackett, 2006, Boumol, 1972). On other hand, Nicholson (2006) defines economic execution (diseconomy) as an event that gives considerable profit (gives considerable harm) to some people who do not participate fully in decision-making.

On a wider level, externalities occur when a single economic activity (both production and consumption) affects the welfare of other economic actors and events outside the market mechanism. (Fisher 1996). The notion of externalities brings two important implications. First, externalities occur when an agent's activity affects the satisfaction of another agent, without reflecting the effect of that influence into price signals (Mishan, 1971). Secondly, necessary conditions for optimum social situations (Pareto optimality conditions) are violated (Mas-Colell, *et al.*, 1995).

The externalities causes producer and consumer activities create costs or benefits to others (third parties). This problem will arise because the cost or external benefits are not included in calculations by consumers or producers in their activities. Both consumers and producers will underestimate it. (Mas-Colell, *et al.*, 1995).

## **2.2. The Concept of Agglomeration Theory in Externalities**

Differ with resource-based industries; manufacturing industries tend to be located within and around the city. Agriculture and industry side by side, sometimes even fighting over land around urban centers, which in turn further obscures the basic distinction between villages and towns (McGee, 1991). Industries tend to agglomerate in areas where the potential and capacity of area meet their needs, and they benefit from the location of adjacent companies, and chosen city (Malecki, 1991). Therefore, agglomeration, both economic activity and urban population, are central issues in economic geography literature, business strategy and enhancement of national competitiveness (Krugman, 1998).

The agglomeration economy is a form of externality resulting from the geographic proximity of economic activity (Bradley and Gans (1996).) As a result, the agglomerated areas generally have higher growth rates (Martin and Octaviano, 2001; Malmberg and Maskell, 1997).

The agglomeration economy is a decrease in production costs because economic activities are located in same place (Mills and Hamilton, 1989). This idea is a contribution of Alfred Marshall's thought to use

localized industry term as a substitute for economic agglomeration term. The agglomeration economy can be seen from the perspective of economic localization and economic urbanization (O'Sullivan (1996), which gives rise to circular causal mechanism of economic activity (Krugman 1998). On other hand, agglomeration generates savings due to centrifugal and centripetal forces of activity (Kuncoro, 2002). Agglomeration will spur the growth of an area, and if that effect spreads to several surrounding cities, it will produce a phenomenon where different cities administration will unite the pattern and function of its territory. This reality will reflect the existence of megapolitan (Kim, 1999).

### **2.3. Internalization of Externalities**

The existence of industry has raised externalities for environment, both social and economic environment. The perceived effects then trigger the public to incur additional costs as an effort to overcome the perceived externalities. In other words, the third party internalizes the process of externalities caused by industry. Fauzi (2010) defined internalization as an attempt to internalize the impact caused by unifying decision-making process within a single business unit. Theoretically, policy to reduce externalities is property right arrangement, as internalization of external costs, right distribution, production and consumption optimization, incentive and compensation rules, environmental assessment, natural resource balance formulation, resource authority determination.

If the main cause of externalities is the absence of property rights, then the way to overcome the externalities is to create a property right for parties concerned resource. This solution does no need government intervention (internalization of externality). This is Coase Theorema. (Fauzi, 2010).

Referring to policy described above, one way to overcome the externalities that cause the deterioration of environmental quality is external costs internalization. It is an attempt to internalize the impact caused by bringing together decision-making in one business unit (Fauzi, 2010). When there is a negative externality, private cost, that is, cost calculated by producer to pay for all the production factors, becomes too small because it does not take into account the society loss. As a result, the goods and services produced by producer tend to be too much, they do not take into account how the impact of waste production to river or the sea (Boumol, 1972). In this case, the company still has not bear the external costs such as health costs borne by community due to consume river water or polluted sea.

### **2.4. Coase Theorem and Pigouvian Taxes to externalize the externalities**

Coase theorem on ideal social structure describes that private sector can overcome its own externality. Ronald Coase in Coase theorem explained that the interested parties (externality producer and disadvantaged 'or' benefited parties) can negotiate the steps to overcome the externalities, without causing any special costs that incur the allocation of existing resources.

Theoretically, theorem is very good, but its implementation is very difficult. The main difficulty is to organize the injured parties, including how to calculate the value of the loss (Pogue and Sgontz, 1978). Coase theorem fail to resolve this externality causes the government intervention (Krugman, 1998). One form of government intervention is to tax / subsidize.

The subsidy tax pattern was developed by Pigou, known as Pigouvian taxes/ subsidy. Pigovian taxes are used as a tool to regulate and minimize the negative impacts for both personal and corporate scale. (Boumol, 1972) Taxes are considered an option that facilitates a middle ground, as it increases government

revenues without directly reducing industrial and industrial-scale businesses such as employee termination (Bruce, 2001; Hanley and Spash 1993).

### **3. RESEARCH METHODS**

#### **3.1. Research Paradigm and Data Analysis**

The research paradigm can be divided into two groups: Positivism and post positivism (Creswell, 1994; Guba and Lincoln, 1994). The research with positivism paradigm is directed to test the theory with a set of hypotheses designed by researcher. Postpositivism paradigm stems from the realism that goes from the shameful phenomenon (Yin, 2009), for example, the sense of awe at something, inequality or a sense of pride will be used as the focus of research.

Based on above understanding, research paradigm used in this study is postpositivism with case study analysis tool, based on unique phenomenon Darul 'Ulum *Pesantren* where the externality can harmonize between *Pesantren* as a party that raises externalities with the affected communities.

#### **3.2. Research Setting**

The research was conducted in community around Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang. It becomes research object a consideration that there is a large and advanced Darul Ulum. The Informants are those who have information relating to externalities from Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang. The informant was selected in a purposive sampling, ie the informant was selected based on criteria to provide information that could not be obtained from other options (Creswell, 1994).

Snowballing technique is also used to find key informants. It represents *pesantren*, government and community elements. There are seven informants to reveal the externalities.

1. NU: *pesantren* staff
2. GH: Owner of *pesantren*
3. MA: Chairman of Pramujasa Society of surrounding community
4. SA: Traders from surrounding communities
5. H: Head of Peterongan village from local government
6. W: Head of MSMEs
7. MO: *Pesantren* Head of Darul 'Ulum

The data is collected by qualitative data collection techniques. Qualitative data collection can be classified into interview, observation, and documentation (Creswell, 1994).

### **4. RESEARCH FINDINGS**

#### **4.1. Positive Externality Existence of Darul 'Ulum *Pesantren***

##### **4.1.1. Agglomeration economy**

Darul 'Ulum *Pesantren* at Rejoso Peterongan Jombang has a long history especially for Jombang Regency and Indonesia. Its role is very important in education, health, social and economic. The existence will

directly affect the surrounding environment. The results of this study, in relation to positive externality of Darul 'Ulum *Pesantren*, can be seen from the informant statement below.

“Almost all community has a food stalls and grocery store to meet the *santri* (Islamic student) need and even the traders come from other cities to sell when there is a big event. (M)

The higher demand for educational services with religious base becomes the “market” for Darul 'Ulum *Pesantren* to develop their service units. Therefore, Darul 'Ulum *Pesantren* which initially only one unit has now grown to 38 unit with number. This is as told by informant from the elements of *pesantren* institutions.

“Darul 'Ulum *Pesantren* at early establishment only has a one building named Ibn Siena, which now led by Kyai Cholil Dahlan. However, the more *santri* who stay finally expands the building of Darul 'Ulum *Pesantren*, but the owner is still has familial relationship under Darul 'Ulum foundation “. (NU)

Darul 'Ulum *Pesantren* has triggered for economic activity in a region. Economic agglomeration is an appropriate perspective to describe the development of Darul 'Ulum *Pesantren* within a certain area which is followed more people in economic activities, which is mainly done by local people.

Agglomeration concept is concerned with spatial concentration of populations and economic activities (Malmberg and Maskell, 1997). This is consistent with Montgomery in Kuncoro (2002) that agglomeration is the spatial concentration of economic activity in urban areas due to economies proximity associated with spatial clusters of firms, employees and consumers. The advantage of spatial concentration because of scale economies is called agglomeration economies. (Mills and Hamilton, 1989).

Darul 'Ulum *Pesantren* adjacent each other, it will creates mutual benefit. New *santri* can be accepted by many place at Darul 'Ulum *Pesantren*. The agglomeration of Darul 'Ulum *Pesantren* can be described below.

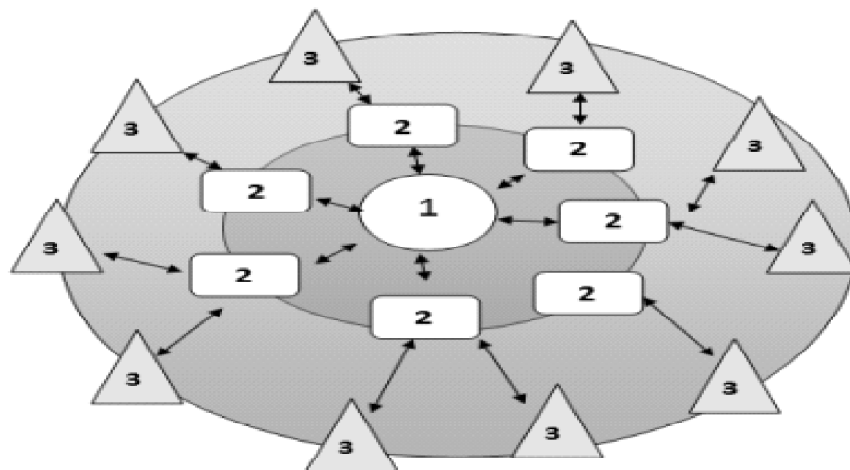


Figure 4.1: *Pesantren* Agglomeration at Darul 'Ulum

Figure 4.1 above shows the agglomeration pattern at Darul 'Ulum *Pesantren*. At first only there is one building which is now referred to as the main *pesantren* of Ibn Siena, marked with number 1. Building development was done in adjacent, marked by Number 2 and others. The interaction between the main

building and others *pesantren* which stands after it is marked by a 2-way arrow. This shows interwoven communication in building management.

More *santri* create more demand for basic needs. The merchants come with stall to sell for *santri*. Other economic activities also began, as boarding business, laundry and store (Number 3).

The development of agglomeration pattern at Darul 'Ulum *Pesantren* has the same meaning as Burger (2016), where at beginning, industry grows in adjacent area, which then interacts between industries due to interdependence with each other. In final stage, more intense interaction that makes a group of industries that are in one region as a "one unit of industry" gives wider effect to surrounding community.

The phenomenon of Darul 'Ulum *Pesantren* area, followed by growing of population density and supporting activity, indicate the existence of economic agglomeration. The economies localization is happened in *pesantren* because all components have the same benefits when the Darul 'Ulum *Pesantren* within one area. While from the context of Urbanization economies, increasing number of people who come and live in Darul 'Ulum *Pesantren* with various reasons provide new economic benefits of *Pesantren* and communities around the *pesantren*. This is consistent with thinking of Xu (2009) that agglomeration can occur not only because of grouping of industries but also due to increase in population density.

However, there is a contradiction between *pesantren* and industry in general. Agglomeration in Darul 'Ulum *Pesantren* could increase social interaction and close the gap of social conflict and crime. While the industry agglomeration in general will lead to increased social interaction and increased crime (Borck, 2005).

#### **4.1.2. Happy Feeling**

Happiness is a subjective state to causes a person feels satisfied within himself and to realize he has something good (Veenhoven, 1988). Happiness is part of positive externalities of Darul 'Ulum *Pesantren*. Various policies are taken to give a positive impact to surrounding community that triggered his happiness. The lower school fee policy for *santri* is a positive essay that triggers community happiness. The tuition for this *santri* has the equivalent meaning of CSR for business world. The following informant statements provide the justification.

Nice to live near the *pesantren*, villagers here do not need to think about the cost of school and building fees because we can ask for dispensation ... (S)

This perspective shows that Darul 'Ulum *Pesantren* provides the economic benefits felt by local community. The ease access to religious education in *Pesantren* is the perceived benefit. The relief of education fee for *santri* in *Pesantren* area is the trigger of happiness, which is felt by society, so it is last condition (Bagir, 2013).

The intersection of community with a *pesantren* also makes the growth of strong social capital. *Pesantren* with a strong Kyai (Pesantren Leader) figure can bring a happier atmosphere. Informants in field stated below.

Every day listen to students recite the Qur'an give a good example to community around so that my mind feels calm ....(S)

Above information justifies that *pesantren* environment is synonymous with religious atmosphere, creating positive externalities for surrounding community. The daily view of *santri*, with identity of “*sarungan*” gives the impression of pious, a patron that can be emulated by community. Without expense of transactions, community benefited from Darul ‘Ulum *Pesantren* Jombang, including free Islamic study. The informant’s statements below provide the justification.

I feel nice to stay near the *pesantren* to study the Islamic book free .... (M)

The *pesantren* will become one answer for community to bring happiness. *Pesantren* will become a container for “manage heart” for community around the *pesantren*. The sense of happiness as a *Pesantren* externality is consistent with a study by Munir et al (2011) by examining the impact of worship on happiness of an individual in Jamu and Kashmir Pakistan. The study findings also justify that high per capita expenditure actually causes a person to be unhappy.

This empirical reality shows a proof that happiness is not limited only by material fulfillment, but immaterial factors also play a big role. *Pesantren* has a share to create a sense of happiness for community by presenting a more nuanced religious atmosphere and it is non-material.

#### 4.1.3. Safety

Man is not just a psychological creature, but also a biological creature, and a geographical being (homogeographicus). Therefore, a happiness study cannot be separated from the spatial or geography context. The happiness is not merely linked to psychological context, but also spatial context, and safety is one aspect to shape happiness. (Giddens, 2003). Safety will encourage the realization of one’s comfort (Kolcaba, 1992; Robinson, 2002), and will establish a sense of maturity (Mangunjaya, 2014). Safety will become important factor in determining a person to live (Porshansky et al., 1983 in Hummon, 1990).

The *Pesantren* as a religion institution has morality orientation, and its activities for 24 hours give a unique feel. The *pesantren* has 24-hour safety pattern to makes people do not need to build camping posts around their homes. Safety that occurs in area of *Pesantren* will also be felt by surrounding community. This is consistent with informant’s statement:

This neighborhood safe and comfortable, due to activity of *pesantren* is almost nonstop. There is no thief like the story of a great-grandfather of ancient times. (M)

The sense of safety in surroundings *pesantren* is the embodiment of space externalities. It is received by a third party due to activities undertaken by a particular institution (Doxiadis, 1967, Rosen, 1988).

Public space in *pesantren* area is also used as a food merchant area. It provides safety for 24 hours for environment. Utilization of 24-hour public space to trade within 24-hour can hinder the criminal acts. Utilization of public space has a positive impact to create safety in Darul Ulum *pesantren*. This reality contradicts the research of Juoro (1989) in Jakarta. In addition to adversely affecting the environment, utilization of public space under Slipi flyover, Jakarta has a negative impact on behavior and cultural life of surrounding workers.

#### 4.1.4. Improvement of Social Status

Social change is a process to changes the society structure with cultural changes and functioning of social systems (Ranjabar, 2001). Social change refers to modifications that occur in pattern of human life. Such modifications may occur due to internal and external causes (Koenig, 1957).



Mastery of religious knowledge in a religious society extends ones legitimacy to occupy a position more than the others. Respect and predicate will be attached to *pesantren* alumnus when they go back to the origin. This happens because society very interested to activities or culture with Islamic nuance, such as *tablilan*, *slametan*, Islam anniversary and others. Therefore, title *Kyai* and *Ustadz* (Islamic teacher) is often pinned by people in their origin (Bagir, 2013)

*Kyai* have a strong influence on society due to environmental factors and social system. People from *pesantren* are also often identified with *kyai*, as informant informants follows:

At certain times of time, neighbors ask me to take lead a praying events. I got about IDR 50,000 within envelope and also food. (S)

Above information provides a justification that Islamic *pesantren* Darul 'Ulum provides positive externality when viewed from the social strata of people who live in *pesantren* environment (Umiarso, 2011). The social stratification of a person is not merely seen from the mere social aspect, but also from the sociological economy. Therefore, social class also signifies social economic stratification (Koenig, 1957).

#### **4.1.5. Science Transformation**

Nowadays, *pesantren* has rapid development. Based on system and types of knowledge taught, there are three classifications of *pesantren*, namely: traditional (*salafiyah*), modern (*kalafiyah*), and comprehensive *Pesantren* (Dhofier, 1994). Darul 'Ulum *pesantren* includes a comprehensive *pesantren* system.

The knowledge transformation process within *Pesantren* takes place over a long period of time. This is part of Darul 'Ulum *Pesantren* culture. This is consistent with informant's statement below.

Studying the yellow book is free for people here. On Thursday, there are regular activities for general public. Studying religion knowledge is not far away to other areas. (S)

The above information justifies that *Pesantren* can provide benefits in form of knowledge transformation process to community. This ongoing process makes *Pesantren* a strong institution both religious and social transformation. This means that what happens in *Pesantren* is actually a development process, not only from the economic aspect (Stutzer and Frey, 2004), but also multi-dimensional (Todaro, 2000). The process to disseminate at *pesantren* is actually consistent with Endogenous Growth Theory to gives the spillover as a regional growth machine (Gordon, 1998).

## **4.2. Negative externality of Darul 'Ulum Pesantren.**

Permissive culture has become something unique on the research site. Factually Darul 'Ulum Pesantren also creates negative externalities, as described below.

### **4.2.1. Waste and Detergent.**

The Darul 'Ulum Pesantren has an impact on surrounding environment. The number of *santri* reaching 9000 people. It has consequences on waste, especially waste and sewage. This needs good waste management. Informant stated it below.

"There are 2 garbage containers from the sanitation service and taken once a week. This infrastructure is together with garbage from the surrounding community. (N).

Waste and detergent disposal in Darul 'Ulum pesantren became a problem, especially at Rejoso river flow used for irrigation for rice fields. Negative effects of unpleasant odors and reduced water quality can be felt by surrounding community, especially in dry season. The informant stated below.

“The garbage problem has good management. There are garbage containers near the “Islamic Center” building. However, when the garbage container is not directly replaced, the rubbish scattered. (S)

The waste from Darul 'Ulum Pesantren has a negative externality. It consistent to Pigovian theory. Government can impose a progressive tax. However, in reality, government never burdened the *Pesantren* with taxes for reason of garbage.

This reality is contrary to research results in UK conducted by Powell and Brison (2004). They indicate the existence of a cost burden for external waste producers in form of waste. Garbage in end is also the cause of pollution that must be internalized, the burden can be approached technically and economically (Baby, 2008).

#### 4.2.2. Congestion

Darul 'Ulum pesantren has students from almost all parts of Indonesia and abroad. Several moments in each year cause congestion on access road to *pesantren*, as beginning of lesson year, long holiday, and anniversary of Ashura, Commemoration of haul Sheikh Abdul Qadir Jailani and Nisfu Sya'ban Activities.

This congestion becomes something routine, without any systematic effort to avoid it. Key informants said below.

The congestion problem, especially at large events and long holiday and beginning of new school year is start from the front *pesantren* until inside *pesantren*. They do not move at all. (M)

Various routine activities cause traffic congestion in *pesantren* area. The number of traffic congestion points will also increase. The traffic jam occurs because vehicles on one road must slow down the vehicle (Kim, 1997), while at a certain period, the number of road users exceeds the existing capacity (Meier, 1995).

#### 4.3. Internalization the externalities with Integrated solution for externality model

Externality occurs when the production or consumption activity of one party has undesirable effect to other, and external party does not provide compensation to the party affected (Fauzi, 2010). To solve the case of externalities, economists offer three alternative approaches (Fauzi, 2010). The three alternatives are (1) the internalization process, (2) tax imposition, and (3) the giving of property rights.

Another pattern is tax system. Government imposes taxes on external producers to neutralize the externalities. Motor vehicle taxes based on exhaust emissions are a form of taxation for external producers in Europe (Hanif, 2017). Therefore, government intervention in form of taxes or subsidies can reduce the impact of externalities (Verhoef, 1999; Verhoef and Nijkamp, 2000).

Another pattern that can be used to reduce negative externalities is the property right concept. Controlling externalities through property rights will depend on transaction costs. Fauzi (2010), if the transaction cost is positive, it will has three effect. First, provision of property rights will reduce the problem

of externalities but *cannot* eliminate them. Second, Provision of property rights will reduce externalities will be effective if the parties involved know each other. Third, granting of ownership rights will improve the owners' welfare thereby reducing the likelihood of externalities occurrence.

Darul 'Ulum Pesantren shows interesting facts about the role of *pesantren* and externalities. *Pesantren* is widely viewed from a single perspective, as a "religious education institution". It also creates negative and positive externality. The traders around the *pesantren* are given levy. This is consistent with key informant statement below.

The community of this *pesantren* area must become members of Pramujasa Circle (PPJS). Every day traders must pay from IDR 2000 to IDR 5000 based on business type. (M)

Above statement provides clear information that there are people who enjoy the existence of *pesantren*. The *pesantren* provides an opportunity to trade, which raises economic benefits for surrounding community. Interesting fact is, funds from traders are not managed by *Pesantren*, but by PPJS (Pramujasa Union). The members are also the trader around the *pesantren*.

The amount of daily levy is IDR 2000 to IDR 5000 on normal days. While the other day such as the event of clarity and *sha'banan*, the retribution levied by PPJS bigger. This is as expressed by informant below.

"If there is a big event, many traders come from outside the Jombang. There are about 700 merchants come to sell. Retribution payments for clothing sellers averaged around IDR 15,000. The levers are the representatives of PPJS and *pesantren* safety guard. (M).

The funds become capital in procurement of various needs of community such as garbage cans, broom, making signs and giving gifts for security during big moments.

The informant statement is very relevant to resolve externality of *Pesantren*. Government intervention through taxation or property right is common thing. The uniqueness of Darul 'Ulum Pesantren is, they solve directly the externality. The field reality shows that people affected by *Pesantren* as the institution to triggers the negative externalities. This pattern can be explained below.

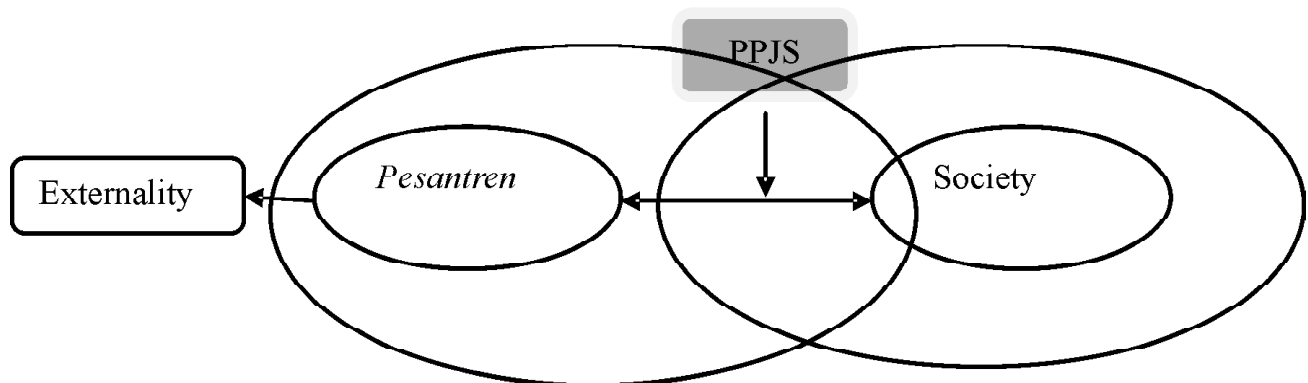


Figure 4.2: Integrated model to solve externalities

PPJS becomes an intermediary institution between *pesantren* and community to control the externality. The collected funds are used for operational costs such as making traffic signs, construction of garbage bins and parking manager wages during a big event, where the congestion takes place in *pesantren* area. In this way, traffic jams and garbage around the *pesantren* can be well managed.

The waste and congestion from *pesantren* will be solved by people and giving a positive impact. This is called an integrated solution for externality. It is research novelty finding. This pattern can be drawn more clearly below.

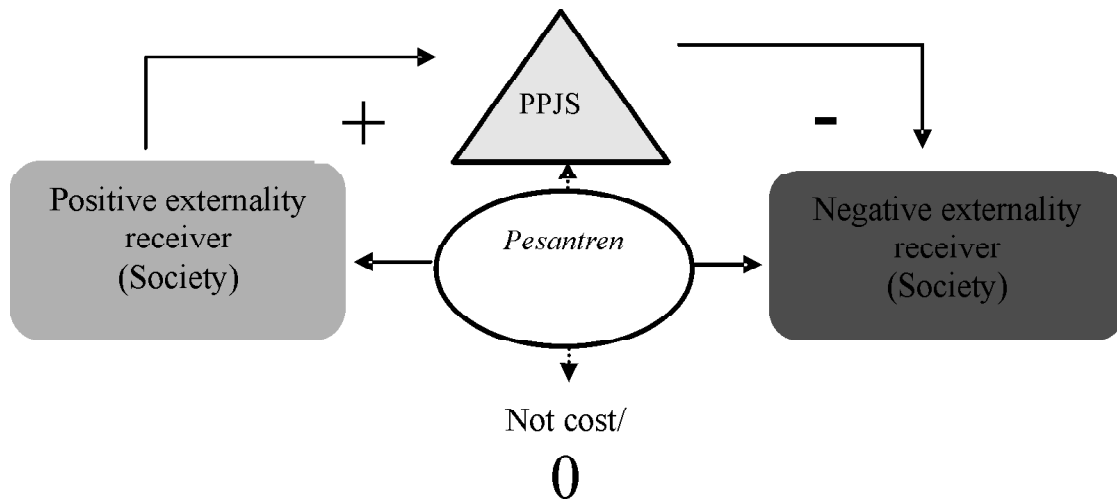


Figure 4.3: Affected Parties Interaction in Completing Externalities

The concept of integrated solution for externality can be used by *pesantren* to manage externalities without cost (not cost / zero). Societies with positive impacts organize the negative impacts. The *pesantren* become mediator for formation of PPJS, whose members are also elements of local community, especially those with positive impacts.

The strength of *Pesantren* to manage this impact is phenomenal. *Pesantren* as a religious-based social institution is a force that may not be owned by other institutions in managing the environment, especially the social environment. *Pesantren* as a religious-based institution has a high social order, its role and rules become role models for community.

Sociologically, *Pesantren* has the advantage and strategic strength to manage the society. The religion (emotional, rational, and religious) bonds and charisma of a *kyai* become a significant factor to place *Pesantren* as one driver to create social change. (Umiarso, et al. (2011). Therefore, *Kyai* task is to create prosperity through the strengthening of civil society (Nafi, 2007) through education, economic, and enforcement dimensions of *amar makruf nabi mungkar* (doing good deed and avoid the criminal).

These study findings confirm that negative externalities settlement can be integrated for communities benefit, as well as the costs. In other words, beneficiaries are given the task to solve the negative impacts. Therefore, “Integrated Solution for Externality” has positive impact to solve the negative impact. Therefore, integrated model means that:

1. Cooperation from they who affect and affected
2. Positively affected party resolves the negative effect so that negative externality becomes reduced or zero.

This perspective is power within society as the key success to control externality of *pesantren*. People who benefit from the existence of an institution will become the ones that reduce the negative impact.

## 5. CONCLUSIONS AND CONTRIBUTIONS

### 5.1. Conclusions

Based on discussion that has been described in previous chapters, the conclusions of this study can be explained below.

1. The Darul 'Ulum *pesantren* can create positive externalities in form of agglomeration, happiness, sense of safety, and improvement of social status and knowledge transformation for around community.
2. In addition to positive externalities, there are negative externalities from Darul 'Ulum *pesantren*, namely the congestion in large Islamic events and emergence of organic and inorganic waste, as well as detergent waste to cause water pollution.
3. The *pesantren* with a strong *Kyai* figure creates a social transformation and generates a strong permissive culture. Permissive attitude can avoid social turmoil, although in reality *pesantren* cause negative externality.
4. Negative externality of Darul 'Ulum *pesantren* can be internalized by the concept of "integrated model for externality".

### 5.2. Contribution

Based on research findings and conclusions, implications of this study are as follows:

1. The theory implications. The integrated model for externality is one of alternatives to enrich the theory of externalities. The problem of externality so far still refers to theory of Pigouvian, which requires direct government involvement, through taxes. Another common pattern is the coase theorem, which negative externalities producer resolve itself internally.
2. Policy Implications. These research findings can be used as policymaking references, especially to overcome negative externalities using integrated model for externality in *Pesantren* area and can be extended to industry in general, with a number condition. Institutional capacity (*pesantren*) reduces negative externality through institution's ability to create a social transformation to triggers the growth of permissive culture. The higher the permissive attitude formed in an institution area can decrease social upheaval. The effectiveness of an institution allows the internalization of its environment (society), as long as the institution can influence the psychology and social of surrounding communities.

3. Future researcher. The research on externality is dominated by industry. Therefore, this research can become a reference for future economic policy research, especially related to external policy of religious education service industry (*pesantren*).

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