

The Existence of Tonasa Cement Factory and its Impact to Surrounding People in South Sulawesi, Indonesia

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ABSTRACT: *This study used a qualitative approach in which data collected are analyzed based on the interpretation of the researchers to provide a comprehensive description and explanation about the phenomenon of environmental change in communities around the factory of PT Semen Tonasa. The process of industrialization to the peasant area caused people's social life change. As an agrarian tradition that worked as a peasant (subsistence), their life was changed into un-peasant or un-subsistence by the development of cement factory. It was more complex when there was interaction with the people work in the factory. This condition made the social change actually happened. Research result shown that social change about social stratification was changed from ascribed status to achieved status that based on education, power, and wealth; there was also change of value and attitude from mechanic to organic solidarity; and, then, ecosystem changed from agricultural to industry. The positive impacts were namely opportunity work and income, good education, transportation, etc. The negative impacts were namely reclamation, employee, and waste.*

KEY WORDS: *The process of industrialization, peasant community, Tonasa cement factory, social changes, and positive and negative impacts.*

INTRODUCTION

In many cases, the construction of industry always found the positive impacts as well as negative impacts of plant construction. The decade of the 1970s, industrial pollution cases are quite prominent in Java island, especially the pollution by cement and fertilizer plants in Gresik, East Java;

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pollution by Kujang fertilizer plant in Cikampek, West Java; contamination by the chemical factory of PT (*Perseoran Terbatas* or limited enterprise) Nabati Sarana near Cirebon in West Java; and rice fields and river pollution by textile mills in the vicinity of Bandung in West Java, Semarang, and Salatiga in Central Java. Outside Java, there were some factories pollution like PUSRI (*Pupuk Sriwijaya*) fertilizer, oil refineries polluting, wood refineries, and natural gas wells in Aceh and East Kalimantan (Aditjondro, 2003:xviii-xix).

In the context of South Sulawesi, Indonesia, long before the era of industrialization had placed a few strategic factories, among others, the construction of Tonasa's cement plant in District of Pangkep, precisely in the Biringere Village, Sub-District of Bungoro. Since the construction of the plant that has been lasting quite a long time (approximately 30 years), the positive and negative impacts have been felt by many people around the factory.

The positive impacts such as the villages become crowded, more and more facilities, electric lighting, and business opportunity; while the negative impacts such as land reclamation payments problems that are considered by society not fully paid yet, the destruction of crops due to dust mill, the people who also got effect of air pollution, road damage due to trucks container that also generates dust, etc.

A number of agricultural land converted into cement industrial area resulted in a lot of people who changed professions from farmers to daily laborers in the cement industry. Economically, daily laborer's income level is higher than farmers who have the area less than one hectare of rice field. However, socio-cultural person who has agricultural land would at least has a fairly high prestige in rural communities, because it can also be passed on to children and grandchildren. Changing profession or principal livelihood of most villagers resulted in the value of solidarity, mutual help majored in agricultural activities experienced degradation and even extinction, except for mutual help system in other social activities are still manifested in everyday life.

Local involvement in factory work, although they can be accepted to work but most are still limited to workers harshly. For some people, working as unskilled laborers is very meaningful to fulfill their daily needs. Hope this does not go smoothly, because the local workers often receive discriminated treatment. That means companies that hire workers always discriminate between core labor from outside the area and local labor by not giving the opportunity for local workers to hold strategic positions in the job. This is done frequently by the reason that the local workforce does

not have adequate human resources. This statement seems to be one of the forms of discrimination against local workers.

The presence of cement industry also resulted in changes in orientation and education level of society. Changes in educational orientation were influenced by the situation and condition of society, especially to the availability of supporting facilities and infrastructure which were quite good. In addition, these educational orientation changes were caused by the activities of people to enter the world of professional work in the company's cement industry, which in fact had a background with adequate education and relevant to the tasks that exist in the industry.

Gradually, the view of society changes to have better education so that aspect of education has prestige. That is, those who are educated will be appreciated and respected by the community and beyond that, the educated people will occupy the central positions in society. Sociologically, the changing public appreciation of aspects of education results in a shift in social stratification.

AIMS AND RESEARCH METHODS

Based on the description above of the impact of rural industrial development on the environment and social life of society, then the communities surrounding the Tonasa cement factory in District of Pangkep are selected to conduct this study based on the following considerations.¹ *First*, the negative impacts experienced by residents around Tonasa cement factory have been going long time but it does not cause social unrest as occurred in other mining cases. *Second*, the study of social change due to industrialization has not been much done in the vicinity of cement plants Tonasa. *Third*, social change as a result of industrialization that has lasted for 30 years has caused social disparity between local residents and the immigrant population.

Looking at the description above, this study aims to: (1) Describe the process of a shift in social stratification, due to industrialization in the surrounding Tonasa community of cement plant; (2) Describe the process of a shift in values and behavior patterns due to industrialization to the society in the surrounding Tonasa Cement Plant; (3) Describe the process

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of ecosystem changes due to industrialization around Tonasa Cement Plant; and (4) Describe the forms of social impact suffered by local communities of Tonasa Cement Plant as a result of industrialization.

Scientifically, the findings of empirical research data are expected to be the basic for the birth of new variants of the theories or concepts or postulates about industrialization and social change. Practically, the result of this research is expected to be a reference for those authorities, especially to PT (*Perseroan Terbatas* or limited enterprise) *Semen* Tonasa, Pangkep District Government and South Sulawesi Provincial Government in the formulation of strategies and policies in implementing creative vision and mission of national development.

In addition, this study is also useful for all development activities, especially in relation to the planned process of social change and to reveal the empirical facts about the patterns and processes of social change, and can result in creative alternatives regarding management of development and policy formulation (Beilharz, 2003; Suyanto & Sutinah, 2005; and Susanto, 2007).

This study used a qualitative approach (Miles & Michael, 1992; Bogdan, 1993; Moleong, 1998; Bungin, 2001; and Nasution, 2003) in which data collected are analyzed based on the interpretation of the researchers to provide a comprehensive description and explanation about the phenomenon of a shift in social stratification, roles and status, a shift in attitude and mindset, and environmental change in surrounding communities of the factory of PT *Semen* Tonasa.

This study purposively is set in 3 villages and sub-districts which are included in the category "RING 1". The three villages and sub-districts are: (1) Biringere Village, including in the Sub-District of Bungoro; (2) Bontoa Village, including in the Sub-District of Minasa Te'ne; and (3) Taraweang Village which includes in the Sub-District of Labakkang. All the villages are located in South Sulawesi Province, Indonesia.

Source of data is the research community around the factory of PT *Semen* Tonasa who is called as the informant. Key informants in this study include Village Heads, District Heads, the Head of BPD (*Badan Pembangunan Daerah* or Regional Development Body) as formal elite, and Village Elders who know and experience the events before and after Tonasa cement factory was established. Accordingly, effort to get informants as a source of qualitative data is through the technique of purposive and snowball sampling (Paul, 1953; Yin, 1997; and Spradley, 2005).

The informants of this study consist of: apparatus of village headman 5 people, legislators and community organizations 3 people, stratum of

Ana' Karung (elite people) 1 person, stratum of *To Deceng* (rich people) 5 persons, stratum of *To Sama'* (common people) 8 persons, and stratum of *Ata'* (slave people) 1 person.

PROFILE OF THE STUDY

The behavior change is always derived from cultural change in a community, for example: discovery, technology invention, and interaction with other culture that cause diffusion in some cultures. They can increase the new aspect to the integration level in the culture. The old form is changed by the new form of culture that causes culture diffusion indirectly. The common form of culture can be modified continuously. The culture innovation, diffusion, and integration of all are the cultural change dimension. Both of material and non-material aspects are parts of culture. Mainly, cultural change dimensions are namely: cultural innovation like invention; diffusion like culture mixing with each other differently; and integration (Parker *et al.*, 1990).

The study of industrialization and its social impact has been done by social sciences and humanities experts in Indonesia, like Amri Marzali (1976) and Kuntowidjojo (1983). The studies showed that the negative effects that arise in rural areas due to industrial development, among others were: changes in livelihood systems, natural environmental changes such as water and air pollution, and the emergence of economic gap between indigenous and immigrant; while its positive impacts included: absorption of labor, the emergence of new business field, and so forth.

The study by Selo Soemardjan (1986) found that social change in Yogyakarta was originated from changes in the institutions of society which then affected the social system, including the values, attitudes, and behavior patterns among groups in society. Based on the theoretical frameworks, this study focuses on the subject profile as following:

First, Geographic Profile. Region "RING 1" represents four among 102 villages and villages in the Pangkep area, quite near from the central bureaucracy and also geographically close - 12 km from the capital city (travel time 25-30 minutes) and 51 km from the capital city of South Sulawesi Province, Makassar (travel time 45-60 minutes).

Bulu Siloro is one of the karst hills of the region occupied by Tonasa cement factory and around this hill lies the RING 1 with Mangilu Village located on the east Bulu Siloro. The village has the most extensive area of 18.14 km² with population of 3,354 inhabitants or 9.38 percent of the total population of Bungoro Sub-District totaling 35,727 inhabitants. In addition, most of the Mangilu Village area located in hilly areas and

highlands. Meanwhile, on the west lies the village of Biringere which is the smallest village covering an area of 3.10 km² with a population of 3,804 inhabitants or 10.64 cent of the total population of Bungoro Sub-District, as well as densely populated village.

The village is located on the south Bontoa cement factory with an area of 16 km² with a population of 3,351 inhabitants or 11.46 percent of the total district population of 29,236 people in Village of Minasa Te'ne; whereas Taraweang Village is located in the west side of the river adjacent to the Biringere Village next to the east with an area of 9.91 km² and a population of 3,814 inhabitants or 9.39 percent of the total population of 40,617 inhabitants in Labakkang Sub-District.

Second, Profile of PT Semen Tonasa. PT (*Perseroan Terbatas* or limited enterprise) *Semen Tonasa* was derived from the name of the village which was the location of the establishment of cement factory which was the "Tonasa Village", Sub-District of Balocci in District of Pangkep. Tonasa Village itself is situated in the northern provincial capital of South Sulawesi, which is Makassar city, a distance of about 54 km (Kamaruddin, 2010).

Tonasa Cement Plant construction began in 1960, then in 1976 built Tonasa Cement Biringere Unit II in the Village, Sub-District Bungoro, District of Pangkep which was about 23 km from Tonasa Cement Plant Unit I. Subsequently, in 1982 it carried out the building of Tonasa cement plant expansion Unit III located in the same location with Factory Unit II. In 1990, it was re-expanded by building a cement plant Tonasa Unit IV, located near Tonasa Unit II and Unit III (Faisal, 2005).

Third, Siloro Hill Community Profile in 1970s. Siloro region, when it was still remote and had less access to the outside before the year of 1970s, is almost nothing. People who want to go to the cities, a distance Pangkajene ± 11 km and to takes ± 3 hours, traveled by foot to cross the river using a boat to Pangkajene, namely *Lepa-lepa* (a type of bamboo boat that uses a towing rope and tied both ends next to the river). At that time, means of transportation in Biringere was only gig which was owned by 3 people. Having had a gig at that time, just like a car now, will be seen by people as a "rich man".

In the case of mutual cooperation, the community in the research area built a strong solidarity principle. If there was no event or crowd held by one family and known to residents of the village, then they all would come without invitation.

The first mosque was built in 1953, located north of Old Housing Complex of Tonasa Employees. Based on the initiative of the gang, the mosque was finally completed assisted by the community by cutting down

trees in the forest to serve as the pillars and walls coming from Bulu who had split apart (Kamaruddin, 2010).

Regarding the aspect of education, community school could get an amount of calculated by fingers. Despite the early 1960s it had built the school by the community and only lasted a learning process \pm 6 months because school building was burnt by the army of Java (read: TNI, *Tentara Nasional Indonesia* or Indonesian National Military) who thought that the school was a place for the mob cadre (guerrillas) to revolt the official government (Gonggong, 2004).

The public also had a bad habit such as cockfighting, drinking *Ballo*, and gambling, especially when there was a wedding. There was also a frequent robbery and stealing, but only animals such as buffalo. There were three popular diseases at that time, namely: (1) the disease of *palanquin* or diarrhea, (2) *masemmeng* disease or fever, and (3) *maekke* disease or *malaria*. The most severe disease was *maekke*, which began with symptoms of chills body during the next 3 days and red spots appeared in the body that could take up to 7 days.

On the Livelihood. Before the cement industry's presence in their village, they worked at the main livelihood of farming community. They had the largest farms in the area of the villages and Village of Taraweang Bontoa, while in Oesa Biringere (then were still dominated by the Mangilu Village) the agricultural land was quite narrow and even then they used the land as the existing paddy fields around their settlement. Although most of the farmers also utilized upland located at the western foot of Siloro Mount to be made of plantation land by planting cashew and cassava. The same thing happened in the village area of Mangilu where people mostly lived in the highland of Siloro eastern hills, they only used the land located at the foot of the hill to plant some crops such as cashew nuts, sweet, and sometimes interspersed with corn and other crops.

On the Structures of Government. Regarding the structure of government, at that time, the area around Siloro under the authority of *Karaeng* Bungoro (at sub-district head) of the central government based in the city of Bungoro. Administratively, the region as Biringere, Mangilu, Taraweang, and Bontoa are governed by a village chief who is appointed directly by *Karaeng* Bungoro. In the region of Biringere, the headman is called as *Lo'mo*, in Taraweang called as *Gallarang*, and in Mangilu and Bontoa called as *Jennang*. Headman's degree is not always the same but differently in every village there is the inauguration of a new head.

Fourth, Siloro Hill Today. About the demographic structure in Siloro Hill today, it is interesting to note here due to there are some changes. Biringere

Village, for example, has a population density that is very noticeable compared to the other village is 1,227 people per km². It becomes reasonable when looking at Biringere Village area of the narrowest in the district which is only 3.10 km² from Pangkep District, especially coupled with population growth rate of ± 11 percent in the last ten years. For Bontoa Village and Taraweang Village, the density is almost the same level. Although Bontoa Village area is almost twice the extent of the Taraweang Village area, but Taraweang Village population is more dense than the total population of Bontoa Village.

On the Level of Education. It can be seen that undergraduate level in Biringere (298 people) is more than in Bontoa (85 people) and Taraweang (20 people) and almost all are outsiders. The amount is comparable to the high number of people educated in Biringere (887 persons), in Bontoa (48 people), and in Taraweang (80 people). Biringere has also the highest upper secondary educated people (878 people) compared to Bontoa (199 people) and Taraweang (90 people).

Comparing all levels of public education in the areas of research, it can be concluded that almost all educated people and highly educated of the immigrant population, while the educated middle to lower a local resident. This means that local communities can only achieve the highest educational achievement at the level of SLTP (*Sekolah Lanjutan Tingkat Pertama* or Junior High School). However, there are a number of graduate educated people such as the Village Head of Biringere that a civil engineering graduate; and Chairman of LPMD (*Lembaga Pembangunan Masyarakat Desa* or Village Community Development Body) in Biringere, his educational background was a political scientist by profession as civil servant; and Head of Bontoa Village has been educated as a legal/law scholar.

On the Working. In Biringere Village, many new comers work as staff of PT Semen Tonasa factory; while the local people work as a trader, a carpenter, a stoner, and also there are still peasants. The opposite reality happened in Bontoa and Taraweang sub-districts that its people still worked as peasant mostly. Also there is *becak* (pedicab) driver and development contractor. Especially in Taraweang sub-district, there are many people work as a ceramic stoner because they live near ceramic factory industry.

On the Structures of Government. According to the Law No.5/1979 on Village Government in Indonesia, village in the research area has completed a governance device consists of the Village Head or KEPDES (*Kepala Desa*) and Village Consultative Body or BPD (*Badan Permusyawaratan Desa*). In performing its duties, the Village Head is assisted by the Village Staffs which consists of the Village Secretary or SEKDES (*Sekretaris Desa*) or

SEKLUR (*Sekretaris Kelurahan*) and this Village Secretary is also assisted by 5 staffs, namely: Deputy of Development, Deputy of Government Affairs, Deputy of Social Welfare, Deputy of Finance, and Deputy of Public Affairs. In addition, the village is assisted by the Secretary in carrying out the rights and obligations of authority, the Village Head is also assisted by the Head of Hamlet. Meanwhile, the village is divided into RW (*Rukun Warga*), an administrative unit at the next-to-lowest level in village as well as city; and RT (*Rukun Tetangga*), a neighborhood association in the administrative unit of RW.

In an effort to establish relationships with communities, especially in order to accommodate the aspirations and convey the public opinion, the administration of villages is equipped with the BPD (Village Consultative Body). Containers consultative and deliberative village community leaders were formed with reference to article 17 of Law No.5/1979, which engages the village, community agencies, and community leaders. BPD in the village is headed by a chairman of the Village Head. The secretary is held by SEKDES, while its members are divided into 3 groups: Group I on Governance Affairs; Group II on Development Affairs; and Group III on People's Welfare Affairs.

On the Development of Infrastructure. Infrastructure development in the research area is growing rapidly. The existence of PT (*Perseroan Terbatas* or limited enterprise) *Semen* Tonasa helped to trigger the government to compensate by accelerating infrastructure development. As a result, within a decade of development, areas of research that used green area of trees have now been replaced by buildings and other facilities for the benefit of the people, such as mosques and churches, polyclinics and health centers, and primary schools and kindergartens.

Sports facilities are also found in three areas of research, such as soccer fields, volley ball fields, golf course, and swimming pool. Motor vehicle ownership is also considered to increase, such as private cars, public transportation, and bike, although there are also people who still have a gig and a boat. The other prominent thing is the existence of financial institutions such as banks and credit unions.

RESEARCH RESULTS

On the Shifting of Social Stratification. In the area of research found 1 person of *Ana' Karung* stratum (elite people) and 1 person of *Ata'* stratum (slave people), the rest is a layer of ordinary people or *To Sama'* stratum (common people). In this social strata, there are also people who have a life better than other people and very few in number. They are classified

as stratum of *To Deceng* (rich people).

Head of the village as *To Deceng* is a respected social status in society of Bulu Siloro. Aside from being a representation of the *Karaeng* (one of the elite strata title in South Sulawesi), these positions have consequences in social roles. The social role of this position creates a social rewards, politics, and economics for the individual. Social benefits emphasize the social status of these two positions in the public system of social stratification in Bulu Siloro.

Bulu Siloro society was also respecting the forerunner (offspring) them. Forerunner and the founder of the respected are those who have the nature of the interests of the people. Based on the view that older people and the elder people in society still have respect for the concerned can show a good nature for the sake of the people. Community appreciation of heredity is very thick, so that almost all aspects of community life are always associated with heredity.

Wealth factor also appeared to have already been considered as a requirement in determining a leader, even though the context is different in modern society. A village chief has the concept of "hand over hand is better than under", so he must have the property that will be used to help people who need it. The village head often gives rice or grain to the people working on land belonging to the village chief which the product is shared.

On the Social Mobility. Studies of social mobility in sociology focused on occupational mobility among generations by comparing the child's status with the status of the father. This method is used to know whether there is a change of status and also whether the society is open or what percentage of vertical mobility (up and down) of each layer. To know the opinion of informants regarding stratification are made to all layers of the strata to the needs of study. In this stratification of society, social mobility is defined as inter-generational occupational mobility (Abustam, 1990; and Parker *et al.*, 1990). Furthermore, mobility is measured by using cross table that compares the layers of father and son (measuring the status of fathers with children by using the factor of education of fathers, children's education, father's work, and the work of the first child).

First, on the Education Mobility. Almost all the informants (15 people) from all strata tend to similar, it includes education by going to school, seek knowledge, and learn from intelligent one. This indicates that the informants have any notion that nature can change the knowledge they call education though it is done in various ways. On the other hand, informants also have a far-sighted view of the benefits gained when a person has had education. In addition, it shows that the residents think in the research area

of all existing social status. Their understanding of the benefits they can get if they have the education shows the important of educational aspects.

Concerning the educational level of the majority of informants still is at a low education level, i.e. 9 men with the details of 1 person from *Ana Karung* stratum (elite people), 4 men from *Ata'* stratum (slave people), and 3 men from *To Deceng* stratum (rich people) as well as from *To Sama'* stratum (common people). Upper secondary education is as much as 2 people each from strata of *To Deceng* and *To Sama'* and only 1 person with high education.

Furthermore, the level of education of the child (first child) informants each stratum in the research area is the level of higher education (high school) as many as 1 person of *Ana Karung* stratum and 2 persons from *To Sama'* stratum. It is very high education level as much as 10 people with details of each 5 persons from strata of *To Deceng* and *To Sama'*, the rest of the people do not belong *To Sama'* and *Ata'* strata.

Comparing the educational level of informants with children's education level informant, it shows a sharp difference in the strata where the highest education of *To Deceng* informant is only high schools and at most are only up to primary school (read: elementary schools). Most are school-educated people and even some are not in school. The above data also indicates that there is vertical mobility to education at both the social strata in the area of research.

Second, on the Jobs Mobility. Job mobility rate of each resident status in the research area will be analyzed by comparing the types of work each type of employment status with their first child. From all informants, there is 1 person from *Ana' Karung* stratum (elite people), 4 persons from *To Deceng* stratum (rich people) already retired and one employee status. Those pensions consist of 2 people retired employees Tonasa namely SWR (descendants of *Lomo*) and ARF (descendants of *Lomo*); while CTK (descendants of *Gallarang*) is a retired elementary school teacher and HMT (descendants of *Gallarang*) is a retired chief of Mangilu Village; and rest that offspring *Gallarang* ASD and AMD is still served today as Head of Taraweang Village.

Informants from *Ana' Karung* stratum were 1 retired person, stratum of *To Sama'* there were 3 people retired from Tonasa, 2 people still have Tonasa employee status, the rest still remain as farmers and trade needs of one person every day, 1 person from *Ata'* stratum as a farmer.

About the educational level of informants, children in each layer, that type of work from each status of informant child and all children of informants from *To Deceng* stratum had been working as civil servants;

while from *To Sama'* stratum, 4 people were working as government employees, 3 employees at the Tonasa, one as housewife, one person as an employee from *Ana' Karung* stratum, and 1 person as PNS (*Pegawai Negeri Sipil* or Civil Servant) from *Ata'* stratum.

Observing the above data description, it can be explained that there are a shift of work for a living the informants, that is the average farmer into service sectors such as employees and employees in stratum of *To Sama'*. In the stratum of *To Deceng*, type of work tends to move toward government employees compared with private sector employees. The above data also indicates that there is a vertical job mobility in both strata of *To Deceng* and *To Sama'* in the research area.

Comparing the educational levels of the informant child with the type of work on the stratum of *To Deceng*, it is seen a tendency for residents in the area of research to educate their children through higher education and then expect their children to have jobs as civil servants and employees. The same thing happened on the stratum of *To Sama'*, although there is still a high school educated child informant, but they still work as an employee at a subsidiary of PT Semen Tonasa, while the rest had worked as a civil servant.

Based on the above description, the researchers conclude that there is a shift of residents in the area of research awards from the two strata that exist on aspects of education, meaning that anyone who has a higher education will be respected and appreciated. This also shows that education and job mobility in the research area have been done.

On the Shifting of Values and Attitudes. Before entry of the cement industry generate an attitude of "cultural survival", such as buffalo and agricultural land ownership is a symbol of social status; but after the entry of the cement manufacturing industry, ownership of livestock such as buffaloes, cows, and chickens were nothing as the status symbol, but just as a hobby or containing values.

Shift in values as well as attitudes of residents in study area have occurred through social interaction with the settlers. One of the examples is the familiar foods of the Javanese by local residents such as *Tempe* (fermented soybean cake), *Tahu* (tofu or soybean curd), and other foods that use the noodles as meatballs noodles, fried noodles, chicken noodles, gravy noodles, and *Pangsit* (wonton or ravioli) noodles.

The entry of the cement industry in the research area were resulting in a society undergoing a "cultural conflict", where the farmers with their agricultural system suddenly changed into a modern industrial culture. In farming communities, their culture for this was not bound by time, they fell into the fields whenever they wanted, collectivity are preferred to prioritize

their more general activities, especially when there was mutual cooperation for party invitations or to set up home. But after they were appointed as employees of a cement factory that adheres to modern systems, the customs were changed completely and there were cultural shock phenomena.

Another cause of a shift in values and attitudes of people was the introduction of electricity that changed the atmosphere of the village, such as longer nights, the village became more crowded at night, and increased people activity. The presence of electricity also increased the consumption patterns of residents to purchase secondary items such as televisions, satellite dishes, telephones, and video player. Residents who had television would spend their time more in front of the television.

Looking at the descriptions above, the behavioral shifts of people was against the values that they understood. Their orientations had led to the values of modernity, such as efficiency and effectiveness of the time, specialization, and privacy matters.

On the Changes in Ecosystems. The presence of a cement factory in the Biringere Village made people could no longer manage the paddy fields and plantations since it became the location of cement plants. This situation made people look for income in other sectors (off-farm) in the Biringere Village.

Circumstances of Pangkajene River before the construction of cement factories, due to the margins were very lush, overgrown trees. Once the plant was built, the river sand was used as land mines. This situation was exploited by a handful of village people of Biringere as land jobs and once the stones were moved to the riverside to be broken by the women and used as gravel which could be used for a mixture of building materials and making the streets.

Before constructing the cement plant, communities could harvest oranges; but due to dust containing a chemical plant from burning oil and coal, there were a lot of dying orange tree, what were left was small fruit, including mango fruit.

On the Social Impact. There are positive as well as negative impacts. The positive impact is that since the cement factory were built up, the progress was very visible physically in the research area. Physical and infrastructural development such as transportation facilities, health facilities, and educational facilities affected the activities of local residents. In addition, the existence of the industry had given the business opportunity to the local residents to try and increase revenue from the informal and formal sectors as well as a trigger for the people to compete in the field of education.

Meanwhile, the negative impact is that the construction of cement factory in fact still resulted in an urgent problem that was the prosecution of community land acquisition payments. Residents felt that they had not received all of the remaining land payments, while the party was already paid by the Tonasa factory for land. Until now, residents are still fighting for their rights that have not been completed.

Another point of issues is the recruitment of local residents as the workers who do not be audited. According to residents, the company has promised to give priority to local residents for working in cement factories, but currently the local residents who worked in factories were still limited and can be counted by fingers.

Another issue is the impact of waste dust factories that caused the effects such as disruption of the trees growth, interfere with breathing, acute respiratory disease, and damaging the environmental hygiene. These conditions are expected by the people without any compensation and to provide the solution how the residents can life comfortable and better in the surrounding factory.

DISCUSSIONS

The problematic symptom of cement plant construction begins when people opposed the government to conduct the land reclamation. The protest occurred at the time that the project was prepared to operate, because the people displaced and compensation they received was inadequate or due to the impact of environmental damage. At the implementation stage, protest re-emerged because of its impacts, both social and physical environment.

The positive impact felt by residents around the cement factory, among others were the business opportunities both informal and formal fields, absorption of local residents to work in the industry although the numbers are still limited and could be counted by fingers, construction of good facilities and infrastructure, street development and improvement, increased income, the opening of schools, and providing the public transportation.

The negative impacts felt by residents, among others were the destruction of the environment such as river erosion, air pollution caused by waste dust, the emergence of social inequalities, especially between natives and the migrants; the economic problem because the land compensation was inadequate, psychological disorders such as stress or depression for those who needed to get a job from cement factory of Tonasa.

The empirical findings above have been strengthened by the results

of previous research that has been done about the negative impacts of industrial development like Meutia Hatta (1991), Parsudi Suparlan (1991), and Yugo Sariyun (1996); and the positive impacts of industrial development like Amri Marzali (1976), Kuntowidjojo (1983), Usman Raidar (2002), Abdul Salam (2004), and Faisal (2005).

In the context of conflict, the researchers also found uniqueness in the region around the Tonasa cement factory that does not occur in other areas experiencing industrial development. It concerns that community around the Tonasa cement factory absorbed as workers at the PT *Semen* Tonasa, although quantity is limited, there does not happen social conflicts between local communities with the manufacture of cement (Kamaruddin, 2010). In other hand, the impacts of dust waste, waste oil, and waste coal, due to dredging river sand abrasion, increasingly threaten the comfort of society and less people enjoy the facilities provided by PT *Semen* Tonasa.

Another interesting point is the research conducted by Daniel Lerner (1983) on the “pade of traditional society” in the Middle East showed that people in the Middle East have switched from traditional society status and is in a transitional stage towards modernity. Social change in the research of Daniel Lerner determinant is the mass media with an intermediary variable in the field of education. Daniel Lerner’ findings reinforce the results of this research that countries experienced an agrarian social change toward the modern is always through a transitional phase, though different determinant of industrialization but the similarity lies in the existence of intervening variables, namely education.

Selo Soemardjan (1986) research about social change in Yogyakarta also showed the influence of the shift values and behavior patterns citizen even though its determinant is the bureaucracy, but it was also the intermediary variables of education. Indirect impact of social change is a shift in the social structure of society such as stratification, status, and role.

Research that examines, among other things conducted by Robert W. Heffner (1999) on the social change in the Tengger mountain with the green revolution and the determinant factors cause a shift in social strata, status, and social role of community as a result of state intervention. Other research was about the shift of social stratification in East Manggarai society in 1988 by Robert M.Z. Lawang that found a shift in social strata, the role, and status as a result of state intervention (cited in Soetomo, 1990).

Comparing the two studies above with a shift in the social strata of Bulu Siloro, there are similarities that lead to the shifting strata of education and economic strength factor (achieved status) and no longer on heredity (ascribed status). They differ only on the cause of political change through

intervention by industrialized countries through the construction of the plant.

Other research on social change was done by Idrus Muhamad Abustam (1990) and Lea Jellinek (1995). Social change that was found by Idrus Muhammad Abustam (1990) in low-land rice farming community in South Sulawesi also contained variables of education in it, but its determinant was the demographic factor namely migration and urbanization. While, the study of Lea Jellinek (1995) on social change in the *Kebon Kacang* (Bean Garden) sub-district in Jakarta was more caused by urban development factor that eliminated the source of residents livelihood

Both studies above have similarities and differences with the results of this research. Similarities with Idrus Muhammad Abustam research is the existence of the education variable as the cause of social change, but its determinant for Idrus Muhammad Abustam (1990) is urbanization and immigration. Comparison with Lea Jellinek's research is equally caused by government intervention through the development, but the difference is in economic variables (Jellinek, 1995).

CONCLUSION

Based on research result and discussion as stated in the previous chapter, it can be taken several research conclusions as follows:

There was a shift of social stratification of hereditary factors (ascribed status) related to educational achievement, occupation, and wealth (achieved status) due to the process of industrialization.

There was a shift of values and attitudes of mutual aid, simple to more complex, individualistic, specialized due to the process industrialization.

Environmental changes occur as a result of industrialization, such as: erosion of riverbanks, river water and air pollution resulting from the use of coal as a fuel and pollution by dust factory.

The positive impacts are that villagers are more open to information, infrastructure development, more alternative activities; and the negative impact is air pollution by dust and coal.

The presence of cement industry in the midst of society, despite making a positive impact, but the negative impact of dust, oil, and labor recruitment is a major problem faced by residents around the cement factory that requires serious attention by both the government of Pangkep District as well as PT *Semen Tonasa*.

Some suggestions regarding the research are: (1) to expect the PT *Semen Tonasa* to be transparent and create a permanent agenda in order

to socialize development programs and empowerment of communities around cement plants as a priority goal, so that people know the rights that they could obtain from the company, including in handling of problems with dust, oil, and recruitment of employees; (2) for the county of Pangkep along party district legislature need to strengthen their role as “mediator” between communities and companies, for example by forming a “mediator special institute”; and (3) for required non-governmental organization, as an independent agency, to control the implementation of its CSR (Corporate Social Responsibility) of PT Semen Tonasa.

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