



## Does decentralization good for reducing communal conflict? A multilevel analysis of communal conflict at Indonesia's villages 2008-2014

Aris Rusyiana <sup>a\*</sup>, Sujarwoto <sup>b</sup>

<sup>a</sup> Central Board of Statistic, Jakarta, Indonesia

<sup>b</sup> Brawijaya University, Malang, Jawa Timur, Indonesia

### ARTICLE INFORMATION

#### Article history:

Received: 28 February 2017

Accepted: 8 July 2017

Available online: 7 September 2017

**Keywords:** decentralization, communal conflict, multilevel analysis, Indonesia's village

### ABSTRACT

Whether decentralization is good for reducing communal conflict is still debatable. This study examines the linkage between three types of decentralization and communal conflict in Indonesia. Data come from the Village National Census (*Podes*) 2008-2014 (N=234,717). Results of multilevel logit regression shows that only administrative decentralization that significantly associated with reducing communal conflict, while fiscal and political decentralization are not. The findings suggest that decentralization work for reducing communal conflict through better capacity of local bureaucrats.

2017 FIA UB. All rights reserved.

### 1. Introduction

Communal conflicts become "headline" all over the world in the last three decades. World Bank (2011) reported that more than 1.5 billion people live in countries affected by communal conflicts. This number is equal to about a fifth of the world's population. The Uppsala Universitet Conflict Data Program (UCDP) and Peace Research Institute Oslo (PRIO) (2015) reported that in period 1990 to 2010 about 1.941.658 people were killed due to communal conflicts. Developing countries across Africa, Middle East, and South East Asia faced greater number of dead people because this conflict in which Africa is the highest with 676.263 death followed by Middle East (256.456), and South East Asia (221.976). This large death toll is followed by decreasing economic development in conflict areas countries. IANSA, OXFAM, and SAFER WORLD (2007) documented that countries across Africa suffered about 15% of GDP per capita due to communal conflicts

in period 1990 to 2010. The Strategic Foresight Group (2009) reported that communal conflicts in Middle East decreased GDP per capita in this region about USD 12 trillion. Communal conflict in South East Asia cost roughly about 30 years of GDP growth or reduced 10% of GDP (Word Bank 2011).

The United Nation Support Facility for Indonesian Recovery (UNSFIR) in 2004 documented pioneering social violent conflict database titled "Patterns of Collective Violence in Indonesia in the period of 1990 to 2003" whereas communal conflicts occurred about 3,608 total number of incidents. The National Violence Monitoring System (2013) reported about 32,963 total numbers of incidents of communal conflict in period 1997 to 2013. Communal conflicts in Indonesia are not only resulting in various total numbers of incidents but also causing increased number of deaths and reducing GDP per capita. UNSFIR (2004) reported the number of incidents of communal conflict in Indonesia could reach

\* Corresponding author. Tel.: +62-81313666818; e-mail: rusyiana@gmail.com

over 10,700 deaths. Indonesian Central Board of Statistics (BPS) documented communal conflicts in Indonesia increased to approximately 5,831 death tolls, and IDR 900 million total number of material losses in period 2003 to 2008 (Vothknecht & Sumarto 2011). This number is equal to twenty two times of Indonesian's GDP per capita.

The increasing communal conflict in Indonesia in the period of 1999 to 2014 has been linked with political transition in this country. Free and fair national, central elections of parliament and president have been introduced across the country since 1999. With lack experience of introducing direct democracy, this political change in some extent encourage conflicts in society as more than forty new political parties participated in the national direct election. Moreover, in 2001, Indonesia embraced radical decentralization that transformed the country's local government political system from autocratic centralized system to liberal democratic and decentralized system (Freedom House 2009). Decentralization has given every district governments power to perform the key functions of state, including the provision of health, education, environmental and infrastructure services. Abundant resources also accompany them from central government. Further reforms in 2005 allowed citizens to elect their own mayor and parliament through direct local elections: by the end of 2006, more than half of all districts had conducted direct elections (The Ministry of Home Affairs 2007). These abundant resources within district governments and new local political power have encouraged communal conflict during this period (Tadjoeddin 2014).

The consequences of decentralization on communal conflict have been documented. These studies show contrasting findings. Some studies found that decentralization is good for creating local stability, providing reassurance to ethnic minorities and reducing communal conflicts. Tranchant (2008) found fiscal decentralization could reduce the likelihood of conflict by strengthening local bureaucratic capacity. In Kosovo, Monteux (2006) found that decentralization was a tool to reduce ethnic tensions by providing reassurance to ethnic minorities and legitimacy to the political system. Likewise, In Uganda, decentralization can also foster local political stability and national unity through granting greater autonomy to conflicting groups, who are forced to enter into a formal bargaining process with the central government (Rothchild 1994). However, other studies found an increasing communal conflict following decentralization. Green (2008) found decentralization of power to smaller political units could increase local-level conflict by shifting power from

ethnically heterogeneous areas to those dominated by only one or two ethnic groups. Brancati (2006) found decentralized systems of government could increase communal conflict when regional parties vote are high. Likewise, Gurr (1993) presented that political system change could shape communal conflict because of institutional weakness. They all believe that there is a direct connection between increasing episodes of communal conflict with decentralization reform.

Few studies examine communal conflict following radical decentralization in the early 1999 in Indonesia. Tajima (2009) found decentralization increases communal conflict due to mismatches in both formal and informal institutions of security and order following the political change of governmental system from centralization to decentralization. Welsh (2008) reported that the power vacuum, which resulted from the policy decision to transfer authority from the center to localities (decentralization), increased episodes of communal conflict in local areas. Van Klinken (2007) reported that democratic transition in Indonesia was followed by widespread communal conflicts that threatened more than 10.000 lives of people across the archipelago.

However, Diprose (2009) found that decentralization has addressed long-standing inter-group tensions and horizontal inequalities at the local level, particularly where geographically concentrated ethnic-religious groups have previously been marginalized from the government. This study strengthened her previous argument by which she conducted joint research with other scholars on the manuscript titled "Decentralization and Conflict Management in Indonesia and Nigeria" (Diprose and Ukiwo 2008). They both found that decentralization could assist with conflict mitigation by providing self-autonomy and an institutional framework for managing tensions at the local level, as long as the process is implemented as promised to local peoples. Then, Murshed, et.al (2009) argued that fiscal decentralization could abate communal conflict because fiscal decentralization and the increased size of local government could alleviate pent-up frustrations with a centralized state. Fiscal decentralization as local government expenditure is seen to satisfy the needs of communities with which people identify more closely

Despite the important results, several limitations are notified in these prior studies. First, most of those studies use provincial and districts level in addressing the association of decentralization and communal conflict. By ignoring village level as the lower administrative tiers, the study could not capture the effect of decentralization and communal conflict

properly. Those studies enable us to see that the most prone areas of communal conflict laid in lower level administration tiers rather than in districts or provinces. Second, most of the prior studies have not linked yet simultaneously all three dimensions of decentralization and communal conflict. Some of them only examine the linkage between the fiscal decentralization and communal conflict, while the others only discuss the linkage of political decentralization and communal conflict. Third, from a temporal variation perspective at the national level, most of the prior studies ignore multilevel dimension of communal conflict. Ignoring multilevel dimension of communal conflict may result in bias estimate in which the results unable to control unobserved contextual influences across villages within districts that may relate to shifting communal conflict (Blalock 1984). Fourth, some of the prior studies used limited geographical coverage. For example, Murshed *et al.* (2009) study only covered districts within Java Island and therefore findings could only be generalized within communal conflicts across districts in this Island.

This study aims to fill those gaps in several ways. First, we use national representative census about the nexus between decentralization and communal conflict by focusing on Indonesia over the period of 2008-2014. However, this study mostly differs from previous studies, which only covered limited provinces and districts in Indonesia (see, for example, Diprose 2009; Murshed, *et al.* 2009). Since this study captures the association of decentralization and communal conflict in Indonesia, It will cover whole regencies/cities level and villages/neighborhoods level instead. By analyzing the association of decentralization and communal conflict until Indonesia's lowest administrative tier (village *desa* and neighborhood *kelurahan*), this study reveals effects of decentralization on the areas of most prone to communal conflicts. Second, we examine not only about fiscal decentralization but also about political and administrative decentralization and their effect toward communal conflict. By considering three types of decentralization simultaneously, this study provides findings that are more robust. Third, we examine the linkage of decentralization and communal conflict, which considers the multilevel model. By considering the multilevel model, this study is able to examine the link between decentralization (in district/city level) and communal conflict (in village level). This analysis can be used to address multilevel heterogeneity, assuming that the association between the dependent variable and its covariates vary between district/city and village level (Ballas and Tranmer 2012). Fourth, this study differs from some of the prior studies, which used only limited geographical coverage (see for example see Murshed *et al.* 2009 and Diprose 2009). By using larger coverage

of districts and municipalities, villages and neighborhoods within whole the provinces of Indonesia, this study contributes to enhancing the results and findings that can be generalized within communal conflicts across districts in Indonesia

## 2. Theory

### 2.1. Decentralization

Decentralization, or decentralizing governance, refers to the restructuring or reorganizations of authority so that there is a system of co-responsibility between institutions of governance at the central, regional and local levels according to the principles of subsidiarity, thus increasing the overall quality and effectiveness of the system governance, while increasing the authority and capacities of sub national levels (UNDP 1997).

Many scholars define decentralization in several ways (for example see Rondinelli *et al.* 1983; Litvack *et al.* 1998; Schneider 2003; Cheema and Rondinelli 2007). Rondinelli *et al.* (1983) define decentralization as “transfer planning, decision making or administrative authority from the central government to intensities field organization, local administrative unite, semi-autonomous and parastatal organizations, local governments, or non-government organization.” Schneider (2003) also introduced three types of decentralization, such follow: (1) Fiscal Decentralization, (2) Political Decentralization, and (3) Administrative Decentralization. In other term, Cheema and Rondinelli (2007) constructed four types of decentralization as follow: (1) Fiscal Decentralization, (2) Political Decentralization, (3) Administrative Decentralization, and (4) Economic Decentralization. In another case, Litvack *et al.* (1998) also categorized decentralization into three types: 1) administrative decentralization – a representation of power and duty among the governments, 2) fiscal decentralization – a budget *al.*location among the governments to support the functions or duties which delegated from higher level of governments, and 3) political decentralization – a greater delegation of authority to the regions related to various aspects of decision-making, including the establishment of standards and regulations.

Decentralization appeared as the critic of this centralistic government because centralistic government has some essential weaknesses in effectively and efficiently functioning of government. Cheema and Rondinelli (1983) pointed that centralized economic planning, national government authorities have viewed intervention and control as the correct path to follow, despite frequent and increasingly detailed accounts of their negative effects. According to Kälin (1999), the negative effects of centralized systems are: (1) the geographical distance which led to the resulting lack of knowledge about local circumstances, and (2) the

psychological distance of government officials from citizens. Thus, quite often, the central government takes measures that ignore local community needs and, therefore, lack credibility.

In their book which is titled *“Decentralization and Development Policy Implementation in Developing Countries”*, Cheema and Rondinelli (1983) stated that the increasing interest in this decentralization authority arose from three converging forces, such follow: (1) From disillusionment with the results of central planning and control of development activities during the 1950s and 1960s; (2) From the implicit requirements for new ways of managing development programs and projects that were embodied in growth-with-equity strategies that emerged during the 1970s; and (3) From the growing realization that as societies become more complex and government activities begin to expand, it becomes increasingly difficult to plan and administer all development activities effectively and efficiently from the center.

## 2.2. *Measuring decentralization*

According to Schneider (2003), decentralization concept in theories of fiscal federalism, public administration, and political science highlights a dimension of decentralization. Fiscal federalism theories dealing with decentralization focus on maximizing social welfare, which is portrayed as a combination of economic stability, allocative efficiency, and distributive equity

Schneider (2003) also describes some of the indicators that can be used to measure the level of decentralization. First, administrative decentralization can be measured using transfer grants and taxation. Second, fiscal decentralization can be measured using expenditure and revenue, which is a good measuring instrument to specify the level of fiscal decentralization, because it describes how much control local government on fiscal resources. Third, political decentralization can be measured using national and local elections. Political decentralization refers to the extent to which the process of democratic politics is run in the region. Local election is the best indicator to measure democracy, because democracy represent by local elections. Moreover, the local elections might upgrade the prospect of the practice of democratic political functions.

## 2.3. *The definition of communal conflict*

Derived from Latin word “*conflictus*” or “*confligere*” means “to clash or engage of fight. Several scholars defined conflict in many ways, as follow: Coser (1956) postulated the classic definition of conflict as the “struggle over values and claims to scarce status, power,

and resources, a struggle in which the aims of opponents are to neutralize, injure or eliminate rivals.” If status, power, and resources are scare whereas inevitably, they are, given the fact that they are, in part, relational constructs, it would seem that conflict is inevitable.

Palmer (1987) defined communal conflict as a public encounter in which the whole group can win by growing. Miller (2005) defined communal conflict as confrontation between one on more parties (in civil community) aspiring towards incompatible or competitive means or ends. Brosche and Elversson (2012) defines communal conflict as violent conflict between non-state groups that are organized along a shared communal identity.

Communal conflict in this study is defined as violent conflict between state-groups, non-state groups that are organized along a shared communal identity (Galtung 1965), such as ethnicity and how such conflicts relate to state-based violence (Brosché and Elfverson 2012). The groups involved are non-state groups, meaning that neither actor may be involved as an important supporting actor in a communal conflict. These groups are often organized along a shared communal identity, meaning that they are not formally organized rebel groups or militias but that the confrontation takes place along the line of group identities. Following Gurr (2000), communal identity is conceptualized as subjective group identification based on a common history, a common culture or common core values. In this definition, communal identity also refers to ethnic or religious identity.

Three scholars define communal conflict as confrontation between groups with no direct involvement of the state (Stewart (2008), not explicitly about class (Van Klinken 2007) and produces collective violence (Tajima 2009). Stewart (2008) argued that communal conflict is confrontation between both groups, which the state is not one of the parties to the conflict, though it might interference on one side to the other. Likewise, Van Klinken (2007) argued that communal conflict occurs between groups within society along ascriptive lines of ethnic origin or religion, not explicitly about class and againsts the state. In other case, Tajima (2009) described communal conflict as collective violences that include ethnic conflict, local communities’ conflict such as neighborhoods, villages, and towns.

### 2.1.1 . *Communal conflict in decentralized Indonesia*

The increasing communal conflict in Indonesia in the period between 1999 and 2014 has been linked with political transition in this country. Since 1999 Indonesia

political system has been changed from centralized government to decentralized government under jurisdiction of the law 22/1999 (regulations about regional government) and the law 25/199 (regulations about fiscal balance of regional government).

Previously, in centralized government, provincial and sub provincial levels of government (regional governments) were placed under strong central government control. Booth (2014) in her manuscript which titled "Before the 'big bang': Decentralization debates and practice in Indonesia, 1949–99" elaborated about Indonesia under the centralized regimes. Centralized Indonesia, especially at the second president era (Soeharto era), has created Law 5/1974 on Basic Principles on Administration in the Regions that reflected strong central government control over all branches of government included regional governments as an integral part of government of Indonesia. That 1974 law vested power in the regional head (*kepala daerah*), who was under the direct control of the central government. However, regional parliaments had few powers under the 1974 law. Many governors and *bupati* were from the military and some of unpopular governors were often 'dropped in' from the center, especially in provinces that were rich in natural resources. Soeharto also controlled over regional governments by allocating much greater budgetary resources for central government than regional government, especially regional with rich in natural resources.

In this period, political activity was also tightly controlled as well as public information enclosure. Civil society and Public Participator's freedom of speech are tightly controlled as well as Press Freedom. In this centralized period, Indonesia has only witnessed general election for members of representative. Indonesia has not held in direct election for presidency, and regional held. By the early 1990s (end of the centralized period), it was clear that there was considerable unrest in many parts of the country over the system of regional and local governments, negative sentiment of centralized development in Java, inequality and poverty among Java and outer of Java, etc. These factors triggered central government reformed into decentralized system era.

Different from the centralized era, since 2001, political system reformed into decentralized Indonesia. In this era, citizens could elect the local government officials who will responsible to the locally elected assembly. Decentralization also has given every district the power to perform the key functions of state, including the provision of health, education, environmental and infrastructure services. Districts can now perform any function that was previously undertaken by central or provincial government. The

substantial transfer of financial resources from center to the district has supported this increase in autonomy: more than a third of a national budget is now under district. A fiscal reform that balances the hierarchical relationship between the central government and local governments. This fiscal reform terms was also accompanied by the reassignment of more than 2,5 million civil servants to the districts as reported by World Bank in 2008 (Sujarwoto and Tampubolon, 2014).

Recalling trajectories of decentralization reform in Indonesia, some regulations are developed which accompanied decentralization reform as we seen at Table 1 about regulation on regional government, regional fiscal, and district proliferation. From the Table above (Table 1), we could see, government of Indonesia (GoI) regulated policy in promoting decentralization in Indonesia. These regulations involve regional government (Law No. 22/1999, Law No.32/2004, and revised by Law No.23/2014), fiscal balancing regulation (Law No. 25/1999 and revised by Law No.33/2004), Proliferation Guideline (PP No.78/2007), and Regional Governor, Mayor Election Guidelines (Law No.22/2014).

Table 1. Regulations on decentralization

No	Regulation	About
1	Article No 18/UUD 1945	Dividing Regional Government Areas
3	Tap MPR No.25/MPR/1998	Guidelines for Decentralization
4	Law No. 22/1999	Regional Government
5	Law No. 25/1999	The Fiscal Balance between the National and Sub-national Governments
7	Law No.32/2004	Regional Government
8	Law No.33/2004	The Fiscal Balance between the National and Sub-national Governments
9	PP No.58/2005	Financial Regional Accounting Management
10	PP No.78/2007	Proliferation Guidelines
11	Law No.28/2009	Regional Taxes and Retributions
12	Law No.13/2009	Special Status for Yogyakarta Province
13	Law No.2/2012	Regional Grant Mechanism
13	Law No.22/2014	Regional Governor, Mayor Election Guidelines
14	Law No.23/2014	Regional Government

Sources: (Adopt by Author) from  
<http://www.kemendagri.go.id/produk-hukum>  
<http://www.jdih.setjen.kemendagri.go.id>,  
<http://peraturan.go.id/>

According to the current law of regional government (Law No.23/2014), regional government has government authority, which consists of mandatory government affairs and government affairs mandatory option. Mandatory government affairs referred to basic services and non-basic services. Mandatory government affairs, which referred to basic services functions, address education, health, public work and spatial planning, housing and residential areas, and social, as well as peace, public order, and the protection of society (article 12 of Law No.23/2014).

### 3. Method

#### 3.1. Indonesia's village potential census (*Podes*) 2008-2014 and official statistics

To examine the effects of administrative, fiscal and political decentralization on communal conflict, we assembled district and village data from various sources. The data possesses a multilevel structure, with villages nested within districts. Data on villages is taken from The Village Potency Census (*Podes*) from the year 2008 to the year 2014 while district data comes from nationally representative surveys and official statistics. The *Podes* was a longstanding tradition of data collection at the lower administrative tier of local governments. The *Podes* consisted of more than 77,500 villages (*Desa*) and urban neighborhoods (*Kelurahan*) in averages ( $N_{2008}=75,100$ ,  $N_{2011}=76.404$ , and  $N_{2014}=81,923$ ) across all of the 491 regencies and cities in averages in Indonesia ( $N_{2008}=465$ ,  $N_{2011}=497$ , and  $N_{2014}=511$ ) in the period of 2008 until 2014.

The census was conducted every 3 (three) years by the Indonesian Central Board of Statistic (Badan Pusat Statistik) since 1983. Collected by Badan Pusat Statistik (Indonesia Central Board of Statistics) every three years since 1980, the *Podes* is the only spatial data the BPS has. This *Podes* census focuses on an overview of spatial situations in order to easy to identify accuracy and errors of the spatial dataset. There have been three times of the *Podes* data collection over the past 10 years as part of the series of Population Census, Agricultural Census, and Economic Census. However, since 2008, The *Podes* data has been collected independently as part of the series of census activities. Since 2011, there have also been three (three) types of questionnaire, i.e. *desa* (village) questionnaire, *kecamatan* (sub district)

questionnaire, and *kabupaten/kota* (district) questionnaire. In this way, data accuracy and completeness can be ensured. Detail information is gathered on a range of characteristics including about the incidents of local communal conflict and violence, the proportion of village heads who attained higher education within districts, and the number of community groups within districts, calculating aggregates at villages and urban neighborhood levels to measure their distribution. Information is gathered by conducting interviews with the key informants such as *kepala desa* (rural village heads) and *lurah* (urban neighborhood heads) and other credible informants as well as some field observation (BPS 2008; BPS 2011; BPS 2014).

The *Podes* data was linked to some other surveys and official statistical data sets using district codes. Firstly, we linked it with the fiscal data. Collected by The Ministry of Finance, this data set provides detailed information ranging from each district's revenue source to transferred balancing funds and general allocation funds deriving from central government, and sectoral development expenditure. We use fiscal data about District's Spending on Peace and Order function year 2007, the year 2010, and year 2013 (respectively the year before the *Podes* 2008, 2011, and 2014 census), as district development spending in the Indonesian budgeting system takes at least 1 year to take effect. Next, we linked the *Podes* data with the local and national election database of the Indonesian Ministry of Home Affairs. This contains about those districts that by 2008, 2011 and 2014 had already implemented direct elections.

Thirdly, we linked the *Podes* data to Districts' Ethnic Fractionalization Index (EFI). That index measures ethnic heterogeneity or ethnic diversity. Arifin *et al.* (2015) quantified it in their manuscript "Quantifying Indonesia's Ethnic Diversity," based on 497 regions (399 regencies and 98 cities) recorded in the 2010 Indonesia population census. The index ranged from 0 (homogeneous) to 0.94 (heterogeneous) (Arifin, et.al 2015). Moreover, we linked the *Podes* data to Official Statistics of District level, e.g Gross Domestic Regional Product, Gini Ratio, and Head Count Poverty. Head Count Poverty in this study is released by Central Board of Statistics (BPS) using basic need approach on food and non-food as the poverty line. BPS determined households with consuming under 2.100 calories per capita per days as poor households. BPS has inflated the amount of that household's expenditure, for that poverty measurement, based on The Consumer Price Index per regions (BPS 2008; BPS 2011; BPS 2014) since price levels of consumer goods and services in Indonesia vary across the country (Strauss at al. 2004).

### 3.2. Measures of communal conflict

Communal conflict is measured in two steps. First, by constructing dummy indicators of communal conflicts events in villages' level for each key factors: inter-village brawls, disputes between groups within one village with other groups in other villages, student riot, ethnic riot, and others. Second, by developing a new dummy indicator from the constructed total key factors of communal conflict, which indicated whether a village experienced with no communal conflict or experienced with one or all type of communal conflicts. The new categorical are labeled as value "0" and "1". The "0" value means "villages with no experience with one or more type of communal conflict in the last of a year. While the "1" value means "villages experienced with one or more type of communal conflict in the last of a year." Table 1 describes detailed variables, definition, and source used in this study.

### 3.3. Measures of decentralization

We follow the work of Schneider (2003) who proposed measures of three types of decentralization: administrative decentralization, fiscal decentralization, and political decentralization. First, to measure administrative decentralization, a dataset from the *Podes* census is used. This dataset indicates the proportion of education level that was attended by village head within districts. Second, to measure fiscal decentralization, we used block grant (*Dana alokasi umum*) in peace and order function. We used fiscal data from 2007 to 2013 (the year prior to my chosen *Podes* dataset), as districts' development spending data in the Indonesian budgeting system takes at least one year to produce an effect. Third, to measure political decentralization we used the age of direct local democracy (*Pilkadal*) as a proxy measure of local democracy maturity.

### 3.4. Control variables

Some social and economic determinants were included to control the likelihood of communal conflict across villages. Van Klinken (2007) argued that ethnic heterogeneity is the main determinants of communal conflict in Indonesia. We control communal conflict with ethnic diversity across districts. We use Ethnic Fractionalization Index (EFI) based on 2010 Indonesia Population Census based on Arifin et al.. (2015). The Index measuring the probability that two randomly selected individuals with in a district are not the same group range from 0 (for homogenous) and 1 (for heterogeneous).

Villages' experienced daily crimes are included to control for communal conflict. Daily crimes are measured by density of theft, robbery, gambling, heist, lynching, raping/sex abuse, drug abuse, and firing. Those low-level acts of violence may turn into riots in villages. In previous studies, mostly in qualitative studies are shown that these daily crimes are associated with communal conflict. Osterwal (1964) in "*Masyarakat Desa Indonesia Masa Kini*" told about little dispute between wife and husband turned into villages' dispute in *Muremarew* villages in *Mambaramo* district in Papua Provinces (Koentjaraningrat 1964). In another case, Scambary (2009) found that violence between gangs in East Timor in the period of 2006-2007 could escalate into communal conflict due to overlapping of their identities and membership in the communities.

GDRP, Gini ratio, and poverty are included to control whether economic development in district affects communal conflict. Prior studies suggest that communal conflicts are also rooted by economic rivalries and supply of public goods, poverty, and economic inequality (Stewart *et al.* 2005; Stewart 2008). Following the study by Mancini in 2008, and Barron *et al.* (2009) also found that high economic inequality is associated with higher level of communal conflict in rural areas. In this study, annual Gross Domestic Regional Product (GRDP) based on current market prices for the year 2008, 2011 and 2014 (included oil and gas) were used to examine whether district economic development decreases or increases communal conflict. Gini ratio is used to examine whether district economic inequality may affect communal conflict. Poverty always strong predictor of communal conflict and therefore we include this indicator in the model. We use basic need approach on food and non-food as the poverty line, based on Socio Economic Households Survey (*Susenas*) 2008, 2011 and 2014. BPS determined households with consuming under 2.100 calories per capita per days as poor households.

We also include slum areas, converted land use, and mining areas to control whether area deprivation associated with communal conflict. Barron *et al.* (2009) found that key determinants of communal conflict in village level related to competition to access limited natural resources, natural disaster and cropland is shrinking to non-cropland use. In economic determinant perspective, the presence of slum areas represents the economic inequality and poverty. While the presence of mining areas in villages level shows the manifestation of competition over scarce and the access rights in controlling them.

A Number of territorial force officer (Babinsa) at disadvantaged areas and most prone to communal villages is included to control for communal conflicts. conflict areas in Indonesia increase the communal Sangaji (2007) showed by his qualitative study that the

Table 2. Variables, definition and sources

Variables	definition	source
<b>District Level</b>		
Administrative decentralization	Percentage of high-level education that attended by village chief wit in districts	BPS-Podes 2008, 2011, and 2014
Fiscal decentralization	Logarithmic function of districts' transferred block grant ( <i>dana alokasi umum</i> ) in peace and order function in (2007-2013)	SIKD MoF year 2007, 2010, and 2013
Political decentralization	Age of direct major election ( <i>pilkadal</i> ) in (2008-2014)	MoH 2008, 2011, and 2014
Ethnic Fractionalization Index (EFI)	The Index measuring the probability that two randomly selected individuals with in a district are not the same group, range from 0 (for homogenous) and 1 (for heterogeneous)	BPS-Census 2010
GRDP	Districts' Gross Regional Domestic Product by Current Market Prices (oil and gas included)	BPS 2008-2014
Gini Ratio	Regencies/Cities' Gini Index Ratio	BPS 2008-2014
Poverty	Percentages of People in Regencies/Cities who lived below of poverty line (Poverty line which defined by BPS, people who consume food and nonfood under of 2300k/day)	BPS 2008-2014
Eastern Indonesia	Dummy indicators indicating districts within Eastern part of Indonesia	MoH 2008-2014
Density of NGO, Ormas and religion organization at districts	Mean of NGO, Community Organization (Ormas) and Religion Organization within a district	BPS-Podes 2008-2014
Number of territorial force officer at villages	Number of territorial force officers (Babinsa) ) within a district	BPS-Podes 2008-2014
<b>Village Level</b>		
Communal conflict	A Dummy indicator indicating communal conflict occurs at villages in the last of a year village	BPS Podes 2008-2014
<i>Socio economics determinants</i>		
Community social capital	Dummy indicators indicating the activity of community guard system in the village/neighborhood in the last 1 year	BPS-Podes 2008-2014
Daily crimes	Dummy indicators indicating the presences of violent crimes related to theft, robbery, heist, lynching, village/neighborhood in the last 1 year	BPS-Podes 2008-2014
Slum areas	Dummy indicators indicating the presences of slum areas within a village	BPS-Podes 2008-2014
Land converted nonagricultural land	Dummy indicators indicating the presences of agricultural land converting into non-agricultural land within a village	BPS-Podes 2008-2014
Mining areas	District has a mining area	BPS-Podes 2008- 2014
<i>Institutional determinants</i>		
Local traditional elites' role in communal conflict mediation	Dummy indicators indicating the presences of Local Traditional Elites' role in communal conflict mediation within a village	BPS-Podes 2008-2014
Television	Dummy indicator indicating the presence of local television, public and private national television, and foreign cable television broadcast	BPS-Podes 2008-2014
<i>Environmental determinants</i>		
Drought	Dummy indicators indicating the presence of drought with in the village in the last 3 year	BPS-Podes 2008-2014
Mountain	Dummy indicators indicating Village located in mountainous area	BPS-Podes 2008-2014
Valley	Dummy indicators indicating village located in valley	BPS-Podes 2008-2014
Seaside	Dummy indicators indicating village located in seaside	BPS-Podes 2008-2014

significant presence of the security forces in several violence.



For example in Poso Districts, in Central of Sulawesi Provinces, Police and Security Force Army involved in several cases of engaging directly in communal violence, losing control of the distribution of firearms and ammunition, mysterious shootings/killings, tolerating the communal violence, mobilization of force, business of the security forces, and rivalry between armed unit. All of those seem to lead to increasing the tension of communal violence in Poso. In this study, Territorial Force Officers (Babinsa) reflects army representatives in the lowest administrative tiers of local civil government. They are vertically responsible to the army force of Indonesia to anticipate the potential threat to the state. In districts, this territorial force officers under Koramil (Resort Military Command) command with in *Kodim* (district military command).

The role of local traditional leaders in communal conflict resolving is important. Qualitative studies identify their beneficial roles, such as *Tuan Guru* in NTB provinces in resolving communal conflict around village heads' election (Kingsley 2012), Raja's role in resolving communal conflict in Ambon (Brauchler 2015), and *Penghulu* in Central Kalimantan in leading customary laws (Koentjaraningrat 1964). Brauchler (2015) found in his qualitative study that traditional institution could participate in establishing peace at post communal conflict areas (in Maluku). In Maluku, the new national legislation on autonomy and decentralization that has legitimized and enforced the revival of local traditions and structures were produced by the participation of local traditional leaders. They attended such as intensive discussion by interdisciplinary team from a state university in Ambon in cooperation to finally managed to negotiate draft versions of the regional regulation and several other Perdas covering issues, such as the election of the *Raja*, the functioning of village government, *Nagari* and financial matters, and the setting up of *Saniri*.

This study also tests the linkage of some environmental and geographical determinants in village level with communal conflict, e.g. drought, residing in mountainous areas, valley, and seaside. Some scholars and practitioners believe that in developing countries, drought is associated with communal conflict. For Instance, study in Somalia by Maystadt and Ecker (2014). They found that extreme weather events, such as droughts, are related to local violent conflicts in a within-country setting over a short time frame in the case of Somalia. They estimated that a one standard deviation increase in drought intensity and length raises the likelihood of conflict by 62%. Gleick (2014) showed that drought, natural water scarcity, and other key factors had played a role in the communal conflict in

Syria. While in Indonesia, Sukmawan and Yuwono (2012) shows by their qualitative study that competition over clean water could escalate to the communal conflict between two villages in the border *Boyolali* and *Semarang* districts.

Communal conflict may also occur due to widening information. This study also examines the association between television and communal conflict. This variable is measured by constructing dummy variable that one or more of types of televisions can be watched or not in particular villages. Those types are the broadcasting of local television, public and private television, and foreign television could be watched or not in the certain village. This indicates television and its contents as institutional key factors in communal conflict. Television in Indonesia has reformed into commercial television in two radical waves years, 1989 and 2002 (Hollander *et al.* 2009). Television has changed into commercial television. After decentralization era, not only national television (TVRI) and local television but also private national and foreign television aired and penetrated to villages and neighborhoods. We adjusted that this density of television channel in the villages and neighborhoods are related to its violence contents, e.g. violence and rated R TV Series, prime time film tv, breaking news, crimes film, and criminal news.

We also use topography of villages. Villages' people may reside in mountainous areas, flat lands, valleys, and seashores. By constructing a dummy indicator on these topography areas of the village (residing in flat lands are excluded), these variables are used to examine whether villages in the geographical proximity as disadvantaged and less developed areas have high risks to communal conflicts than other villages.

### *3.5. Multilevel logistic regression*

The multilevel regression analyses used in this study could examine the link between decentralization (in district level) and communal conflict (in village level). These analyses address multilevel heterogeneity, assuming that the association between communal conflict and decentralization vary between district and villages (Ballas and Tranmer 2012). Hence, the model accounts for the clustering of villages in a district by separating their variance in communal conflict from the districts' variance (Rabe-Hesketh and Skrondal 2012). Using this model is thus more appropriate to test a hypothesis about the effects of varying districts and villages' characteristics on communal conflict.

In this study, we use two-level logistic regression since communal conflict measured by a dummy variable

(Snijders and Bosker 1999). Snijders and Bosker explain the basic structure of two level-logistic regression. The basic data structure of two-level logistic regression is a collection of a random sample of  $n_i$  level-one units  $i$  ( $i=1, \dots, n_i$ ) within  $N$  groups ('units at level two')  $j$  ( $j=1, \dots, N$ ). The outcome variable is dichotomous and denoted by  $Y_{ij}$  for level-one unit  $i$  in-group  $j$ . The outcome variable is coded zero for "failure" and 1 for "success". If one does not (yet) considers explanatory variables, the probability of success is regarded as constant in each group. The success probability in-group  $j$  is denoted by  $P_j$ . In a random coefficient model, the groups are considered as being taken from a population of groups and the success probabilities in the groups,  $P_j$ , are regarded as random variables defined in this population. The dichotomous outcome ( $Y_{ij}$ ) can be represented as the sum of this probability ( $P_j$ ) and a residual ( $R_{ij}$ )

$$Y_{ij} = P_j + R_{ij}$$

The outcome for individual  $i$  in-group  $j$ , which is either 0 or 1, is expressed as the sum of the probability (average proportion of successes) in this group plus some individual-dependent residual. In this study, we use two level logit regression model. Assume that we have data from group  $j$  districts ( $j = 1 \dots N$ ), with a different number of villages and neighborhoods  $n_i$  in each district. On the village level, we have the outcome variable communal conflict ( $Y_{ij}$ ), measured by a number of communal conflict events caused by inter-village brawls, inter-groups within villages without groups villages brawls, student riot, ethnic riot dead, and others.

We set up two level logit regression model equations with random intercepts in villages and neighborhoods level (unit level 1) to predict the outcome variable  $Y$  using the explanatory variables in villages and neighborhoods and districts (unit level 2). Considering a village or neighborhood  $i$  nested in a district or city  $j$ , logit two level regression is

$$Y_{ij} = E_{ij*}; Y_{ij} \sim \text{Binomial}(n_{ij}, E_{ij*})$$

$$\text{logit}(E_{ij*}) = \beta_0 + \sum \beta_j W_j + \beta_{ij} X_{ij} + \mu_j + \epsilon_{ij} +$$

With

$$E_{ij*} = \text{logit}(P(E_{ij*}=1))$$

$E_{ij*}$  is outcome variables (communal conflict) in villages ( $i$ ) nested within districts ( $j$ )  
 $\beta_0$  is a random intercept

$W_j$  is a set of district characteristics (e.g fiscal district spending, GINI index, GDRP, poverty and security forces)

$X_{ij}$  is a set of villages' characteristics (e.g. daily crimes, community group social capital, and television)

$\epsilon_{ij}$  is error which is assumed logistic distributed with zero and variance  $\sigma_\epsilon^2$

$\mu_j$  is a random intercept varying over districts with mean zero and variance  $\sigma_\mu^2$

#### 4. Results

Table 3 presents summary statistics for the key measures in district and village characteristics used in the analysis. A more detailed description of each of these measures follows. Administrative decentralization in Indonesia is measured by the ratio of village/neighbourhood heads educated from high school or higher. We found 80% of them graduated from high school or higher. During the period of 2007 to 2013, the district spent ranged about 100 million IDR to 61.6 billion IDR, and in averages is 9.51 billion IDR with standard deviation is 6.50 billion IDR for peace and order function. Average of direct democracy is five years and all districts conducted direct democracy since 2008.

Table 3. Descriptive statistics of analytic sample

	Mean	Std. Dev.	Range
Communal conflict <i>District (N=510)</i>	0.03	0.17	0-1
Administrative decentralization	0.80	0.20	0-1 18.50-
Fiscal decentralization	22.70	0.75	25.46
Political decentralization	4.60	2.82	0-9 0.01-
EFI	0.35	0.30	0.94 25.33-
GRDP	29.60	1.26	33.53
Gini Ratio	0.31	0.05	0-0.5 0-
NGO	132	145	1.151 0.01-
Poverty	0.17	0.09	0.54
Eastern Indonesia	0.21	0.41	0-1
<i>Village Characteristics (N=234,717)</i>			
Territorial force officers	114	127	0-633
Local traditional leaders	0.01	0.12	0-1
Community group social capital	0.75	0.43	0-1
Slum areas	0.05	0.22	0-1

Converted land use	0.25	0.43	0-1
Mining areas	0.25	0.44	0-1
Television	0.71	0.45	0-1
Daily crimes	0.47	0.50	0-1
Drought	0.03	0.18	0-1
Mountain	0.21	0.41	0-1
Valley	0.05	0.22	0-1
Seaside	0.15	0.36	0-1

Source: *Podes 2008, 2011, 2014* and official statistics

Communal conflict incidents are relatively high with 3% villages or 2,300 villages' experiences having communal conflict. There were about 1% (700 villages) of villages involve local traditional leaders in resolving communal conflicts. Territorial force officers (*Babinsa*) per district is 114 officers. Community social capital varies within 75% of total villages. We found that village with people residing near slum areas varies within 5% of total villages. Villages with agricultural land converted to non-agricultural land use (industry and settlement) vary within 25% or 17,500 villages. Likewise, villages with aired public and national television, local television, and broadcasted television on foreign channel. The percentage of villages with daily crimes were high with 47% of villages. The percentage of villages with drought were in average 3% or 2.100 villages. The percentage of villages with people reside in mountainous valley and seaside, respectively 21%, 5% and 15%.

Figure 1 describes geographical distribution of communal conflict in Indonesia. The highest incidents show at districts across Maluku, Sulawesi, Papua Provinces, and West Java Provinces. Communal conflicts occurred mostly in Papua Provinces particularly in Tolikara, Yahukimo, and Jayapura rather than in other districts in Papua Provinces. The High density of communal conflict also occurs across districts in North Maluku Provinces such as Ternate City, North Halmahera, and South Halmahera. At Java Island, high communal conflict incidents occur in Karawang District and Bogor District.

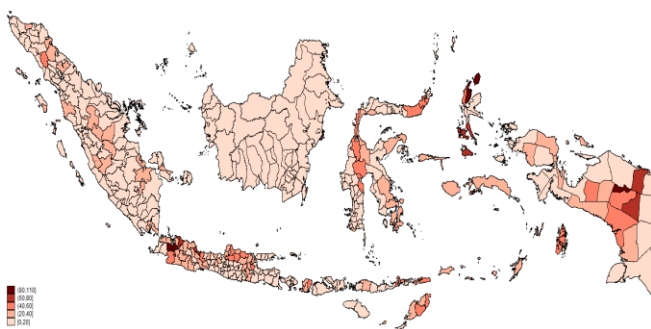


Figure 1. Geographical Distribution of Communal Conflicts in Indonesia (2008-2014) (Source: *Podes 2008-2014*)

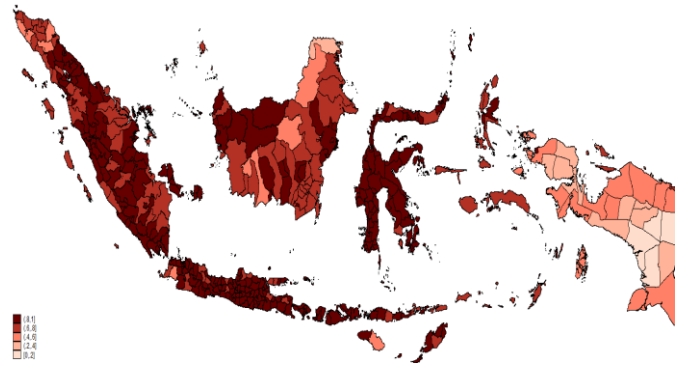


Figure 2. Geographical Distribution of Administrative Decentralization in Indonesia (2008-2014) (Source: *Podes 2008-2014*)

Figure 2 presents the geographical distribution of administrative decentralization. Low competency of village head appears across most districts at East Nusa Tenggara Timur, Central Kalimantan, and Papua Provinces. In these three provinces, most of the village heads are educated less than high school. This lack competency may relate to the capacity of the village head in these districts to deliver services and to manage communal conflicts.

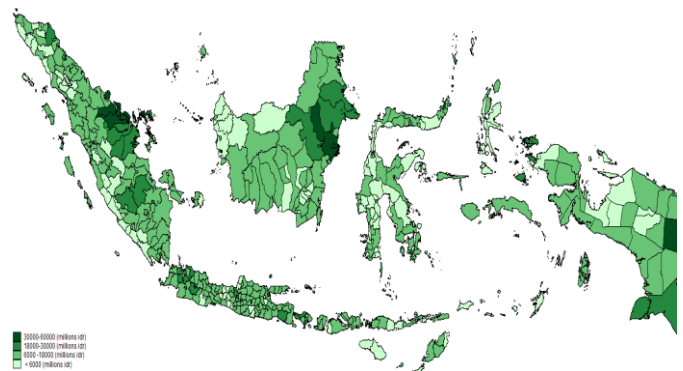


Figure 3. Geographical Distribution of Fiscal Decentralization in Indonesia (2007-2013) (Source: *SIKD 2007-2013*)

Figure 3 describes geographical distribution of fiscal decentralization in Indonesia. The highest spendings for peace function are found across districts at Riau, Kalimantan Barat, and Papua Provinces. The transferred block grant that was spent for peace and order function in those districts ranged from 30.000 Million IDR to 60.000

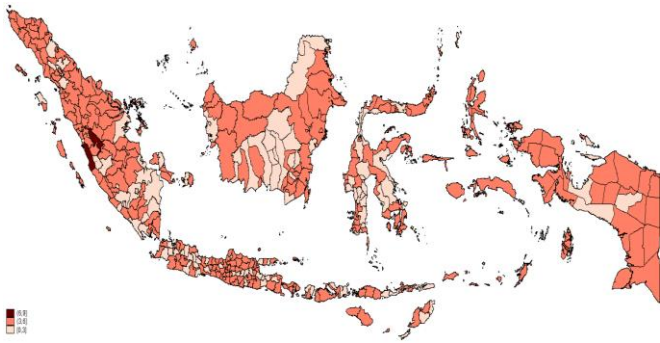


Figure 4 Geographical Distribution of Political Decentralization (2008-2014) (Source: Database of MoH 2008)

Figure 4 describes geographical distribution of political decentralization in Indonesia. Political decentralization refers to citizen's participation directly on the election the major in their districts, not be appointed by central government. The more mature districts in a democracy are indicated by the older age in implementing first direct mayor election (*Pilkada*). Districts across Lampung, Kalimantan Barat, NTT, Sulawesi, and Papua Provinces experiences less mature democracy (the age of first mayor, election ranged from 0 to 3 year old until 2014) rather than other provinces.

Table 4 presents regression result of the one level logistic regression and two-level logistic regression and shows the standard error of logit regression is lower than the standard error of two-level logistic regression. However, the results of two-level logistic regression are a more robust rather than single level logistic regression since the two-level logistic regression results accounting for nested structure of the data.

Administrative decentralization decreases communal conflict in Indonesia (-0.47,  $p < 5\%$ ). We found villages under competence village head less likely having communal conflict. In contrast, fiscal and political decentralization have no association with communal conflict. Ethnic heterogeneity as measured by EFI increases a likelihood of communal conflict (0.59,  $p < 5\%$ ). GDRP seems not a determinant of communal conflict. However, economic inequality and poverty increase likelihood of communal conflict (1.32,  $p < 5\%$  and 1.71,  $p < 0.5\%$  respectively). Villages within deprived districts are likely having more communal conflicts than villages within less deprived districts. The Density of NGO, number of territorial force officers (*Babinsa*), and Eastern region of Indonesia likely increase the likelihood of communal conflict. However, the association appears not statistically significant.

Local traditional leaders and community social capital increase the risk of communal conflict (6.96%,

$p < 5\%$  and 0.20,  $p < 5\%$  respectively). Communal conflict likely occurs at slum areas, mining areas, and converted agricultural land into non-agricultural. Drought increases risks to communal conflict. Villages across seashores are prone to communal conflict. However, living at villages at mountainous areas make people less experience of communal conflict. Television on communities and daily crimes in villages increase risks to communal conflict. We found communal conflict currently experience less rather than violent conflict in the earlier year of decentralization in Indonesia.

## 5. Discussion and conclusion

The question of what the nexus of decentralization and communal conflict has long been of interest to social scientists. However, this has rarely been explored in the context of a radical decentralized Indonesia using comprehensive geographical coverage and simultaneously long period of census dataset. Based on Indonesia's national village census 2008-2014, we examine simultaneously the relationship of administrative decentralization, political decentralization and fiscal decentralization on communal conflict.

The main results show that only administrative decentralization that contributes to reducing communal conflict in the country. Whereas, fiscal and political decentralization is not. Null findings are found in the association between local government's expenditure on peace and order function and age of direct local election (*Pilkadal*) on communal conflict. This contrasting result seems to signal that decentralization in Indonesia reduces communal conflict through better capacity of street level bureaucrats at village government rather than through financing capacity in delivering public services and the enhanced opportunities for channeling citizen participation in direct political participation. These null findings confirm Duncan (2007) and Ascher and Mirovitskaya (2016) who found lack of capacity civil servants are remains of largest problem facing communal conflict in decentralized Indonesia. While Ascher and Mirovitskaya (2016) show this evidence based on small case studies, our findings show across all villages in the country.

Other important findings show that district economic inequality and poverty are sources of communal conflict in decentralized Indonesia. Indonesia's economic development is characterized by an endemic problem of regional economic inequality and poverty (Akita & Lukman, 1995; Hill, 1996; Resosudarmo & Vidyattama, 2006; Hill *et al.*, 2008; Yusuf *et al.*, 2014).

Table 3 Result of logit and multi-level logit regression of communal conflict

	Logit regression				Multi-level logistic regression			
	Coef.	SE	CI 95%		Coef.	SE	CI 95%	
			upper	lower			upper	lower
<i>District</i>								
Administrative Decentralization	-0.63*	0.11	-0.86	-0.41	-0.47*	0.20	-0.86	-0.83
Fiscal Decentralization	-0.02	0.04	-0.10	0.07	-0.09	0.10	-0.28	0.11
Political Decentralization	-0.02*	0.01	-0.05	0.00	0.00	0.02	-0.05	0.04
EFI	0.42*	0.07	0.29	0.55	0.59*	0.17	0.26	0.92
GDRP	-0.05*	0.02	-0.10	0.00	-0.08	0.05	-0.17	0.02
Gini Ratio	0.03	0.36	-0.67	0.74	1.32*	0.50	0.35	2.29
NGO	0.00*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poverty	-0.12	0.23	-0.58	0.34	1.71*	0.48	0.76	2.65
Teritorial force officers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eastern Indonesia	0.89*	0.05	0.80	0.98	0.11	0.08	-0.05	0.27
<i>Village</i>								
Local Traditional Leaders	6.84*	0.07	6.71	6.98	6.96*	0.07	6.82	7.11
Community Group Social Capital	0.19*	0.04	0.11	0.28	0.20*	0.04	0.12	0.29
Slum Areas	0.51*	0.06	0.39	0.62	0.37*	0.06	0.24	0.49
Converted Land Use	0.17*	0.04	0.10	0.25	0.19*	0.04	0.11	0.27
Mining Areas	0.17*	0.04	0.10	0.24	0.17*	0.04	0.10	0.25
Television	0.25*	0.05	0.16	0.35	0.28*	0.06	0.17	0.39
Daily Crimes	1.24*	0.04	1.17	1.32	1.21*	0.04	1.13	1.29
Drought	0.20*	0.09	0.04	0.37	0.34*	0.09	0.17	0.51
Mountain	-0.10*	0.05	-0.19	0.00	-0.18*	0.05	-0.28	-0.08
Valley	0.00	0.08	-0.16	0.15	0.03	0.08	-0.13	0.19
Seaside	0.40*	0.04	0.31	0.48	0.28*	0.05	0.18	0.38
<i>Years</i>								
2011	-0.51*	0.05	-0.61	-0.41	-0.50*	0.09	-0.68	-0.33
2014	-0.67*	0.07	-0.81	-0.54	-0.66*	0.16	-0.97	-0.36
Constants	-3.05*	0.82	-4.65	-1.45	-1.81	2.00	-5.74	2.12
N village (2008-2014)		234.72				234.717		
N district (2008-2014)						510		
Sigma_u			0.79	0.95	0.87*	0.04	0.79	0.95
Rho			0.16	0.22	0.19	0.01	0.16	0.22
Likelihood-ratio					1.291,2*			
LR chi2(23)					25.519*			
Pseudo R2					41.28%			

Reported \* $p < 0.05$

Our findings show that ethnic heterogeneity is the source of communal conflicts. Hegre (2001) argue that communal conflicts are rooted in the dynamics of difference within inter-group relations where groups saw themselves as different due to an ethnic and cultural background. Green (2008) found that in developing countries, such as in Uganda and Indonesia, communal conflicts that strongly associated with ethnicity. Further,

Van Klinken (2007) explains that ethnic heterogeneity is the main determinants of communal conflict in decentralized Indonesia. Decentralization to some extent strengthens ethnic primordialism in Indonesia through the phenomena called *Putra Daerah* (local indigenous leader).

Some findings at village level contradict while others confirm prior studies. First, community group social capital lead to communal conflict. The findings

contradict with Mc Ilwaine and Moser (2001) studies as well as Galea *et al.* (2002) studies. We suggest that in diverse ethnic communities like Indonesia, their bonding social capital are more powerful than their bridging social capital. Thus, community social capital in Indonesia is strongly associated with ethnic similarity background. Likewise, the role of local traditional leaders who have strong backgrounds of ethnicity and religiosity, which in many cases lead to communal conflict.

Second, the result confirms Barron *et al.* (2009) study who found that communal conflict in village level related to competition to access limited natural resources, natural disaster and cropland is shrinking to non-cropland use. The presence of mining areas and natural disaster related to climate (drought) in villages level shows the manifestation of competition over scarce and the access rights in controlling them. Some studies show that competing for scarce natural resource and drought are associated with communal conflict such as in Indonesia and Syria (Tadjoeddin *et al.* 2001, Gleick 2014). Based on the qualitative study, Sukmawan and Yuwono (2012) shows that competition over clean water escalates to communal conflicts between two villages in the border Boyolali District and Semarang District. The nexus between converting land and communal conflict show the same pattern. In other case, the land conversion from agricultural use into non-agricultural use are likelihood of communal conflict. In villages, level when cropland, especially communal cropland is shrinking in availability and turn into non-cropland use could trigger to communal conflict. These conflicts emerge due to commonly reason that communal cropland represents unclear property right to whom the land belongs to (Barron, et.al 2009). That main incomes of villagers is in agricultural sectors, conversion of cropland to non-cropland use makes the agricultural land is scarce resources (Lambin and Meyfroidt 2011) and farmers loses their main income (Lambin and Meyfroidt 2011; Fazal 2001). Sanyal and Mukhija (2001) found that slum areas could be a latent factor in creating communal conflict related to mismanagement in housing allocation in Mumbai India. The variability of communal conflict is positively associated with inequality in housing and living (as measured by density of slum areas in villages' level). The presence of slum areas across the Indonesia's' villages shows that development yet not fulfills economic equality and prosperity.

Third, two fruitful findings show the linkage of television and daily crimes and communal conflict respectively. The findings confirms that television includes prime times on cable television links to violent

behavior, which may be escalated to communal conflict (Sheehan 1991, Bridgman 1996, Weaver 1996, Smith et.al 2002). Sheehan (1991) shows viewers on television were more prone to influence from real televised violence as opposed to fictional or unreal televised violence. Moreover, the results confirms (Osterwal in Koentjaraningrat 1964; Scambary 2009) that daily crimes, as measured by low level violence may turn into riots in villages could predicts variability of communal conflict in villages.

We realize that the findings consist of several limitations. First, because of cross sectional design, we have to be cautious about the possible causality of associations. The estimated coefficient should be viewed as a measure of association, rather than causation. The causal effect on decentralization and communal conflict is something with future research, using panel data on communal conflict and the most appropriate method, should seek to establish. Second, communal conflict is measured by a dummy variable. This measure allows to identifying communal conflict in villages level only capture whether or not types of communal conflict occurred in the villages. More robust measurement of communal conflict should consider the number of communal conflict. Third, our measure of communal conflict may consist of recall bias. This bias is associated with key informants of *Podes* census who are village heads. The information of the presence of communal conflict by subjecting only to a key informant is less accurate because of their capacity of memory and less administrative capacity in administrating the real communal conflict. The measure may be over estimate or may be under estimate. Fourth, the age of first mayor election in Indonesia (which this study uses) is not only one in measuring the maturity of democracy as indicators of political decentralization. Maturity of democracy could be multidimensional indicators includes the age of the first mayor election.

Despite these limitations, this study has several important contributions on the literature and communal conflict management policy in developing countries. First, this study highlights that decentralization work for reducing communal conflict through better capacity of local bureaucrats. While prior studies show these findings in the contexts of citizen happiness, poverty reduction, and corruption eradication (for example see Sujarwoto and Tampubolon 2014; Jutting, et.al 2004; Kaufman 1969), we show in the context of reducing communal conflict in Indonesia. Second, our findings suggest that the ultimate goal of decentralization should not necessarily to increase economic growth, but more importantly to improve economic equality and poverty reduction, and to do so through the provision of better

policies and services. This policy make socioeconomic and political stability in delivering peace and order until lower administrative tiers level to succeed the sustainable development. Third, this study suggests that ethnic diversity in districts level could alleviate the risk factor of some variability of communal conflict until lower administrative tiers, e.g. local traditional leaders, and community group social capital. Ethnic diversity may cause that local traditional leaders not effective in handling conflict in heterogeneous areas, even are associated with higher level of communal conflict.

This same pattern are shown by community group social capital. The result shows that an area with more abundant community group social capital are positively associated with communal conflict. This may be interpreted that in more heterogeneous villages, community group social capital are most strong in bonding social capital rather bridging social capital. Relative, that in more heterogeneous areas, social cohesion is more fragile rather than in less homogenous areas. Future study could consider this pattern in showing more robust finding. This study also shows other key determinants of communal conflict in village level, e.g. slum areas, television and daily crimes. This study contributes to Barron, et.al (2009) finding, that this variable could be additional key determinants in associating with communal conflict's variability in lower administrative tiers.

## References

- Akita, T., & Lukman, R. A. (1995). Interregional inequalities in Indonesia: a sectoral decomposition analysis for 1975–92. *Bulletin of Indonesian Economic Studies*, 31(2), 61-81.
- Arifin, E. N., Ananta, A., Wilujeng Wahyu Utami, D. R., Budi Handayani, N., & Pramono, A. (2015). Quantifying Indonesia's Ethnic Diversity: Statistics at National, Provincial, and District levels. *Asian Population Studies*, 11(3), 233-256.
- Ascher, W., & Mirovitskaya, N. (2016). Decentralization: Shifting the Locus of Conflict. In *Development Strategies and Inter-Group Violence* (pp. 203-230). Palgrave Macmillan US.
- Ballas, D., & Tranmer, M. (2011). Happy people or happy places? A multilevel modeling approach to the analysis of happiness and well-being. *International Regional Science Review*, 0160017611403737.
- Barron, P., Kaiser, K., & Pradhan, M. (2009). Understanding variations in local conflict: Evidence and implications from Indonesia. *World Development*, 37(3), 698-713.
- Blalock, H. M. (1984). Contextual-effects models: theoretical and methodological issues. *Annual Review of Sociology*, 353-372.
- Booth, A. (2014). Before the 'big bang': decentralization debates and practice in Indonesia, 1949–99. *Regional Dynamics in a Decentralized Indonesia*, 501, 25.
- BPS (2008). *The Village Potential Census English Guideline 2008*
- BPS (2011). *The Village Potential Census English Guideline 2011*
- BPS (2014). *The Village Potential Census English Guideline 2014*
- BPS (2008). Data dan Informasi Kemiskinan Kabupaten/Kota 2008
- BPS (2011). Data dan Informasi Kemiskinan Kabupaten/Kota 2011
- BPS (2014). Data dan Informasi Kemiskinan Kabupaten/Kota 2014
- Brancati, D. (2006). Decentralization: Fueling the fire or dampening the flames of ethnic conflict and secessionism? *International Organization*, 60(03), 651-685.
- Bräuchler, B. (2015). Decentralization, Revitalization, and Reconciliation in Indonesia. In *The Cultural Dimension of Peace* (pp. 39-67). Palgrave Macmillan UK.
- Bridgman, G. (1995). *Turning Away from Television Violence: The 1995 Media Watch Survey*. Mental Health Foundation of New Zealand.
- Brosché, J., & Elfversson, E. (2012). Communal conflict, civil war, and the State: Complexities, connections, and the case of Sudan. *African Journal on Conflict Resolution*, 12(1), 9-32.
- Carey, P. (2008). *The power of prophecy; Prince Dipanagara and the end of an old order in Java, 1785-1855* (pp. Xxx+-970). Brill.
- Cheema, G. S., & Rondinelli, D. A. (Eds.). (2007). *Decentralizing governance: emerging concepts and practices*. Brookings Institution Press.
- Coser, L. A. (1956). *The functions of social conflict* (Vol. 9). Routledge.
- Diprose, R. (2009). Decentralization, horizontal inequalities and conflict management in Indonesia. *Ethnopolitics*, 8(1), 107-134.
- Diprose, R., & Ukiwo, U. (2008). *Decentralisation and conflict management in Indonesia and Nigeria*. Centre for Research on Inequality, Human Security and Ethnicity, University of Oxford.
- Diprose, R. (2008). Passing on the challenges or prescribing better management of diversity? Decentralisation, power sharing and conflict dynamics in Central Sulawesi, Indonesia. *Conflict, Security & Development*, 8(4), 393-425.

- Duncan, C. R. (2007). Mixed outcomes: The impact of regional autonomy and decentralization on indigenous ethnic minorities in Indonesia. *Development and Change*, 38(4), 711-733.
- Fazal, S. (2001). The need for preserving farmland: A case study from a predominantly agrarian economy (India). *Landscape and Urban Planning*, 55(1), 1-13.
- Freedomhouse.(2009).<https://freedomhouse.org/report/freedom-world/freedom-world-2009>
- Galea, S., Karpati, A., & Kennedy, B. (2002). Social capital and violence in the United States, 1974–1993. *Social science & medicine*, 55(8), 1373-1383.
- Galtung, J. (1965). Institutionalized conflict resolution: A theoretical paradigm. *Journal of Peace Research*, 348-397.
- Gleick, P. H. (2014). Water, drought, climate change, and conflict in Syria. *Weather, Climate, and Society*, 6(3), 331-340.
- Graaf, H. D. (1986). *Runtuhnya Istana Mataram*. Grafitipers.
- Green, E. D. (2008). Decentralisation and conflict in Uganda. *Conflict, Security & Development*, 8(4), 427-450.
- Gurr, T. R. (1993). Why minorities' rebel: A global analysis of communal mobilization and conflict since 1945. *International Political Science Review*, 14(2), 161-201.
- Gurr, T. R. (2000). *Peoples versus states: Minorities at risk in the new century*. US Institute of Peace Press.
- Hegre, H. (2001, March). Toward a democratic civil peace? Democracy, political change, and civil war, 1816–1992. In *American Political Science Association* (Vol. 95, No. 01, pp. 33-48). Cambridge University Press.
- Hill, H., Resosudarmo, B. P., & Vidyattama\*, Y. (2008). Indonesia is changing economic geography. *Bulletin of Indonesian Economic Studies*, 44(3), 407-435.
- Hill, H. (1996). *The Indonesian economy since 1966: Southeast Asia's emerging giant* (p. 328). Cambridge: Cambridge University Press.
- Hollander, E., d'Haenens, L., & Bardoel, J. (2009). Television performance in Indonesia: steering between civil society, state and market. *Asian Journal of Communication*, 19(1), 39-58.
- IANS, OXFAM, SAFERWORLD. (2007). *Africa is missing Billion: International arms flows and the cost of conflict*.
- Jütting, J. P., Kauffmann, C., McDonnell, I., Osterrieder, H., Pinaud, N., & Wegner, L. (2004). Decentralization and poverty in developing countries: exploring the impact.
- Kaufman, H. (1969). Administrative decentralization and political power. *Public Administration Review*, 29(1), 3-15.
- Kingsley, J. J. (2012). Village elections, violence and Islamic leadership in Lombok, Eastern Indonesia. *Sojourn: Journal of Social Issues in Southeast Asia*, 27(2), 285-309.
- Koentjaraningrat. (1964). *Masyarakat desa di Indonesia masa ini*. Jajasan Badan Penerbit Fakultas Ekonomi, Universitas Indonesia.
- Lambin, E. F., & Meyfroidt, P. (2011). Global land use change, economic globalization, and the looming land scarcity. *Proceedings of the National Academy of Sciences*, 108(9), 3465-3472.
- Litvack, J., J. Ahmad and R. Bird. (1998). Rethinking Decentralization in Developing Countries. The World Bank. Washington DC.
- Mancini, L. (2008). *Horizontal inequality and communal violence: Evidence from Indonesian districts* (pp. 106-135). Palgrave Macmillan UK.
- Mansoob Murshed, S., Zulfan Tadjoeddin, M., & Chowdhury, A. (2009). Is fiscal decentralization conflict abating? Routine violence and district level government in Java, Indonesia. *Oxford Development Studies*, 37(4), 397-421.
- Maystadt, J. F., & Ecker, O. (2014). Extreme Weather and Civil War: Does Drought Fuel Conflict in Somalia through Livestock Price Shocks?. *American Journal of Agricultural Economics*, aau010.
- McIlwaine, C., & Moser, C. O. (2001). Violence and social capital in urban poor communities: perspectives from Colombia and Guatemala. *Journal of International Development*, 13(7), 965-984.
- Miller, C. E. (2005). *A Glossary of Terms and Concepts in Peace and Conflict Studies* (2nd ed.). University for Peace.
- Monteux, C. A. (2006). Decentralisation: The new delusion of ethnic conflict regulation? *International Journal on Multicultural Societies*, 8(2), 162-182.
- Monteux, C. (2006). Federal Solutions and the Question of Kosovo: Reality or Illusion?. *Students' Best Papers Meilleurs travaux d'étudiants*, 105.
- Notosusanto, N, et al. (1980). *30 Tahun Indonesia Merdeka 1945 - 1949 (Jilid 1)* (1st Ed.). Jakarta: PT Tira Pustaka.
- Palmer, P. J. (1987). Community, conflict, and ways of knowing: Ways to deepen our educational agenda. *Change: The Magazine of Higher Learning*, 19(5), 20-25.
- Rabe-Hesketh, S., & Skrondal, A. (2012). Multilevel and longitudinal modeling using stata 3 ed Volume 2: Categorical Responses Counts and Survival, Vol. 2. Tex: College Station.



- Resosudarmo, B. P., & Vidyattama, Y. (2006). Regional income disparity in Indonesia: A panel data analysis. *ASEAN Economic Bulletin*, 31-44.
- Robert D. Putnam, Robert Leonardi, Raffaella Y. Nannetti. (1993). *Making Democracy Work: Civil Traditions in Modern Italy*. New Jersey: Princeton University Press.
- Rondinelli, D. A., Nellis, J. R., & Cheema, G. S. (1983). Decentralization in developing countries. *World Bank staff working paper*, 581.
- Rothchild, D. S. (Ed.). (1994). *Strengthening African local initiative: Local self-governance, decentralisation and accountability* (Vol. 3). GIGA-Hamburg.
- Sangaji, A. (2007). The security forces and regional violence in Poso. In *Renegotiating Boundaries* (pp. 253-280). Brill.
- Sanyal, B., & Mukhija, V. (2001). Institutional pluralism and housing delivery: A case of unforeseen conflicts in Mumbai, India. *World Development*, 29(12), 2043-2057.
- Scambary, J. (2009). Anatomy of a conflict: the 2006–2007 communal violence in East Timor. *Conflict, Security & Development*, 9(2), 265-288.
- Schneider, A. (2003). Decentralization: conceptualization and measurement. *Studies in Comparative International Development*, 38(3), 32-56.
- Sheehan, P. (1991). Perceptions of violence on television. *Australian violence: contemporary perspectives*, 209-219.
- Smith, S. L., Nathanson, A. I., & Wilson, B. J. (2002). Prime-time television: Assessing violence during the most popular viewing hours. *Journal of Communication*, 52(1), 84-111.
- Snijders, T., & Bosker, R. (1999). Multilevel analysis: An introduction to basic and applied multilevel analysis.
- Stewart, F. (2008). Horizontal inequalities and conflict: An introduction and some hypotheses. In *Horizontal Inequalities and Conflict* (pp. 3-24). Palgrave Macmillan UK.
- Stewart, F., Brown, G. K., & Mancini, L. (2005). *Why horizontal inequalities matter: some implications for measurement*. Centre for Research on Inequality, Human Security and Ethnicity.
- Strauss, J., Beegle, K., Dwiyanto, A., Herawati, Y., Pattinasarany, D., Satriawan, E., & Witoelar, F. (2004). *Indonesian living standards: before and after the financial crisis*. Institute of Southeast Asian Studies.
- Sujarwoto, S., & Tampubolon, G. (2015). Decentralisation and citizen happiness: A multilevel analysis of self-rated happiness in Indonesia. *Journal of Happiness studies*, 16(2), 455-475.
- Sujarwoto, S. (2012). Political decentralization and local public services performance in Indonesia. *Journal of Public Administration and Governance*, 2(3), 55-84.
- Sujarwoto, S. (2016). Does Democracy Make You Happy? Multilevel Analysis of Self-rated Happiness in Indonesia. *Jurnal Studi Pemerintahan: Journal of Government and Politics*, 7(1).
- Sujarwoto, S., & Tampubolon, G. (2016). Spatial inequality and the Internet divide in Indonesia 2010–2012. *Telecommunications Policy*, 40(7), 602-616.
- Sujarwoto, s. (2017). Geography and Communal Conflict in Indonesia. *Indonesian Journal of Geography*, 49(1), pp. 86-96
- Sukmawan, D. A., & Yuwono, P. (2012). Melerai Konflik Antardesa (Studi Sengketa Air Desa Udanuwuh dengan Desa Dlingo).
- Sundeep Waslekar, Ilmas Futehally. (2009). *Cost of Conflict in The Middle East*. Mumbai: The Strategic Foresight Group.
- Suyono, C. R. (2003). *Peperangan Kerajaan di Nusantara. Penelusuran Kepustakaan Sejarah*. Jakarta: Grasindo.
- Tajima, Y. J. (2009). *Order and violence in authoritarian breakdowns: How institutions explain communal violence in Indonesia*. Harvard: ProQuest Dissertations and Theses; 2009.
- Tajima, Y. (2014). *The institutional origins of communal violence: Indonesia's transition from authoritarian rule*. Cambridge University Press.
- Tadjoeddin, M. Z. (2014). *Explaining Collective Violence in Contemporary Indonesia: From Conflict to Cooperation*. Palgrave Macmillan.
- Tadjoeddin, M. Z., Suharyo, W. I., & Mishra, S. (2001). Regional disparity and vertical conflict in Indonesia. *Journal of the Asia Pacific Economy*, 6(3), 283-304.
- The Ministry of Home Affairs. (2007). Law No. 22/2007 about Presenting Direct Elections.
- Tranchant, J. P. (2008). Fiscal decentralisation, institutional quality and ethnic conflict: A panel data analysis, 1985–2001. *Conflict, Security & Development*, 8(4), 491-514.
- UCDP. (2015). *Organized Violence in the World 2015*. Sweden: UCDP.
- UNDP. (1997). *Human Development Report 1997*. Oxford University Press, New York
- UNSFIR (2004). *Patterns of Collective Violence in Indonesia, 1990-2003*. Jakarta: UNSFIR.
- Van Klinken, G. (2007). *Communal violence and democratization in Indonesia: Small town wars* (Vol. 6). Routledge.
- Vlekke, B. HM (2008). *Nusantara: A History of Indonesia*.

- Vothknecht, M., & Sumarto, S. (2011). Beyond the overall economic downturn: Evidence on sector-specific effects of violent conflict from Indonesia.
- Weaver, K. (1996). The television and violence debate in New Zealand: Some problems of context. *Continuum*, 10(1), 64-75.
- Welsh, B. (2008). Local and national: Keroyokan mobbing in Indonesia. *Journal of East Asian Studies*, 473-504.
- World Bank. (2011). *World development report 2011: Conflict, security, and development*. World Bank.
- World Bank. (2010). Policy Brief Understanding Conflict Dynamics and Impacts in Indonesia. Jakarta:World Bank Conflict and Development Team
- Wunsch, J. S. (2001). Decentralization, local governance and 'recentralization' in Africa. *Public Administration and Development*, 21(4), 277-288.
- Yusuf, A. A., Sumner, A., & Rum, I. A. (2014). Twenty years of expenditure inequality in Indonesia, 1993–2013. *Bulletin of Indonesian Economic Studies*, 50(2), 243-254.
- Schneider, A. (2003). Decentralization: Conceptualization and Measurement. *Studies in Comparative International Development* 38 (3): 32-56.