Level of population mobility in wonogiri regency

P Hardati*, H N Rahayu
Geography, Faculty of Social Sciences, Universitas Negeri Semarang
*datie58@yahoo.com

Abstract. The diversity of phenomena on earth led to differences in the characteristics of each region, while the needs of the population are very diverse. These conditions lead to interactions between regions that support population mobility. The focus of this research is permanent population movement or referred to as permanent mobility. Researchers assume that the population is an important component of population mobility that affects the distribution and use of space so that control is needed for regional development planning. This research aimed to analyze the level of permanent in, out and net mobility in Wonogiri. The type of research is quantitative descriptive research. The population in this research that resident of Wonogiri Regency who performs permanently mobility. Research variables used ie the number of in mobility and out mobility. The results showed that the level of permanent mobility entered Wonogiri at 8.56 and permanent mobility levels out at 10.55 as well as the level of net permanent mobility Wonogiri -1.98. The result is known that the out population of Wonogiri more than the in population in Wonogiri. The condition indicates that the thrust of Wonogiri higher than the attractiveness of the area.

1. Introduction
The phenomenon on this earth is very diverse, the diversity of phenomena on earth causes each region has different characteristics depending on giving rise to the interaction between regions [1][2][3]. Interaction between regions led to the mobility of goods, ideas and population [4][5]. Population as an element in anthroposphere, it is well known that anthroposphere as one sphere expected to create a harmonious, balanced, and sustainable relationship, because anthropospher considered to be able to mobilize other spheres [1].

Population mobility is the movement of population from somewhere across the border of area to another within a certain period and influenced by various motivations [6][7]. Humans who did the next mobility referred to as the perpetrator of population mobility. Perpetrators of population mobility did the mobility to make ends meet in they life. Meet the needs of the household is very important and if these needs can not be fulfilled in stay place of origin then the populate should choose to move to another area [8].

Perpetrators of population mobility is usually dominated by a young population that is caused by a factor of employment. Perpetrators of population mobility did the mobility driven by the desire to find a job in the creative industries with the mobility patterns obtained from the young people are in Ohio, United States [9]. Performers of population mobility who still have family responsibilities in the area of origin, they send remittances to their home area. Remittances from workplace to their area of origin to improve education, increase purchasing power, housing, and health promotion [10].

Mobility activity will certainly affect the equitable distribution of the population and the use of space on earth [11]. The phenomenon of mobility activity that occurred due to the difference in growth from one region to other regions [12]. The differences among them on the differences of human resources,
physical resources and geographically between regions that also occurred in Central Java. The difference that is going on between the regions to cause the presence of areas that could developed rapidly and area that is less capable of developing rapidly [13].

Wonogiri Regency is one of regencies in Central Java with a number of exit permanent population mobility higher than the number of entry permanent population mobility. The number of exit permanent mobility of Wonogiri is of 11 379 population, while the number of entry permanent mobility Wonogiri of 9241 population [14].

The driving factor of population mobility in Wonogiri regency namely minimum wage (UMK) in Wonogiri Regency in 2016 was ranked 36 out of 37 counties and cities in Central Java. The magnitude of MSE 2016 in Wonogiri ie 1,293 million rupiahs [15]. Another factor that driving the native population of Wonogiri for doing population mobility is the condition of the land. Wonogiri farmland less fertile due to rocky soil and dry [16].

The problem of this research that the researchers wanted to analyze how the level of entry permanent mobility and permanent mobility exit Wonogiri in 2013 through 2016 as well as the researchers wanted to analyze the level of netto permanent mobility in 2016 in Wonogiri. The aim of research-based background of the problems that exist aims to analyze the level of entry permanent mobility and the level of permanent mobility exit Wonogiri in 2013 through 2016 as well as to analyze the level of netto permanent mobility in Wonogiri.

Forms of mobility is permanent mobility and non-permanent mobility [17]. The difference of the mobility form that is permanent mobility aims to settle in the destination area, while non-permanent mobility is not settled in the destination area or only temporary [18], non-permanent mobility subdivided into two that is commuting and circulation mobility. Commuting is mobility behavior who left the area and return home on the same day [19]. Circulation mobility ie mobility perpetrators left the area of origin for more than one day but less than six months [7].

The level of mobility by Todaro and Stilkind not affected by the high unemployment rate [20]. The level of netto mobility in small towns tend to be low, then Titus found that mobility occurs not only influenced by the encouragement of the village but also due to the influence of the appeal of the destination area [21]. The level of entry, exit and netto mobility in Wonogiri can be analyzed using the data of entry mobility, exit mobility and netto mobility.

2. Methods
The location of this research is Wonogiri Regency. Wonogiri Regency by researchers considered interesting to study because there is the phenomenon of exit population mobility permanently out more than the mobility of permanent population who entered Wonogiri Regency.
The population in this study is a population of Wonogiri Regency that was doing entered permanent mobility and permanent mobility out Wonogiri. This type of research is quantitative descriptive. The technique used for data collection in this study is documentation. The documentation referred to in this research is secondary data obtained from the Department of Population and Civil Registration Wonogiri.

Analytical technique in this study using the formula entry permanent mobility level and permanent mobility axit levels from Wonogiri [1] on the first goal. The formula of netto permanent mobility level [24] is used for the second goal analysis in this study.

Entry permanent mobility level is a level of mobility that shows how many entry mobility every 1000 population of the destination area within one year. Formula the level of entry permanent mobility as follows.

\[
Mi = \frac{I}{P_{mt}} \times k
\]

Information:
\(P\) = Total population of the destination area in the mid-year
\(I\) = Number of entry permanent mobility
\(k\) = Constant (1000)
exit permanent mobility level formula used to determine a level that indicates the number of exit permanent mobility of every 1,000 population of the origin area within one year. The level of permanent mobility exit can be analyzed with the following formula.

\[ MO = \frac{O}{P_{ma}} \times k \]  

Information:
- \( MO \) = The level of exit population permanent mobility
- \( O \) = Total of permanent exit population mobility
- \( P_{ma} \) = Total population of the area of origin in the mid-year
- \( k \) = Constant (1000)

Netto permanent mobility level formula to determine whether the population of an area a lot leave their homelands or the areas receive a lot entry population mobility. Formulas netto mobility level in this study as follows.

\[ Mn = \frac{M_i - M_o}{P} \times k \]  

Information:
- \( Mn \) = The level of netto permanent population mobility
- \( M_i \) = The number of entry permanent population mobility
- \( M_o \) = The number of exit permanent population mobility
- \( P \) = Mid-year population
- \( k \) = Konstante (1000)

3. Results and Discussion
Wonogiri astronomically are at 7°32'–8°15' South Latitude and 11°041' – 111°18' east longitude. Wonogiri almost every year to experiencing drought conditions or known rocky farmland with hills thousand [25].

The population projections Wonogiri Regency by BPS in 2016 reached 951,975 population, consisting of 462,700 males and 489,275 female population with a population density reaches 522 population/km². The highest population density is in Jatisrono Subdistrict is 1.152 population/km² and the lowest density is in District Paranggupito of 259 population/km² [26]. Wonogiri has an area of 182,236,02 ha [26] with land use on agricultural land instead of rice fields in the form of moor or garden with an area of 88.178 hectares and the narrowest form of land while not widely cultivated 167 hectares [26].

3.1. Population Mobility level in Wonogiri
Permanent Exit Mobility Wonogiri Regency throughout the year 2013 to 2016 has always had a number higher than the population that goes to Wonogiri. Exit population Wonogiri Regency always increase from year 2013 to 2016. The highest increase occurred in 2014 to 2015 which reached 12.02%. The condition is different from entry population Wonogiri Regency which had declined from the previous year which occurred in 2014 amounted to 1.931 population.
Table 1. Level of entry permanent mobility and exit permanent mobility in Wonogiri Regency 2013-2016

| No | Districts | Permanent Population Mobility |
|----|-----------|-------------------------------|
|    |           | 2013 En | 2014 Ex | 2015 En | 2016 Ex | 2013 En | 2014 Ex | 2015 En | 2016 Ex | 2013 En | 2014 Ex | 2015 En | 2016 Ex |
| 1  | Wonogiri  | 4588    | 791     | 265     | 811     | 637     | 949     | 923     | 11      | -8111   | 7        | 5460    | 9        | 315     | 9        | 379     | 2138 |
|    | Population at mid-year | 1.13285 million | 1031834.5 | 1060417 | 1078376.5 |

| Mobility rate of permanent residents entry / exit |
|-----------------------------------------------|
| 2013 | 4.04 | 6.9  | -2.94 |
| 2014 | 2.5  | 7.8  | -5.29 |
| 2015 | 6.0  | 8.9  | -2.94 |
| 2016 | 8.5  | 10.5 | -1.98 |

Level of permanent population mobility is directly proportional to the number of permanent population mobility. If the number of entry population mobility permanent has increased, level of entry mobility will also increase, and vice versa, the number of entry permanent population mobility decrease so as the level of population mobility permanent entry will also decrease. Such conditions also apply to mobility exit. The graph of the level of mobility in 2013 through 2016 is as follows.

![The level of permanent entry mobility and permanent exit mobility level of Wonogiri Regency](image)

Figure 2. Level of entry permanent mobility and exit permanent mobility in Wonogiri Regency 2013-2016

Figure 1 and 2 illustrates that the entry permanent population mobility level Wonogiri regency from 2013 to 2016 had decreased in 2014, as many as 1.47. Level of entry permanent population mobility had increased by 1.09 or as much as 3,722 population. The level of population mobility Wonogiri permanent exit from year to year has increased. In 2013 to 2014 the increase was as much as 0.88, 2014 to 2015 increased by 1.09, until the year 2015 to 2016, an increase of 1.6.

3.2. Netto Mobility in Wonogiri

Total population exit Wonogiri higher than the number of entry population that is 9241 people. Total population exit Wonogiri known to many as 11.379 person or reaches 1.05% of the total population that
is 1078.376.5 person in Wonogiri Regency 2016. The mobilization of the population is expected to increase if the differences between regions are very significant. Population mobility activity will be made easier with the increase in technology and transportation in view of the 21st century is the century in which the change from manufacturing into services-based life [1].

Conditions where the population of a region more exit into other areas such as in Wonogiri influenced by wage and employment, as it is known that factors that encourage population mobility, namely the lack of prospects for jobs, the economy weak areas, differences in wage income and the number of job offers in the city [31]. The number of populations exit of Wonogiri would be problematic both in the area of origin and destination area [32][33]. The impact of this phenomenon on the destination area can lead to changes in land use agricultural to non-agricultural on the outskirts of the city [34].

Impact on Wonogiri Regency as the area of origin if a permanent exit population mobility levels continues to rise that will occur can be reduced productivity of agricultural land, that if left unchecked will interrupt the continuity of development in agriculture [16]. Agricultural productivity as an important factor that affects the development of agriculture as presented by Neuman and his colleagues that agricultural productivity, population pressure, the infrastructure for storage and distribution of food, investing in food production technologies, trade policy, food prices and political stability can be function to food security [35].

Another impact both in the area of origin and destination area is the development gap between regions, and the uneven distribution of the population due happen concentration to the socioeconomic circumstances [1]. Mobility permanent population entered in Wonogiri Regency known to be lower than the mobility of permanent population exit Wonogiri as contained in the following table.

Table 2. The level of the permanent entry population mobility, exit permanent population mobility, and mobility netto in Wonogiri Regency 2016

| No. | Sub-district | En  | Ex  | Netto | No. | Sub-district | En  | Ex  | Netto |
|-----|--------------|-----|-----|-------|-----|--------------|-----|-----|-------|
| 1   | Pracimantoro | 7.79| 10.38 | -2.59 | 14  | Sidoharjo    | 7.98| 9.6 | -1.62 |
| 2   | Giritontro   | 9.03| 13.93| -4.90 | 15  | Jatiroto     | 5.57| 10.1| -4.53 |
| 3   | Giriwoyo     | 7.3 | 13.65| -6.35 | 16  | Kismantoro   | 6.47| 9.06| -2.59 |
| 4   | Batuwarno    | 5.26| 9.09 | -3.84 | 17  | Purwantoro   | 8.16| 9.28| -1.12 |
| 5   | Tirtomoyo    | 6.31| 9.67 | -3.36 | 18  | Bulukerto    | 6.38| 7.85| -1.47 |
| 6   | Nguntoronadi | 8.5 | 11.83| -3.32 | 19  | Slogohimo    | 7.84| 8.43| -0.59 |
| 7   | Baturetno    | 9.26| 12.15| -2.89 | 20  | Jatisrono    | 7.59| 10.02| -2.43 |
| 8   | Eromoko      | 7.26| 11.8 | -4.54 | 21  | Jatipurno    | 8.64| 9.64| -1.00 |
| 9   | Wuryantoro   | 9.64| 13.42| -3.78 | 22  | Girimarto    | 7.84| 9.15| -1.31 |
| 10  | Manyaran     | 10.81|12.26 | -1.45 | 23  | Karangtengah | 3.87| 5.2 | -1.33 |
| 11  | Selogiri     | 17.09|14.09 | 3.00  | 24  | Paranggupito | 6.85| 10.46| -3.61 |
| 12  | Wonogiri     | 14.23|12.5  | 1.73  | 25  | Puhpelem     | 8.03| 9.57| -1.54 |
| 13  | Ngadirojo    | 7.64| 9.53 | -1.89 |

Wonogiri -1.98

Analysis permanent entry mobility and permanent mobility exit Wonogiri Regency next, using a netto level of mobility. It is known that the level of netto permanent population mobility Wonogiri Regency has a negative result, meaning Wonogiri is an area with a permanent exit population mobility levels more than entry population Wonogiri. These circumstances show that the Wonogiri Regency still less appeal to local population as well as population of the area around Wonogiri [1].

Subdistrict with a value of the permanent population mobility netto lowest in Sub Giriwoyo is -6.35. The figure shows that the permanent population mobility exit of the Subdistrict Giriwoyo is high.
Mobility permanent population exit from the district high Giriwoyo one of them due to two service center infrastructure facilities located in the Sejati Village and Giriwoyo Village not been able to serve the entire area in District Giriwoyo [36] and District Giriwoyo including one of the subdistricts that belong to the seven sub districts drought-prone in Wonogiri Regency [25]. The highest level of netto mobility in Sub district Selogiri that is equal to 3.00, it is known that the permanent population exit mobility from the Subdistrict Selogiri less as compared to other subdistricts in Wonogiri. The condition is caused Subdistrict Selogiri experience better infrastructure development rapidly [37], and the location of the District Selogiri who are at the lowest level of the terrain of other subdistricts in Wonogiri [38].

Performers permanent mobility out Wonogiri average still has ties with the origin area because they doing temporarily mobility, which is one form of local knowledge from the perpetrators of exit mobility Wonogiri Regency. Population who entered the Wonogiri Regency temporarily they are called traveler perpetrator who entered Wonogiri Regency with public transport since the h-7 to D-day Eid Fitri reach 62 135 people by the number of buses reached 2,484 units [39]. The mobility perpetrators back to their hometown of the great day of Eid Eid is generally because they want to meet with their relatives and parents in the area of origin.

4. Conclusion
The results showed that the level of mobility exit Wonogiri Regency from year to year continues to increase with an increase in 2016 of 1.6. Entry mobility level Wonogiri Regency of 8.56 and mobility levels exit Wonogiri Regency 10.55. Wonogiri Regency population known to more population who did the mobility out compared with resident who entered Wonogiri with the difference reached 2,140 person. The level of netto mobility showed negative (-), which means motivating factor for permanent mobility in Wonogiri Regency larger than the attractiveness of the area Wonogiri Regency.
Number of exit permanent mobility that the constantly increasing, so need for improvement in the system and designing the development priorities as well as the proper spatial planning. These suggestions are intended for the needs in the social, economic, transportation and infrastructure in Wonogiri Regency can be met in daerannya own, and thus the mobility of permanent residents exit of Wonogiri can be controlled.

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