Soil and regional characteristics of paddy field in Ngoro Sub-district, Mojokerto, Indonesia: Understanding Land Use Change

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Abstract. The Ngoro sub-district has an extensive and productive agricultural land. The rice production of the studied area formerly was 6.02 ton MDG/ha, but recently only 0.70 ton MDG/ha. The study aims to characterize the soil and regional aspects of the studied area. The study was conducted in three villages: Sedati, Kembangsri and Candiharjo. There were three sample points determined based on differences in depth used for physical and chemical analysis of soil. Based on the laboratory analysis, the soils were considered as fertile and there were no problems in terms of physics or soil chemistry. Problems that can be identified were regional aspects. Based on the analysis of the alignment of land use with the Regional Spatial Plan (RTRW) shows that 39.8% were aligned, 59.4% transitions, and 0.8% were out of alignment. Although inconsistency was very small, what needs to be considered is the transition. Transition is land whose use is still possible to be adjusted to the RTRW. The area of transitional land can be indicated as an opportunity for changes in current land use due to adjusting to the RTRW. The agricultural sector is the widest sector that has the opportunity to convert into industry and settlements. High land values due to adequate infrastructure also trigger changes in land use.

Keywords: landownership, land use change, land value, Regional Spatial Plan

1. Introduction

In Indonesia rice fields have an important role in rice production. Rice is the staple food of most Indonesian people. The availability of rice in Indonesia is expected to be stable and not less than the amount needed by the community, because the reduced availability of food will have a negative impact on the stability of a country [1].

However, based on field observations in Sedati Village, Ngoro District, East Java, there are paddy field that formerly very productive paddy fields becomes unproductive since 2013 [2]. The land is not planted because farmers have difficulty managing their land. Continuous stagnant soil water conditions and the presence of rat pests result in frequent crop failures. Some farmers rent the land to plant sugar cane to keep productive, but have no significant results.

The lack of production of the land was allegedly due to the existence of an industrial sector that developed near the region which had an effect on the farmers' mindset. Farmers are reluctant to grow

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rice and are more dependent on the industrial sector. Hypothetically, the regional aspects have an important role in determining land use and utilisation. It seem that the regional aspects are most influences the dynamics of land use. The dynamics of the characteristics of the land and the regional aspects of the location of this study will be identified comprehensively, to understand the relationships of land characteristics, regional aspects and land use dynamics.

Based on the above background, the objectives of the study are to identify the characteristics of soil and regional aspects of paddy fields in Ngoro Sub-district, and surrounding to understand their relationship and to know the reason why the formerly productive ricefield become unproductive.

2. Material and Methods

The objects of the research were both cultivated and uncultivated paddy fields located in three Village of Ngoro District, Mojokerto Regency: Sedati, Kembangsri, Candiharjo. Soil analysis was carried out in the Research Laboratory of the Land Resources Management Department, IPB University. Primary data collected included descriptions of soil profiles, and social information surrounding the study site. The secondary data used is presented in table 1. The secondary data was processed using ArcGIS 10.3 software.

### Table 1. Secondary data used in the study

| No. | Data/Map                                      | Scale       | Resource                          | Notes                                      |
|-----|----------------------------------------------|-------------|-----------------------------------|--------------------------------------------|
| 1   | Land Use Map                                 | 1 : 50.000  | National Land Agency, Mojokerto Regency |                                            |
| 2   | Map of Regional Spatial Planning (RTRW)      | 1 : 50.000  | National Land Agency, Mojokerto Regency | Valid from 2011-2031                       |
| 3   | Land Value Zone Map                          | 1 : 50.000  | National Land Agency, Mojokerto Regency | Data of 2017                               |
| 4   | Map of General Description of Land Control (GUPT) | 1 : 50.000  | National Land Agency, Mojokerto Regency |                                            |
| 5   | Road Network Map                             | 1 : 25.000  | Geospatial Information Agency      | Available in tanahair.indonesia.go.id      |
| 6   | MPD selling price                            | -           | www.antaranews.com                 | Valid in March 2019                        |
| 7   | Rice Production in Sedati Village            | -           | Central Bureau of Statistics       | Year 2017                                  |

2.1. Soil sampling

Soil sampling was carried out at representative points, and the soil samples were taken from every layers/horizons of soil profiles, using soil auger, and ring sampler.

2.2. Soil Analysis

There are two type soil analyses, these are analysis of morphological properties in the field and analyses of soil physical and chemical characteristics in the laboratory. Analysis of the soil in the field was carried out by describing the morphological properties of the soil which included the soil horizon and its boundaries, soil depth, soil color, soil texture, soil structure, and soil consistency (wet).

Laboratory analysis of soils was carried out according to standard laboratory procedures. The parameters were physical properties (soil texture and total porosity) and soil chemical properties (soil pH, Cation Exchange Capacity (CEC), organic-C, total-N, available-P, and Base Saturation (BS)). The methods used in soil analysis are presented in table 2.
Table 2. Soil properties determined in the laboratory and the methods

| No | Soil Characteristics | Method/Instrument |
|----|----------------------|-------------------|
| 1  | Texture (3 fraction) | Pipette           |
| 2  | Bulk density         | Gravimetric       |
| 3  | Particle Specific Gravity | Picnometer      |

Chemicals

| No | Property                  | Method/Instrument          |
|----|----------------------------|----------------------------|
| 1  | pH (H₂O and KCl)          | pH-meter                   |
| 2  | CEC                       | NH₄OAc 1N pH 7.0           |
| 3  | Exchangeable-Ca and Mg    | NH₄OAc 1N pH 7.0, AAS     |
| 4  | Exchangeable-K and Na     | NH₄OAc 1N pH 7.0 Flamephotometer |
| 5  | Organic-C                 | Walkley and Black         |
| 6  | Total-Nitrogen            | Kjeldahl                   |
| 7  | Available-P               | Bray-1                     |

2.3. Regional Analysis

The regional analysis focused on analyzing land use, its alignment with the RTRW, and the influence of land values and land ownership on land use. Land use was analyzed descriptively based on land use maps. Alignment between land use and regional spatial plans was analyzed based on the criteria that have been made (table 3).

Table 3. Alignment criteria between land use and RTRW

| RTRW/LU             | Industrial estate | Inland water | Settlement | Paddy field | Seasonal dry land agriculture |
|---------------------|-------------------|--------------|------------|-------------|-----------------------------|
| Industrial estate   | X                 | Z            | Y          | Y           | Y                           |
| Water Infiltration  | Z                 | X            | Z          | Y           | Y                           |
| Sustainable Agricultural Area | Z | Z | Z | X | X |
| Rural Settlements   | Z                 | Z            | X          | Y           | Y                           |
| Urban Settlements   | Y                 | Z            | X          | Y           | Y                           |
| Agriculture         | Z                 | Y            | Z          | X           | X                           |
| Urban Open Space    | Z                 | Z            | Y          | Y           | Y                           |

Notes: X = aligned; Y = transition; Z = unaligned

After obtaining alignment criteria, alignment analysis was done by overlaying the land use map and RTRW map. Land value analysis was done by classifying land values. Based on the collected data, a
land value classification was arranged as in table 4. The effect of land values on land use was analyzed by overlaying land use maps and land value maps. This analysis was also related to the infrastructure around the research area. Land ownership was analyzed descriptively based on the GUPT map. All regional analysis was associated with the results of interviews so that the results of the analysis correlate with the conditions in the field.

Table 4. Land value classification

| No. | Value Interval (in IDR) | Category    |
|-----|-------------------------|-------------|
| 1.  | <250,000                | Very low    |
| 2.  | 250.001 - 500.000       | Low         |
| 3.  | 500.001 - 750.000       | Moderate    |
| 4.  | 750.001 - 1,000.000     | High        |
| 5.  | > 1,000.000            | Very High   |

3. Results and discussion

The soil laboratory results are presented in Appendices. In general, the results of three observation points show that there are not much difference in their characteristics, and the soils also have same classification, namely Typic Endoaquent (Soil Taxonomy Classification).

3.1. Soil Physics Analysis

The color of the soil was dominated by the gley color that indicated the soil was in continuous flooding condition. At point 1 (T1), all horizons has the same color, dark greenish grey. Whereas at point 2 (T2) and point 3 (T3) the soil colour in every horizon was different. The soil has no structure, due to constantly flooded, so that the soil structure was not formed, and the soil materials look like mud.

The soil texture was dominated by clay and silt, while the sand content was relatively small. At T1 and T2, the clay fraction was very dominant in all horizons up to >55%, whereas in T3 the clay fraction and silt were not much different. This shows that the clay fraction is the most influential fraction of the other properties, also affects the tillage. The high content of clay and silt can be correlated with the consistency of the soil which was dominated by sticky and plastic. This indicates that the proper soil management is needed by regulating the soil water content. If the soil water content is not properly regulated, it can cause soil inundated so that the plant cannot grow properly.

Total porosity was only analyzed at the top horizon because the lower horizon does not allow analysis due to stagnant soil. The total porosity of the land was classified as a shaft which is a range of mineral soils in general, which is 69.43% - 74.36%. This was in accordance with the statement of Terzaghi (in [3]) that soil porosity in general ranges from 0.30 - 0.75 or 30% - 75%. Based on the physical analysis, the soil should be suitable for planting lowland rice because rice has fiber rooted, they can reach the plant pores which is dominated by micro pores.

3.2. Soil Chemical Analysis

Soil chemical analysis showed that the soil was classified as fertile as evidenced by the presence of pH H2O > KCl pH. Soil pH H2O was classified as acidic, ranging from 4.89 - 5.54 but still suitable for lowland rice plants. Rice can grow well on soil with a pH of 4-7. In addition, the content of several soil essential elements (in both available and total forms) were generally classified as moderate to high, such as P and K. However, the total N content was generally moderate in the upper horizon and low in the lower horizon [4].

Soil organic matter has a tendency to decrease with increasing soil depth, but the content of soil organic matter in the upper horizon was high. The content of organic matter T1 and T2 was higher than T3. This is because T3 is soil that was previously planted by corn, while the T1 and T2 were fallow land overgrown with weeds. On intensive agricultural land such as planted corn has lower levels of organic matter compared to conservative agricultural land treated with minimum tillage and on the
ground there are weeds (grass) [5]. Overall, the three observation points contain medium to high organic matter, which is good for soil fertility and soil physical properties. This soil had a high Cation Exchange Capacity (CEC) and Base Saturation (BS). High soil CEC is also characterized by high levels of clay and organic matter. The high soil CEC indicates that the land has the ability to hold and exchange high cations so that it can be available and not easily lost due to washing [6]. If enough cations are available, the plant will grow well. Therefore, it can be concluded that the observed soil were fertile. In addition, the BS was classified as high, which more than 60%. The high BS indicated that bases in the soil are sufficiently available for plants. Based on this, it can be seen from the fertility that the land is classified as capable of supporting the nutrient needs of wetland rice plants, so that if used for lowland rice cultivation it should produce good production.

The results of soil chemical analysis are directly proportional to previous rice production, which is around 7-10 years ago. Based on interviews with local residents, rice production on the study area was 6.02 tons mild dried grain, MDG / ha with cropping index 2. This figure is higher than the yield of the last 6 years, it can be seen also based on 2017 BPS data which shows that the yield was only 101 tons of MDG per 73 ha in one time harvest [7]. It means that the productivity of this area is only 1.4 ton MDG/ha or 0.7 ton MDG/ha, if calculated with cropping index 2.

Based on these data it can be concluded that in fact the location of the study is feasible for farming, especially rice cultivation. The land has high soil fertility so it is suitable for development in the agricultural sector, especially rice field. Former the rice production of the studied area was 6.02 ton MDG/ha, but recently only 0.7 ton MDG/ha.

3.3. Regional Analysis

Regional analysis included analysis of land use, alignment of land use with the Regional Spatial Plan (RTRW), land value, and General Description of Land Tenure (GUPT). These analysis were conducted to see the prospects for development of land use and the correlation between current use of existing development plans.

3.3.1. Land Use Patterns and their Alignment to the RTRW indicate that land use in the study area was dominated by rice fields with a percentage of 53% of the total area of the study area (figure 1). Other land uses, from the largest, were settlements (24%), seasonal dry land agriculture (18%), land or river cultivation (4%), and the smallest were industrial area (1%). Although close to industrial estates, land use that is still dominant is the agricultural sector. In fact, the industry is only 1% of the total area and is only centered in Sedati Village. This is because the Sedati Village is located around the Ngoro Industri Persada (NIP) industrial area.

Table 5 shows that 39.8% of the total land has an alignment between the current land use to the RTRW, while the other 59.4% are classified as transitions and the rest are out of tune (0.8%). Transition alignment (59.4%) can be described as the magnitude of changes in land use that will occur later because the current land use can still be adjusted to the specified RTRW.
Tabel 5. Alignment between the current land use to the RTRW

| Alignment   | Area (Ha) | Percentage |
|-------------|-----------|------------|
| Aligned     | 226,371   | 39.8       |
| Unaligned   | 4,504     | 0.8        |
| Transition  | 337,411   | 59.4       |
| Total       | 568,286   | 100.0      |

The biggest transition category is the existence of agricultural areas (rice fields and dryland agriculture) in areas with industrial designation. This has the opportunity to lead to land conversion from agriculture to industry, because the regulations that apply to the area are industrial. This condition is in related with the reluctance of farmers to plant rice, because of the existence of other sources of income, the shift of profession into company employees or traders, frequent crop failures. This happens because of the close location with industrial estates and easy accessibility. The proximity of the location to the industrial estate resulted in the construction of shop houses and construction of boarding houses for company employees on either side of the local road. The second largest transition category is the use of paddy fields, which by RTRW should be used for settlements (rural and urban). The existence of high population growth will further encourage changes in land use. This is consistent with the statement of Iskandar et al. [8] that a high level of population growth is one of the causes of the high construction of settlements that can affect the spatial pattern of a region. The third largest transition category is the use of paddy field, which by RTRW should be used for urban open space. This is one of the factor that caused paddy field aren’t producing anymore.

3.3.2. Relationship between Land Use and Land Value indicates that the greater the value of land, the higher the chance for land use change, and vice versa. Sectors that have the highest land value are dominated by settlements and rice fields. Meanwhile, the sector that has the lowest land value is dominated by rice fields. The results of the analysis of land values can be seen in figure 2.

![Figure 2](image_url)

The results of the analysis show the land value that included in the very high category is land located close to the highway (national road). While the land value of low-category is located close to local roads that are directly related to national roads, and the land value in very low category is located far from the national road, and only connected to the trail. Most rice fields have very low land values (<Rp. 250,000), namely rice fields that are located quite far from the national road, precisely in the village of Candiharjo. However, there are also some rice fields that have the highest land value, namely rice fields located near...
the national road Pasuruan - Mojokerto. This data indicate that the existence of infrastructure can increase the land value so that land has a great opportunity to experience changes in land use. This is because by the existence of the infrastructure, such as road, cause the increasing number choices of land use. The high value of rice fields that located close to road has the potential to experience land use changes.

Changes in land use are also supported by high and low land use values. Table 6 shows that the utilization value of agricultural land is much smaller than that of non-agricultural land use. This calculation is obtained with the assumption that the use of agriculture sector is rice field and non-agricultural sector is a trader or shop. This is because the dominant land use in the study area is wetland rice for the agricultural and trade sectors for the non-agricultural sector. Based on these results, it can be concluded that the non-agricultural sector is more profitable than the agricultural sector. This is one of the causes of farmers' reluctance to go to farm.

| Tabel 6. An example of the value of utilization in Sedati Village |
|---------------------------------------------------------------|
| Category | The value of Rice Production1 | The Profit Value of Grocery Store2 |
|----------|------------------------------|----------------------------------|
| Wide (Ha) | 73                           | 0.0035                           |
| Average (Rp/Ha/year) | 40,949,650 | 36,500,000,000 |

Notes: 1 lowland rice farming with the selling price of MPD of Rp 5,530/kg; 2 responden’s information

3.3.3. Linkage of Infrastructure to Land Value shows that the factor that most influences the value of land is infrastructure. Adequate infrastructure is a driving factor for changes in land use. Increasing land values in an area can be influenced by the availability of adequate facilities (such as education and shopping facilities), easy accessibility, and proximity of the area to the road [9]. The research area has been equipped with diverse infrastructure, can be seen in table 7.

| Table 7. Infrastructure around the research area |
|-----------------------------------------------|
| Infrastructure | Distance (km) | Remarks |
|----------------|---------------|---------|
| Primary road (national) | 1 | connecting road Pasuruan – Mojokerto |
| Secondary road | 0.86 | between provinces |
| Highway | 20 | Porong Highway |
| Local train station | 20 | Statiun Krian and Statiun Porong |
| Train station | 25 | Statiun Mojokerto |
| Electricity | 0 | The whole area is affordable electricity |
| Internet network (4G) | 0 | The entire area is affordable internet network |
| Pasar | 0.8 | Sedati traditional market |
| Health facility | 1.4 | Puskesmas Ngoro Sub-district |
| Health facility (big scale) | 2.13 | Dharma Husada Hospital |
The distance calculated is the distance from paddy fields that are currently unproductive because the area has great potential to experience changes in land use, even though the RTRW area is designated as urban green open space. Based on the table, the opportunities for changes in land use are greater because the choice of utilization of use is increasingly diverse due to the existence of supporting infrastructure. The strategic locations is generally as a development and industrial target. There is a need a good development planning to maintain fertile soils for agriculture in order to support food sovereignity. The land use change is not only encourage by the infrastructure, but also influenced by areas surroundings.

The studied area is located close to Surabaya, the Capital of East Java Province, with the distance is around 2 hours by car via the toll road. Surabaya has adequate facilities and infrastructure, such as toll roads, train stations, ports, and airports. The proximity of research locations to city centers can affect land conversion, especially for settlements and industries. This is because the establishment of an industry requires easy accessibility, namely by looking at the availability of adequate road infrastructure so as to facilitate the producers to distribute the goods produced to consumers.

3.3.4. Relationship between Land Use and Land Ownership is regulated in Law Number 5 of 1960 concerning Basic Agrarian Principles (UUPA) known as Basic Agrarian Law (BAL) [10]. There are three land administration rules in land ownership, namely rights, restriction and responsibility [11]. The right aspect means the owner has the authority to use resources, meaning that all forms of profits and losses are borne by the owner. However, the owner as ruler of resources also has restriction in using it which is limited by the existence of applicable laws and regulations, for example in article 7 of the BAL concerning the social function of all land rights. If the owner violates existing regulations, the owner should get sanctions in accordance with applicable regulations. Therefore, the existence of these limits should make the owner have responsibility for the use of the resources their owns, as contained in Article 15 of the BAL that maintains the land, including increasing fertility and preventing damage is the obligation of each person, body law or agency that has a legal relationship with that land, taking into account that the economy is weak.

Based on the analysis of the map of GUPT, the research locations are mostly residents’ private property. However, in reality there are some parts which are typical of village land, not as private property, but village administrators act as managers. Based on the results of the interviews, most of the landowners in the study area were residents from outside village because the old owners had sold their lands to other people outside village. As a result, land ownership rules have also been transferred to new owners. All actions for the use of resources must be based on the permission of the new owner. The problem that occurs at this time is that new owners tend to leave their land unprocessed, in other words the owner is not responsible for the land owned. This resulted in previously productive land becoming unproductive. Land use before sale is paddy fields, but now almost all land is only covered with weeds that are often used by farmers to feed their livestock, such as cattle and goats.

It is feared that the use of this land will not be used as an industrial sector in the future. This is because of the infrastructure that supports the location and proximity to the NIP industrial area. If there is a function change into an industrial area, it means that the owner violates the applicable regulations, because the area according to the RTRW is urban green open space. One way to anticipate changes in land use occurs is the role of relevant institutions in giving permission to use them. If it does not comply with the applicable regulations, the relevant institution should not give its permission, even though the owner has the right.

4. Conclusion
The studied area is feasible for farming, especially rice cultivation. The land has high soil fertility so it is suitable for development of the agricultural sector, especially rice field. However former the rice production of the studied area was 6.02 ton MDG/ha, but recently only 0.7 ton MDG/ha.

The alignment analysis of land use with RTRW shows that 39.8% were aligned, 59.4% transitions, and 0.8% were unalignment. Although inconsistency is very small, what needs to be considered is the
transition. The biggest transition category is the existence of agricultural areas (rice fields and dryland agriculture) in areas with industrial designation.

Industrial area designation according to RTRW provide opportunity to lead to land conversion from agriculture to industry that is in related with the reluctance of farmers to plant rice, because of the existence of other sources of income, the shift of profession into company employees or traders, decrease rice production per ha, frequent crop failures and increase land value.

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### Appendix A. Soil Physics Analysis

| Point | Horizon | Depth (cm) | Color | Structure | Texture | Class Texture | Consistency (Wet) | Total Porosity |
|-------|---------|------------|-------|-----------|---------|---------------|-------------------|---------------|
|       |         |            |       |           | % Sand  | % Silt | % Clay | Viscosity | Plasticity |               |
| A1    | A1      | 0 - 21     | Glei 1 3/10Y (Dark Greenish Grey) | Without Structure | 1.7 | 42.16 | 56.14 | Silty Clay | Sticky | Slightly Plastic | 72.05 |
| T1    | A2      | 21 - 35    | Glei 1 3/10Y (Dark Greenish Grey) | Without Structure | 3.28 | 36.59 | 60.13 | Clay | Sticky | Plastic | - |
|       | A3      | 35 - 55    | Glei 1 3/10Y (Dark Greenish Grey) | Without Structure | 3.99 | 34.08 | 61.93 | Clay | Very Sticky | Plastic | - |
| A2    | A1      | 0 - 15     | 2.5Y 3/2 (Very Dark Greenish Brown) | - | 3.17 | 31.41 | 65.42 | Clay | Sticky | Very Plastic | 74.36 |
| T2    | A2      | 15 - 27    | Glei 1 3/10Y (Dark Greenish Grey) | - | 4.31 | 39.76 | 55.93 | Clay | Very Sticky | Plastic | - |
|       | A3      | 27 - 77    | Glei 1 2.5/10Y (Greenish Black) | - | 9.2 | 31.53 | 59.27 | Clay | Sticky | Very Plastic | - |
| A3    | A1      | 0 - 17     | 2.5Y 3/2 (Very Dark Greenish Brown) | - | 10.02 | 38.95 | 51.03 | Clay | Sticky | Plastic | 69.43 |
| T3    | A2      | 17 - 26    | Glei 1 3/10Y (Dark Greenish Grey) | - | 12.07 | 52.18 | 35.75 | Silty Clay Loam | Sticky | Plastic | - |
|       | A3      | 26 - 40    | Glei 1 2.5/10Y (Greenish Black) | - | 10.4 | 44.8 | 44.8 | Silty Clay | Very Sticky | Plastic | - |
| A4    | A4      | 40 - 77    | 2.5Y 3/1 (Very Dark Grey) | - | 5.55 | 41.51 | 52.95 | Silty Clay | Very Sticky | Plastic | - |
## Appendix B. Soil Chemical Analysis

| Point | Horizon | Depth (cm) | pH (1:2.5) | CEC (cmol(+)/kg) | BS (%) | N (%) | P (ppm) | K (cmol(+)/kg) | Organic-C (%) | Organic Matter (%) |
|-------|---------|------------|------------|------------------|--------|-------|---------|----------------|----------------|-----------------|
|       |         | H2O        | KCl        |                  |        |       |         |                |                |                 |
| T1    | A1      | 0 - 21     | 4.89       | 4.6             | 35.88  | 63.03 | 0.42    | 12.2           | 0.8            | 5.69            | 9.8            |
|       | A2      | 21 - 35    | 4.99       | 4.54            | 34     | 61.07 | 0.32    | 16.26          | 0.09           | 4.38            | 7.54           |
|       | A3      | 35 - 55    | 5.05       | 5.02            | 33.82  | 60.62 | 0.2     | 18.39          | 0.22           | 2.89            | 4.98           |
| T2    | A1      | 0 - 15     | 4.91       | 4.44            | 36.98  | 61.03 | 0.3     | 41.65          | 0.1            | 4.1             | 7.06           |
|       | A2      | 15 - 27    | 5.15       | 4.69            | 35.49  | 66.55 | 0.2     | 31.98          | 0.15           | 2.82            | 4.86           |
|       | A3      | 27 - 77    | 5.53       | 4.88            | 30.45  | 73.85 | 0.1     | 33.16          | 0.34           | 1.55            | 2.67           |
| T3    | A1      | 0 - 17     | 5.54       | 5.05            | 27.97  | 73.57 | 0.23    | 19.48          | 0.1            | 2.88            | 4.96           |
|       | A2      | 17 - 26    | 5.11       | 4.67            | 26.62  | 76.37 | 0.18    | 3.97           | 0.15           | 2.32            | 3.99           |
|       | A3      | 26 - 40    | 5.16       | 4.64            | 26.78  | 64.02 | 0.14    | 20.19          | 0.22           | 1.68            | 2.9            |
|       | A4      | 40 - 77    | 5.17       | 4.5             | 27.1   | 68.26 | 0.09    | 16.96          | 0.52           | 1.03            | 1.78           |