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Sustainable Development of Mountain Territories

*"Земля - планета не простая".
А. де Сент-Экзюпери*

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Our interest is to explore such a characteristics of the young villagers who live in the slope of Mountain Arjuna, East Java Province of Indonesia prior to their existing management competency and existing entrepreneurial intention.

MANAGEMENT COMPETENCY AND ENTREPRENEURIAL INTENTION OF THE 60-YOUNG VILLAGERS IN A PART OF SLOPE OF MT. ARJUNA EAST JAVA INDONESIA

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1. Introduction

This is a very beginning basic research that explore such a good potential of young villagers in a part of the slope of the Mountain Arjuna (sometimes called Arjuno) located administratively between Batu City (Malang Regency) and Pasuruan Regency in East Java Province of Indonesia since there is no publication until this report is written especially about the current characteristics of the 60-young villagers who leaved near the mountain Arjuno. Mountain Arjuno is a volcano cone with height 3.339 meters upper the sea level (*Gunung Arjuno*, 316AD; Dan, 2016). Management of the mountain is called as the Taman Hutan Raya (Grand Forest Parks) R. Soeryo (sometimes called as R. Surjo or Raden Soerjo) which total area of the forest was 27.868,30 ha based-on Decree of the Ministry of Forestry Indonesia No. 80/Kpts-II/2001, 19 Mei 2001 (Yudohartono, 2008; Siswanto, 2017). The Grand Forest Parks R. Soeryo administratively located in Tulungrejo Village, Batu City, Malang Regency, East Java Province, Indonesia at 112° 32' 00" East Longitude and 7° 44' 30" South Latitude (NGalamediaLABS, 2013; Dan, 2016). Areas of the Grand Forest Park were lies in the five different Regency area of East Java Province i.e.: Mojokerto Regency, Malang Regency, Jombang Regency, Pasuruan Regency and Batu City. There are seven mountains included in the Grand Forest Parks R. Soeryo i.e: Mt. Arjuno (3.339 m), Mt. Welirang (3.156 m), Mt. Anjasmoro (3.217 m), Mt. Kembar I (3.061 m), Mt. Biru (2.337 m), Mt. Kembar II (3.256 m) and Mt. Ringgit (2.474 m) (NGalamediaLABS, 2013). In Pasuruan Regency, there are only two districts lies in the slope of Mt. Arjuno i.e: Prigen District and Puwodadi District. There are fourteen villages in the Prigen district of the Pasuruan Regency, and thirteen villages in the Purwodadi District (BADAN PUSAT STATISTIK KABUPATEN PASURUAN BPS - Statistics of Pasuruan Regency, 2020). The villages near the Mt. Arjuno in Prigen District are Jatiarjo Village, Dayurejo Village, Lumbangrejo Village, Ledug and Pecalukan. The villages near the Mt. Arjuna in Purwodadi District are Tambaksari Village, Jatisari Village and Pucangsari village. Area of the forest on the mountain especially in Pasuruan Regency was about 12.000 ha. There are only 300 ha of 1.500 ha that conserved the forest which broke caused by fire in 2012 (Nugroho *et al.*, 2019).

2. Conceptual development

Forest areas are an important land of agricultural production or farming (Guresci, 2015). According to the forest conservation as proposed and implemented by (Nugroho, 2018; Nugroho *et al.*, 2019), this research aims to gain an understanding what is the characteristics of the peoples near the Mountain Arjuno especially young villagers in their management competency and their entrepreneurial intention. We hope, in the next time, the people especially their young villagers will have better qualities

KEYWORDS:

system engineering; industrial management; modelling; sustainable development; decision making

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in life as the strategic planned and processed by (Dinas pertanian jawa timur, 2014; PEMERINTAH PROVINSI JAWA TI, 2015; Dinas Pertanian Provinsi Jawa Timur, 2016; Bappeda, 2017) which is supported by our research concept shown in figure 1.

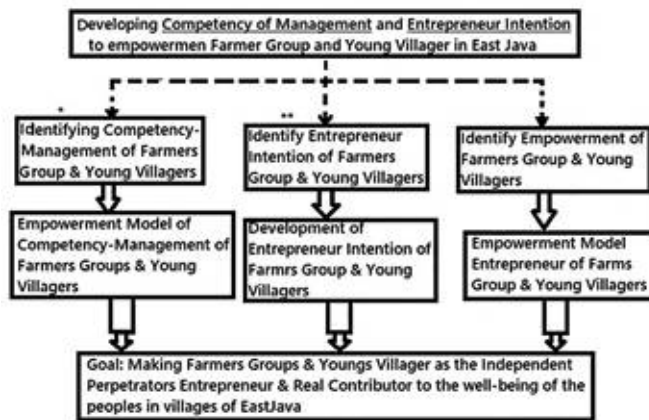


Fig. 1. Roadmap / Concept of our research (Direktorat Riset dan Pengabdian Masyarakat Direktorat Jenderal Riset dan Pengembangan Kementerian Riset, Teknologi, 2019), parts of * and ** is reported in this paper works

There are three individual competencies-management that need to know-well in every body in order to success in their work as well (Spencer and Spencer, 1993; Hertanto, 2017). Here in this research work we put in the questionnaires with 9 indicators used to detect the intellectual-competence of the young villagers (42 respondents from Dayurejo Village, 18 respondents from Jatiarjo Village), 5 indicators for the emotional-competence and 7 indicators for the social-competence. Total respondents were sixty as we don't know population but we have four variables that's why it is a must at least 40 respondents (Sugiyono, 2019). Our future research's goal is the young villagers become an entrepreneur; their family economic-development become sustainable as SDGs (SustainAbility, 2020; Yulaswati, 2020).

Model Core Entrepreneurial Intention of the young villagers was adopted from (Linan and Chen, 2011; Sari, 2013), shown in figure 2.

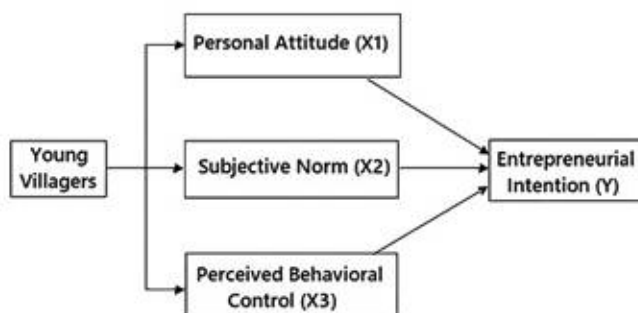


Fig 2. Concept development about entrepreneurial intention model

3. Methodology of research

It was developed a list of indicators to the concept as discussing above in a questionnaires (the EIQ, Entrepre-

neurial Intention Questionnaire) follow (Linan and Chen, 2011; Sari, 2013). which is X1 with 5 indicators, X2 with 5 indicators (adopted from (Linan and Chen, 2011; Sari, 2013), X3 use the same indicators as (Linan and Chen, 2011; Sari, 2013) and Y use the same indicators as (Linan and Chen, 2011; Sari, 2013) for young villagers.

Table 1

Comparison of sum of the EIQ' indicators

Variables	(Linan and Chen, 2011)	(Sari, 2013)	Proposed
PA, X1	5 indicators	5 indicators	5 indicators
SN, X2	3 indicators	7 indicators	5 indicators
PBC, X3	6 indicators	5 indicators	6 indicators
EI, Y	6 indicators	5 indicators	6 indicators

The questionnaires spread to the villages in a part of the slope of the mountain to sixty young villagers there. After collecting the data from the questionnaires then proceed and analyzed them through software Statistical Packages for Social Sciences (SPSS) version 21.0, respectively.

4. Analysis

About 60 of 100 respondents are the young villagers (Badan Pusat Statistik Provinsi Jawa Timur, 2016) which is the persons who have 16 to 30 years old prior to the survey conducted. It was found that there are 30% of the

Table 2

Kinds of farming of the young villagers
(Primary data, analyzed (2020))

No.	Kind of Farming	Frequency
1	Coffee	24
2	Banana	13
3	Cassava	12
4	Clove	11
5	Corn	11
6	Avocado	11
7	Durian	9
8	Pineapple	3
9	Jackfruit	3
10	rambutan	3
11	Soursop	2
12	Rice	1
13	Carrot	1
14	Elephants' grass	1
15	Strobery	1
16	Eggplant	1
17	Orange	1
18	Guava	1
19	Vegetable	1
20	Sea-wood	1
21	Tree	1
22	Petai	1
23	Grape	1

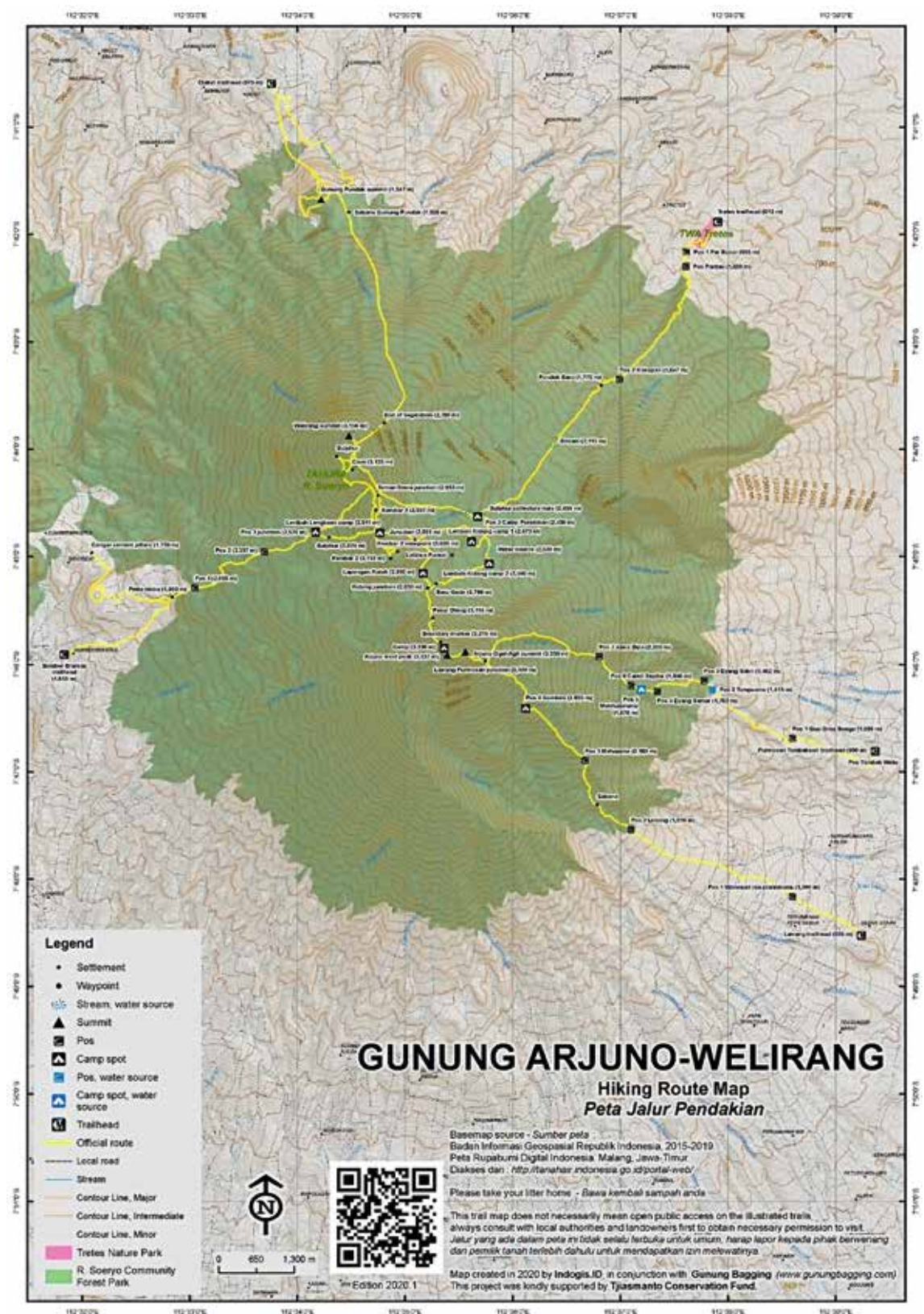


Fig. 3. Location of the research participants especially from Tretes Route ('peta-jalur-pendakian-gunung-arjuno-welirang.pdf', no date; Dan, 2016)

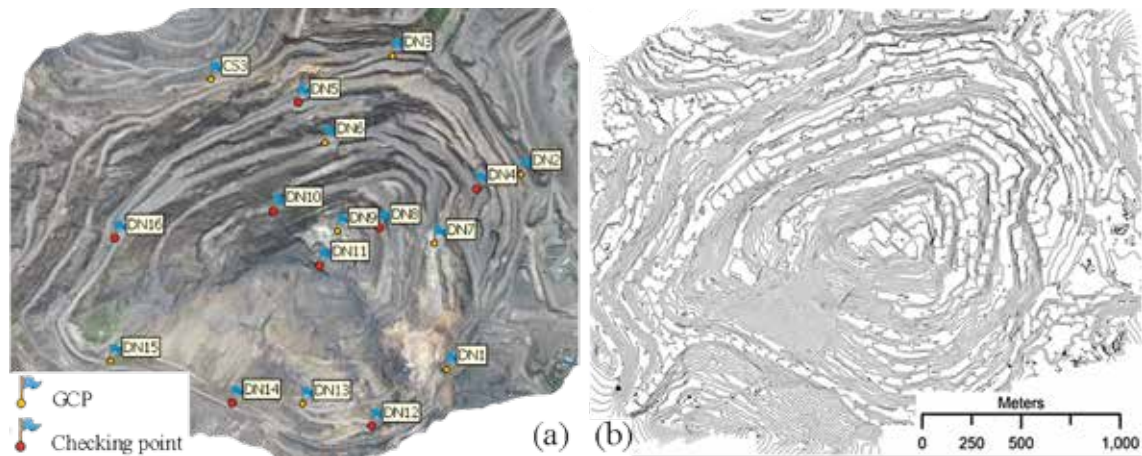


Fig. 4. Location of the Young Villagers in the Prigen Subdistrict, Pasuruan Regency, East Java Province, Indonesia (Kec. Prigen, no date)

young villagers comes from Senior High School and 70% from others (35% Junior High School, 27% graduated from Foundation School and 8 not graduate from any others school). There are 52% man and 48% women. They came from Dayurejo Village, Jatiarjo Village of Prigen District (shown in Fig 3. and Fig 4.).

From all the young villagers surveyed, 38% have their own land but 62% not (they borrow land from other people in the village). Most of the young villagers, 93% was become a farmer less than or equals to 5 years and the rest more than 5 years, respectively. There are six kinds of farming of the young villager diligence i.e.: coffee farming, banana farming, cassava farming, avocado farming, cloves farming and corn farming (shown in Table 1).

There are 57% of the young villagers stated that they receive benefit when they do their farming beside 43% do not receive benefit. The farming that they do still in less coordination. The farming is done 80% by inter cropping and 20% is not. For the 61% of the young villagers agree well about bee cultivation but there are 20% was not agree.

Through this research it is a need to explore how the young villagers manage themselves and or other peoples in term of the farming that they have done before. We then use questionnaires based-on (*Pengertian Kompetensi Manajemen SDM*, no date) to understand their personalities, knowledges and skills. In this research work we do not take into accounts personalities of the young villagers according to the lack of information we have and our research background.

The young villagers informed that the knowledge about farming come from themselves (42%), work in group (11%). Their knowledge about management theory came from themselves reach 50% but from work in group about 8%. There are only 25% of the young villagers has a group work and 75% are not. Every group work has a functional leader. Usually, they sell their crop of farming in the original form (66%) directly by themselves (37%) and by middleman (63%). Their crop of farming can be found only in the next near after the crops time in the tour objects which is not so far from their village such as tradi-

tional market, Taman Safari market, Taman Dayu, Cheng Ho, Pintu Langit, Jatiarjo Gifts Store and Makoya.

They obtained skills in farming from training (63%), themselves (36%) and Television program (2%), but they do farm without a group leader (64%) and with a group leader (36%). Ability to find skill (self-learning) by themselves is pretty high (67%) and without ability to find (self-learning) by themselves 33% although they have ability to teach other (34%) and but there are 65% of the young villagers cannot teach other in farming skill. From the questionnaire also found that there are 45% can do farming stand alone and 55% cannot do farming stand alone. Their life is adequate, 44% and non-adequate, 56%. The young villagers have a working group of farming (24%) and have not a working group of farming (76%). Skill that they have in farming also the same as their knowledge about farming i.e.: coffee farming (1st), banana farming (2nd), cassava farming (3rd), avocado (4th), clove (5th) and corn (6th).

The average of intellectual competency (ten indicators) of the young villagers was 3.81 out of 5.00 (Likert's scale, 1=very not agree, 2=not agree, 3= neutral, 4= agree, 5=very agree) which is 76%, range from 3.53 to 4.27. The average of emotional competency (5 indicators) of the young villagers was 3.56 / 5.00 which is 71%, range between 3.50 and 3.68. The average of social competency (7 indicators) of them was 3.45 (69%) in the range of 3.22 to 3.67.

After analysis by using SPSS, all of the items in the questionnaires are valid with $r_{\text{calculated}} > r_{\text{table}}$ (0.2542) as of Pearson correlation method (Product Moment) as $N=60$, $df=60-2=58$ for two-tailed of significant at least at 95% level ($p < 0.05$) for all of indicators. (Junaidi, no date).

To test reliability of the proposed scales was using the usual threshold level of Cronbach's alpha 0.7 for newly developed measures as (Sugiyono, 2019). In this case, the values for four variables (PA, SN, PBC and EI) were 0.922, 0.786, 0.922 and 0.946. Thus, the theoretically developed scales may be considered as reliable. The results affirmed by (Linan & Chen, 2011; Priyatno, 2010; Sari,

2013; Sugiyono, 2007, 2019) which values of *Cronbach's Alpha* more than 0.6.

The independent (inputs) variables i.e.: X_1 , X_2 and X_3 (together) effects the dependent (output) variable, Y with regression equation as:

$$Y = -2.158 + 0.701 X_1 + 0.350 X_2 + 0.248 X_3. \text{ (Eq. 1)}$$

Coefficient correlation (simultaneously) of inputs to output, R is 0.846. According to the interpretation of the coefficient correlation, R by (Sugiyono, 2007, 2019), the R value 0.846 is fall in the range 0.80 – 1.000 so that there is a very strong correlation among inputs to effect output.

The value of R^2 (coefficient determination) was 0.715, it means that variation of input variables i.e. Personal Attitude (X_1), Subjective Norm (X_2) and Perceived Behavioral Control (X_3) could explains only 71.5% the Entrepreneurial Intention (Y) variation. Adjusted R Square were 0.700, with Std. Error of Estimate 2.127.

F-test results show that $F_{\text{calculated}}$ was 46.854 which is more than F_{table} (2.769) with the level of significant, $=0.05$, means that Personal Attitude (X_1), Subjective Norm (X_2) and Perceived Behavioral Control (X_3) together affect Entrepreneurial Intention (Y).

Because $T_{\text{calculated}}$ through SPSS for every independent variable were more than T_{table} (2.003), means that every input variable partially gives positive effect for output variable.

5. Discussion and adoption

The 60-young villagers, in general : graduate from Senior High School, came from Dayurejo Village and Jatiarjo Village, do farming already less than 5 years, have knowledge in farming by themselves but they do farming

(coffee, banana, cassava, avocado, clove and corn) not in their own land. They do not have group work on farming although in the same time they do farm. Their ability to self-learning on farming quite high and they cannot teach other do the same as they do. They have skill on farming from training, but the trainer probably was their parents and or their family member.

The characteristics of the peoples near the Mountain Arjuno especially for the 60-young villagers in their management competency could be stated as follows: they have average 76% intellectual competency, emotional competency 71% and social competency 69%.

The characteristics of the peoples near the Mountain Arjuno especially for the 60-young villagers in their entrepreneurial intention could be stated as the linear regression model (Eq. 1). The equation can be stated as an Entrepreneurial Intention Model for the young villagers based-on data analyzed.

The Eq 1 only based-on the 60 data, and this is as a starting point to generate innovation management for a better future goals that is a must following Sustainable Development Goals in the area (Yulaswati, 2020).

6. Conclusions

It was found what is the characteristics of the peoples near the Mountain Arjuno especially for the 60-young villagers in their management competency and their entrepreneurial intention. They have averaged 76% of intellectual competency, 71% of emotional competency and 69% of social competency. The Personal Attitude (X_1), Subjective Norm (X_2) and Perceived Behavioral Control (X_3) together effects the Entrepreneurial Intention (Y) with model regression equation as: $Y = -2.158 + 0.701 X_1 + 0.350 X_2 + 0.248 X_3$.

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УПРАВЛЕНЧЕСКАЯ КОМПЕТЕНТНОСТЬ И ПРЕДПРИНИМАТЕЛЬСКИЕ НАМЕРЕНИЯ МОЛОДЫХ СЕЛЬЧАН, ПРОЖИВАЮЩИХ НА СКЛОНЕ г. АРДЖУН (ВОСТОЧНАЯ ЯВА, ИНДОНЕЗИЯ)

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Наш интерес заключается в том, чтобы изучить характеристики молодых сельских жителей, которые живут на склоне горы Арджуна, провинция Восточная Ява в Индонезии, в рамках существующей управленческой компетентности и существующих предпринимательских намерений.

Ключевые слова: системный инжиниринг; промышленный менеджмент; моделирование; устойчивое развитие; принятие решений.

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