

The Measurement of Land Use and Transportation Planning Success in Developing Countries Based On Comparative Analysis

Yong Adilah SHAMSUL HARUMAIN ^a, Akinori MORIMOTO ^b

^{a,b} *Graduate School of Engineering, Utsunomiya University, 7-1-2 Yoto, Utsunomiya, 321-8585, Japan*

^a *E-mail: dt127109@cc.utsunomiya-u.ac.jp*

^b *E-mail: morimoto@cc.utsunomiya-u.ac.jp*

Abstract: Generally, we heard about the importance of economy factor towards many aspects in developing countries including developing a success land use and transportation planning. On the contrary, economy is not the only factor determining the success. This research recommends that there are many factors contributed to the success of land use and transportation planning in developing countries. Using the Factor Analysis, we obtain more factors delayed the success. Our hypothesis suggests the factor also varies among developing countries caused by secondary factor. Secondary factor may consist of factor such as economy level, population, culture, religion or colonization. Then, we use the Comparative Analysis to investigate the variation among developing countries and discover colonization can caused different level of success in developing countries land use and transportation planning.

Keywords: Developing countries, Land Use, Transport, Colonization

1. INTRODUCTION

1.1 Background and Objective of the Study

Time and again, developing countries is measured into hierarchy based on economic status. The developments of economy however overgrow the essential needs of planning a suitable land use and transportation. As a result we witness many urban illnesses occurred in developing country like increase usage of automobile causing traffic congestion, insufficient housing settlements causing squatters and imbalance economy distribution causing rural urban migration. However, the success of land use and transportation planning can be measured by balancing land use and transportation planning. In order to achieve balance, it is essential to plan for land use first hand and followed by transportation planning as tools to move from one land use to the other. However, the achievement of balance is not the same among developing countries. Our hypothesis is there are many factors to ensure success in land use and transportation planning and it varies among developing countries. The variations are caused by secondary factor. Secondary factor explain about the differences among developing countries characteristic itself. The differences can be caused by economy level, the culture, religion, politics, social and many more. All of these factors contribute towards variation of developing countries achievement. Interestingly, there is one element that most developing countries share, that is the colonization factor. We compare between colonized

and non-colonized developing countries to verify the variation of land use and transportation in developing countries. This is accomplished through two objectives:

- 1) To investigate factors in land use and transportation planning success in developing country.
- 2) To discover the differences in the factors among developing countries based on colonization factor.

The first objective is to investigate factors in land use and transportation planning success in developing country. This is achieved by analysing respondents answer from developing countries. All of the respondents are professionals in land use and transportation planning gathered in a program conducted by the Japan International Cooperation Agency (JICA). Using this platform, we teach them about land use and transportation planning integration and at the end of the program we gathered data for this research. This is an original data picked up by us to understand the reasons of failure in land use and transportation planning from developing countries at the end of the program. The analysis of the respondent results allows us to understand the factor contributes to success of land use and transportation planning in developing countries. The second objective is achieved by separating the respondents into two groups. This is to understand the differences of factors among developing countries. The first group consist of colonized developing countries and the second group consist of non-colonized developing countries. The reason we used colonization after World War 2 as point of reference is because most of the larger colony like Britain gradually ended colonization after World War 2 and many countries progressively develop after that (Refer Appendix B).

Secondary factor is an element of influence. The secondary factor may lead varies land use and transportation planning condition among developing countries. Secondary factor also produces variation of land use and transportation planning in developing countries. The variation in land use and transportation planning can also be caused by culture, population and many others. For example, culture influences the housing industry in terms of design, layout and location. In this research we want to study about colonization as secondary factor that varies the condition of land use and transportation planning in developing country. This is because; colonization can influence the administration system, culture including the development of a country land use planning. The development of land use planning will influence transportation planning. Hence, it is important to verify the influence of colonization towards the level of land use and transportation planning success in developing country. Is there any difference or not? Integration of land use and transportation planning is difficult to accomplish even in develop countries. In India and Jordan, land ownership is an important factor that restricted land use and transportation planning. Lack of financial also causing planning for a transport facility is hard to execute because of government has less control towards the land. Therefore, planning execution is difficult unless strong political can produce strong policy. In certain developing countries especially in the new industrialized developing country, economy is given priority over land use regulations. Therefore, we can understand that there are many factors contribute to the success of land use and transportation planning. Review of related studies will further give us information towards the current situation of land use and transportation planning in developing countries.

1.2 Review of Related Studies

It is very vital to discuss the importance of developing countries land use and transportation planning. Developing countries are very unique with various conditions and thus making land use and transportation planning a challenged task. Currently, developing countries population occupies more than half of the world population. The rise of population is a common issue that was described in many research related to the needs of proper land use and transportation in developing countries (Hook and Replogle, 1996; Morita *et.al*, 2003; Ocampo *et.al* 2009; Kusbiantoro, 1998). The increase of population also urge for more land to be developed as residential areas. Population could not be control but we can control development size and location to sustain population. This is more suitable to implement proper planning. It is suggested that developing countries will develop thirty three mega cities by 2015 (Gakenheimer, 1997). The expanding cities tell us how important to manage developing countries as soon as possible. Kusbiantoro (1998) stressed about the increase of population that surge the needs of automobile in Indonesia. In the emergence of developing countries in future, Luo *et.al* (2007) mentioned about the relationship between rising income level with car usage rate. The large increase in car usage rate was also said in Hayashi *et. al* (2004). All of this fact is related to the rise of economy in developing country. Another common discussion in many researches is the issue of urbanization in developing countries. The rapid urbanization has shaped the economic growth in developing countries. In addition to that, political factor also plays a similar role to economy. According to Dowall and Clarke (1996), it is important to stress about the method of planning land use policy. This is because, poor land use policy can result uncontrolled land development and the imbalance of land price market. Rakodi (2001) stressed that the inappropriate policies resulted the volume of illegal development exceeding legal development. Government in developing countries are seen to be loose in land use policy thus putting politic interest first. From economy factor to government factor, it is clear that there are many factor discussed and relates to the success of land use and transportation planning in developing countries. But, why such diverse factor exists?

According to Evans (2003), as planning decisions are predominantly ended by the politicians, the effects of the planning decisions are also reflected to the desires of the politicians. In this case, the higher involvement of the politician in the structure of planning, the higher influence of politics towards land use and transportation planning. In order to understand about developing country, it is essential to know the term developing countries. International Monetary Finance (IMF) defines developing country according to the level of economies and analytical standards which comprises export earnings from abroad and external financing sources. In order to achieve economy growth many aspects has been neglected including land use and transportation. This can be seen at many prolong urban problems and lack of balance in planning for proper transport facilities to meet land development demand in developing countries. How colonization relates to this? According to Iyer (2004), in 1995 the poorest twenty countries in the world are all ex-colonies. Based on Iyer research, colonization may influence economy growth. Therefore, there is a lot of pressure in developing countries to improve economy and it has neglect the importance of land use and transportation planning. Iyer(2004) also stressed on the influence of British colonization in India land tenure system. In addition, Almselati *et.al* (2011) highlights Malaysia urbanization process started as early as during colonization as the implication of British colonization in Malaysia. Like many colonization countries, settler colony like British gives implication towards land use and transportation system since they set up the basis

structure of the colonized country. In many colonized countries, inheritance of knowledge and skills are adopted during the colonization. Most of the town planning is planned to the needs of the colony. In terms of land system, coalition between local land system and adopted colony land system causes conflict especially after the colony left. Even after independence, lack of experienced in administering the country and financial problems, developing countries still hang on to mother colony.

2. FACTORS INFLUENCING LAND USE AND TRANSPORTATION PLANNING SUCCESS

2.1 Introduction

All of the respondents in our survey are professionals of land use and transportation planning in developing countries. The professionals of land use and transportation planning are gathered in a program conducted yearly in a program organized by Japan International Cooperation Agency (JICA). During the class, we give lecture and coach about importance of land use and transportation integration and how it can improve developing countries. At the end of our lecture, we distributed questionnaire form to acquire answers about factors of land use and transportation planning failure in their country. This data is original and this data is used as foundation for this research. From 150 developing countries that were listed by International Monetary Fund (IMF), 43 developing countries participated in our questionnaire between 2003 until 2011 (Refer Appendix A). From the analysis, we achieved to acquire 10 factors suggesting the failure of land use and transportation planning in developing countries. The first objective of this research is reached based on these factors. The factors are:

- 1) economy factor
- 2) political factor
- 3) law problem
- 4) lack of cooperation between ministries
- 5) lack of talent
- 6) lack of public transportation
- 7) lack of information
- 8) difficulty of implementing the policy
- 9) unconcern of people
- 10) others

The questionnaire required participants to choose three factors disturbing the success of land use and transportation planning in question 1. In question 2, respondent can give three important items disturbing unity between land use and transportation. The participants are also allowed to write down their comment regarding the condition of land use and transportation in their country. The participant remarks are elaborated in the research findings section of this paper.

2.2 Research Findings

Figure 1 shows the result of participant's response regarding factors that affected land use and transport planning in their countries. As we estimated, political and economy factor score the highest in the chart. Other than economy and political factor; lack of cooperation, lack of public transportation and difficult policy implementation are also other factor disturbing land use and transportation planning success.

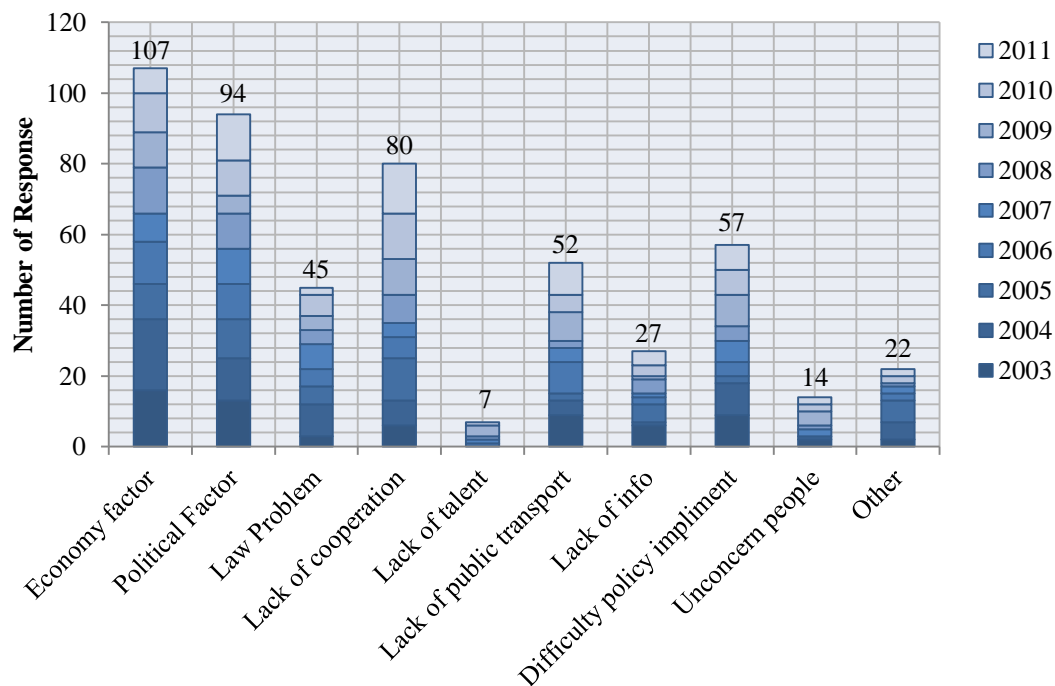


Figure 1. Feedback given by JICA participants from 2003-2011

In addition, participants also mention about poor political will, misuse of power and politician interference in formulating policy in land use and transportation planning. Respondents from developing countries like Kenya, Mongolia, Cambodia and Jordan mention that their government do not have total power towards land as most lands are majorly owned by the people. The government also faces difficulty to plan accordingly as land acquisition is difficult to use for transport facilities improvement or public infrastructure and it has to go through time-consuming legislature procedure. In India, respondent mentioned some cases of land development take time as it has to go through judiciary procedure before government could actually take the land for transportation facilities. Consequently, land ownership caused manipulation of land price initiating uncontrolled land development. Proper transportation facilities could not be implemented due to the lack of land ownership by the government. The changing of government results frequent change of policies. On the other hand, respondents from Jordan, Egypt, Brazil, Cambodia and Myanmar explain about economy factor restrictions in land use and transportation planning. The misuse of financial leads to poor unity of land uses and transport. Each of these factors obviously affects the success of land use and transportation planning in developing country. Clearly, economic factor is not the only factor affecting the success of land use and transportation planning in developing

countries. In order to understand deeper about the factors, we apply the correlation method to test the relationship between each factor. In this correlation, we want to accept that there is no relationship exists between the factors. Therefore, each of the factors develops independently and it is caused by different reasons. This is to prove that there are many factors contribute to land use and transportation success and not necessarily depends on economy status of a developing country. The correlation method is applied to two parted groups. This is to clarify the influence of colonization factor as secondary factor in varies the land use and transportation planning in developing countries. XLSTAT software is used in this study and it contains correlation Spearman test.

The value of alpha (α) used in the correlation is 0.05 and confidence level is 95%. As a result, we found correlation between factors in non-colonized developing country group is averagely low. The correlation between lack of talent factor with lack of public transport is higher than average with 0.747. This shows stronger relationship compared to other factors. As we can see in the Table 1, the relationship between economy factor and political factor is relatively low. Thus suggest to us that economy factor is not associated to political factor. While the value of law problem and political factor is stronger with 0.62 compared to economy with 0.270. This is possible because politician makes policy and law. However, there is weak relation between politic factors with other factors. Lack of talent is strongly correlated with unconcern people with 0.712 and negatively correlated but strong with -0.791 with lack of info. This resembles that many problems in developing countries because of not enough skill worker and expertise in land use and transportation planning. In addition, there is weak correlation between lacks of talent with economy factor. Hence, lack of talent and economy factor is not necessarily associated. The rise or downward of economy not necessarily contribute to lack of talent.

In contrast, colonized developing countries have a different correlation result. Based on the colonized developing country result, the correlation between unconcern people and law problem is strong with -0.721. This suggests that the law problem in implementing land use and transportation planning in colonized developing country most likely has relation to unconcern people. Economy factor shows weak relationship to political factor with -0.013 suggesting no association between them. It shows that it is not necessary to have strong economy to ensure success in land use and transportation planning. There is also weak relationship between economy factors with other factors. In summary to the Spearman correlation test that we used is we can accept that there is no relationship occurs between most factors in both non-colonized and colonized developing countries factor of land use and transportation planning failure. Based on Table 1 and Table 2 both tables shows in average weak relationship between each factors. Therefore, factors can cause by many reasons and not necessarily with economy. Economic achievement is not compulsory a benchmark for developing country to depend on and able to gain success in land use and transportation planning. Correlation only explains relationship and it is not necessarily explain causes. For example, lack of talent contributes to lack of public transport because not enough skilled and educated transport planner to plan them. However, the insufficient transport planner may cause by another factor that is another secondary factor which we can also called as the third variable problem. Further analysis is done to study the influence of secondary factor that is colonization towards level of land use and transportation planning success in developing countries.

Table 1. The correlation matrix for non-colonized developing countries of question one

Variables	Economy factor	Political Factor	Law Problem	Lack of cooperation	Lack of talent	Lack of public transport	Lack of info	Difficulty policy implement	Unconcern people	Other
Economy factor	1	0.270	0.624	-0.239	-0.316	-0.244	0.112	0.432	0.129	-0.283
Political Factor	0.270	1	0.620	-0.172	-0.240	-0.292	0.178	-0.043	-0.484	0.402
Law Problem	0.624	0.620	1	0.000	0.047	0.063	0.066	0.442	0.009	0.294
Lack of cooperation	-0.239	-0.172	0.000	1	-0.213	-0.251	0.380	0.239	-0.135	0.184
Lack of talent	-0.316	-0.240	0.047	-0.213	1	0.747	-0.791	0.293	0.712	-0.012
Lack of public transport	-0.244	-0.292	0.063	-0.251	0.747	1	-0.563	0.311	0.320	0.309
Lack of info	0.112	0.178	0.066	0.380	-0.791	-0.563	1	-0.207	-0.663	0.337
Difficulty policy implement	0.432	-0.043	0.442	0.239	0.293	0.311	-0.207	1	0.351	-0.050
Unconcern people	0.129	-0.484	0.009	-0.135	0.712	0.320	-0.663	0.351	1	-0.493
Other	-0.283	0.402	0.294	0.184	-0.012	0.309	0.337	-0.050	-0.493	1

Values in bold are different from 0 with a significance level $\alpha=0.05$

Table 2. The correlation matrix for colonized developing countries of question one

Variables	Economy factor	Political Factor	Law Problem	Lack of cooperation	Lack of talent	Lack of public transport	Lack of info	Difficulty policy implement	Unconcern people	Other
Economy factor	1	-0.013	-0.358	-0.183	0.363	0.277	0.363	0.182	-0.110	0.124
Political Factor	-0.013	1	-0.283	0.175	-0.578	0.358	0.500	-0.035	0.353	0.511
Law Problem	-0.358	-0.283	1	-0.130	0.227	-0.563	-0.646	-0.245	-0.721	0.248
Lack of cooperation	-0.183	0.175	-0.130	1	0.354	0.235	0.393	0.286	0.326	0.156
Lack of talent	0.363	-0.578	0.227	0.354	1	0.177	-0.089	0.484	-0.207	-0.227
Lack of public transport	0.277	0.358	-0.563	0.235	0.177	1	0.275	0.667	0.661	-0.165
Lack of info	0.363	0.500	-0.646	0.393	-0.089	0.275	1	0.261	0.445	-0.054
Difficulty policy implement	0.182	-0.035	-0.245	0.286	0.484	0.667	0.261	1	0.583	-0.520
Unconcern people	-0.110	0.353	-0.721	0.326	-0.207	0.661	0.445	0.583	1	-0.392
Other	0.124	0.511	0.248	0.156	-0.227	-0.165	-0.054	-0.520	-0.392	1

Values in bold are different from 0 with a significance level $\alpha=0.05$

2.3 Further Analysis

Since correlation only explains relationship and does not explain causes, further analysis is conducted. The second objective of this research is achieved by using the Factor Analysis to understand the differences of land use and transportation planning between colonized and non-colonized developing country. The Factor Analysis is chosen as method of analysis because it makes a complex set of data simpler. In land use and transportation success for example, there are many factors involved. Based on correlation, we could not find any exact answer to our hypothesis therefore factor analysis allows certain factors falls into group that we want to study. This makes our analysis results narrower and easier to interpret. According to Kline (1994), factor analysis was formulated by Spearman because it simplifies complex field by indicating what the important variables are. Factor analysis is an analysis method which is good to study the patterns of relationship among many dependent variables. The indirect independent variables are labelled as *factors*. After factor analysis was applied to the data, we acquire six factor groups for each colonized and non-colonized developing country group. Table 3 and Table 4 represent the eigenvalue and variability of the analysis for both groups. The goal of getting eigenvalue action is to include enough variation in the model. The variability of the first factor (denote as F1) has the variability of 31.785% while the second factor (denote as F2) has the variability of 20.655%.

Table 3. Non-colonized developing countries Eigen value results before factor loadings

	F1	F2	F3	F4	F5	F6
Eigenvalue	3.178	2.065	1.608	1.078	0.363	0.121
Variability (%)	31.785	20.655	16.080	10.776	3.630	1.212
Cumulative %	31.785	52.440	68.520	79.296	82.926	84.138

Table 4. Colonized developing countries Eigen value results before factor loadings

	F1	F2	F3	F4	F5	F6
Eigenvalue	3.269	2.123	1.392	1.054	0.442	0.158
Variability (%)	32.692	21.232	13.924	10.545	4.418	1.582
Cumulative %	32.692	53.924	67.848	78.393	82.811	84.394

Rotations are then applied in order to make the loadings sharper. By observation to the plot, four factor groups are obtained for each group. The highest variability of factor is chosen for considerations and rotation. As a result of rotation (Refer Chart 1 and Chart 2), two factor groups initially D1 and D2 are formed for non-colonized developing country group and colonized developing country group. The result after rotation is stated as chart 1 and chart 2. D1 and D2 are denoted based on characteristic of factors falls within the factor group. In colonized developing country group the factors are more disperse while in non-colonized developing country group the factors are tendency in groups of certain factor.

Based on the result we found that there are different factor pattern in both group of developing country. In order to explain the dimensions of the factor analysis result, factor names are given based on the character of the factor falls within dimension.

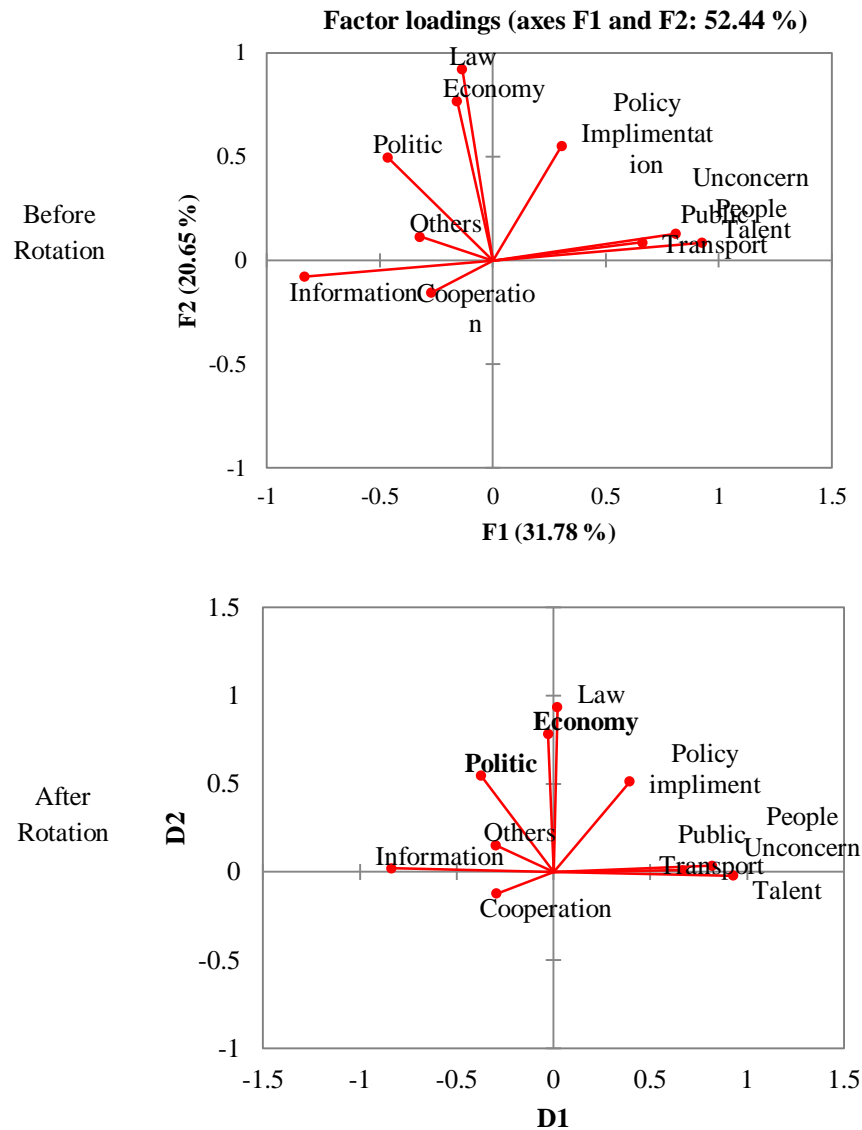


Chart 1. Factor loadings before and after rotation to get factor groups for non-colonized developing countries.

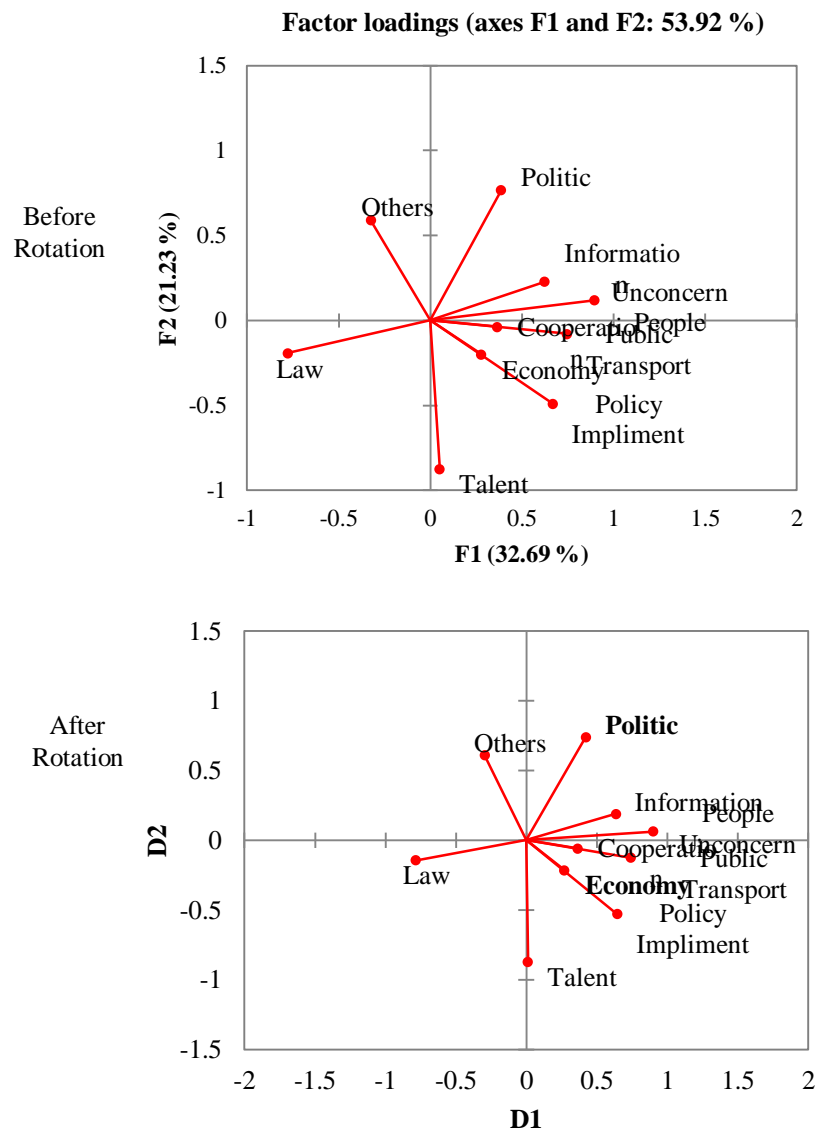


Chart 2. Factor loadings before after rotation to get factor groups for colonized developing countries.

Table 5: Factor pattern after rotation for non-colonized developing countries

D1(Peripheral Factor)	Values	D2(Interrelated Factor)	Values
D(Lack Cooperation)	-0.295	A(Economy Factor)	0.783
E(Lack Of Talent)	0.929	B(Political Factor)	0.547
F (Lack Of Public Transport)	0.669	C(Law Problem)	0.934
G(Lack Of Information)	-0.836	H(Difficult Policy)	0.513
I(Unconcern Of People)	0.820		
J(Others)	-0.299		

Based on the values shown in Table 5 and Table 6, “Lack of Talent” and “Unconcern of People” factor has a higher value in non-colonized developing countries. While in D2 we see that “Law Problem” has a high value. We can see all factors related to people do not mix

with economy and political. Therefore, we assume that economy and political factor does not influence other factor in non-colonized developing country.

Table 6: Factor pattern after rotation for colonized developing countries

D1(Phase Factor)	Values	D2(Performance Factor)	Values
I(Unconcern People)	0.900	B(Political Factor)	0.747
H(Difficult Policy)	0.645	E(Lack Of Talent)	-0.875
F (Lack Of Public Transport)	0.742	J(Others)	0.609
G(Lack Of Information)	0.634		
A(Economy)	0.269		
D(Cooperation)	0.364		
C(Law)	-0.785		

Compared to colonize developing as shown in Table 6, political factor is separated into different group. This suggests that in colonized developing countries, economy relates to other factor compared to political factor. In addition, D2 in non-colonized developing country is categorized as “interrelated factor”. The key point for D2 is the economy factor and political factor positioned in the same dimension. However, for colonized developing country group, D1 is termed as “phase factor”. It is termed as phase because all of the factors are orderly influence to land use and transportation planning. The important point to understand is the existence of economy factor in D1 and the separation of political factor in D2. D2 group is termed as “performance factor”. It is titled “performance factor” because it is rely on the performance of policy makers and the number of talent. We observe that in colonized developing country, the two main factors that is economy and politic factor falls into two different dimensions. For question 2 we identify many reason of failure in land use and transportation planning unity given by the respondents. In Table 7, explains the most frequent failures reason suggested by our respondents regarding reason of land use and transportation planning unity in developing countries. The highest frequencies are listed as below:

Table 7: Frequency of failure reasons in land use and transportation unity

	2003	2004	2005	2006	2007	2008	2009	2010	2011	TOTAL
Political Commitment	2	1	1	2	2	3	0	2	3	16
Financial Constraint	0	3	1	3	2	2	1	1	3	16
Land use not strictly followed	2	3	0	2	0	2	1	2	1	13
Lack of public transportation	1	1	1	1	1	0	2	2	2	11
Land use doesn't function	1	0	0	1	2	0	3	1	1	9
Lack of strong leadership	1	3	2	0	1	0	1	1	1	10
No proper survey before development	1	1	3	1	1	1	1	2	4	15
Lack of budget	2	4	0	3	1	0	1	0	3	14
No continued political process	2	0	1	0	1	3	1	1	2	11
In coordination between ministries	2	0	1	2	0	0	1	0	2	8
TOTAL	14	16	10	15	11	11	12	12	22	123

Political commitment and financial constraint are the two main factors disturbing the unity. In general we can understand that political and economic factor is vital. Other reasons given by respondents are also reflected politic factor such as lack of strong leadership, no continued political process and in coordination between ministries. There are also other reasons given related to economy factor such as lack of budget. Obviously, based on this reasons we understand that to unite or integrate land use and transportation needs political and economy support. Furthermore, in order to understand colonization influence to land use and transportation, we compare Malaysia and Singapore in order to grasp colonization influence in the success of land use and transportation planning. Based on the comparison we can further understand the relationship between colonization and land use and transportation planning in developing countries.

3. COMPARISONS BETWEEN BRITISH COLONIZED COUNTRIES

The comparison analysis between British colonized countries is vital to explain the influences of colonization as secondary factor to the success of land use and transportation planning. The comparison is to seek the gap between land use and transport. It is also significant to investigate colonization influences really exist as secondary factor. This research takes Malaysia (previously known as Malaya or Tanah Melayu) as the case study to understand British colonization influence. This research also investigates Singapore; the neighbouring country that was also colonized at about the same time with Malaysia however is able to progress quickly and became develop country. The economy growth in Malaysia is currently encouraging and this has stimulated many land developments in Malaysia. However, the rapid development along with population growth has created many land use transportation issues. Traffic congestion is one example of transportation problems in Malaysia. The congestion is contributed by the rise of private vehicles in Malaysia due to many reasons and one of it is the affordability of owning a private vehicle (Shariff, 2012).

Just like rubbing salt to the wounds, the lack of public transportations facilities and parking spaces worsen the condition of transportation system in Malaysia (Almselati *et.al*, 2011). Malaysia land use and transportation system can be trace to its policy. According to Barter (2000), the car-oriented planning cause more problems to the traffic in Malaysia. In another research done by Kasipillai and Chan (2008), stated Malaysia has a high percentage of private vehicles usage and the current transport policy does not solve the problems. During British colonization, British urban planning was fully implemented. Until today, the remains of British urban planning can still be found in several places throughout Malaysia namely Taiping, Ipoh and Johor Bahru. According to Jamil (2006), the ethnic segregation is the key element to understand Malaysia economic, politic and social patterns. The effect of British colonization in land use and transportation planning can also be seen in the first town planning act in 1923 known as the Town Planning Enactment for the Federated Malay States of Malaya. According to Ainul (2012), the enactment of this law was to tackle the issue of sanitation and health. During the early years of town planning, land issues are very weak and there are no specific elements of planning control. Almselati *et.al* (2011) also agrees that the urbanization process in Malaysia is started by colonialism. Under the Town and Country Planning Act 1976, the state government are on the top hierarchy of the system called executive council. As time pass by, the rise of economy encourages many lands and road to open. As income level also improved, people are more capable of owning a private car. The inefficiency of public transport planning encouraged people to drive private vehicles.

Therefore, it is obvious that economy factor does not solely influence land use and transport problems but also poor planning. Poor planning as indicates in our result analysis may cause by lack of knowledge, lack of cooperation between ministries, lack of talent, lack of information and unconcern people. All of these factors contribute to the failure of land use and transportation planning in developing country. In addition, these factor are varies because colonization delays developing country development. Time obviously crucial for developing country especially for colonized developing country to matured in land use and transportation planning.

The politic factor unquestionably holds a significant role in Malaysia land use and transportation planning. The involvement of politics in planning system can be seen at the structure of planning system in Malaysia that affirms the position of the State government as the head of town planning committee. As the chairman of the committee, the chairman holds the power to refer or refuse the development plan that was constructed by the land use regulations. The level of politician involvement in the planning system also allows vulnerable system that able to disturb the original planning. In addition, the lack of integration between land use and transport are resulted by the policy itself. The policy is vulnerable to politician influences. More great effort is actually needed to make sure that the land use and transport policy is integrated. Economy improvement alone could not resolve transportation problems and needed severe implementation of land use policy and integration that needs the political factor support. For example, politician influences to land development decision must be reducing to curb such personal intention of the politician.

In order to compare influence of colonization, another analogous case study is select. This is to understand if colonization made any influence to the success of land use and transportation. Singapore was also a British colony. Theoretically, Singapore should face the same situation like Malaysia. Singapore was actually a part of Malaysia before separately in 1965. It is located at the south part of Peninsular Malaysia, and through treaty with the Johor monarchs, Singapore Island administered by the British. Because of the rapid growth of the island, by year 1911 more than 185,000 people inhabited the island. With lack of proper land use planning, sanitary and health issues are quickly raised at that time. As a result, the city become congested and at the same time suffers from many health's related issues. The British quickly set up an improvement method towards situation of the city. However, the plan did not manage to control slums as the growths of Singapore are tremendously uncontrolled due to the high migrants of Chinese from China. The Urban Redevelopment Authority (URA) established soon after independence to improve land use planning especially to clear the slums in the city. URA was responsible to develop a new Singapore with 55 Development Guide Plans, Detailed Plans for Implementations and Urban Design Plans. These great plans are the approaches that shape Singapore into a great city today. There are many factors contributed to the success of land use and transportation planning and the size of Singapore is one of it. However, the most important is to balance and create meeting point among all factors. According to Lim (1997), the Singapore government take head in ensuring the success of Singapore land use and transport planning. Application of the Area Licensing Scheme in 1975 is an effective method to control traffic congestion during peak hours. The car-sharing scheme is a proof of a vigilant planning implemented to reduce private vehicles on road. While, application of taxes to control car and providing efficient public transport system is to give option and discourage people motivation to uses private cars are. These are among effective government brave action to make sure the success of land use and transportation planning. This somehow has stimulated through strong political condition. The

political factor definitely influence land use and transportation planning in Singapore by the results of achievement in land use and transportation planning integration.

The government land ownership is also a factor that enables Singapore to integrate between land use and transportation. This has given merit to Singapore government in planning land development and control over land price. In another aspect, transport facilities can integrate well within a master plan. Besides ensuring the success in economy, a strong policy that concern the integration and connection of each land uses has created a successful planning in Singapore. The single-tier administration has makes implementation easier. Thus, reflect the success of the government strategy and policy to improve transportation planning. Singapore proven to us complement of factors, a colonized developing country is able to have land use and transportation planning success. Singapore demonstrated stable political condition and the size of the island may give to the success of land use and transportation planning. In addition to that, the educated culture as well as the strong economy may also add in the merits of Singapore. Much achieved, plenty left to get done, positive attitude to make things impossible possible is important. In another conclusion to the comparison between Malaysia and Singapore is that the politic factor through strong political will and effective policy that comprehend the needs of transport and the need of land development will able to develop success land use and transport planning in a colonized developing country.

4. CONCLUSIONS

In summary, what is the definition of success of land use and transportation? First of all, it cannot be decide only by economy achievement. From this study, we found that economy factor is not a crucial factor determining the success of land use and transportation planning. Based on the analysis, economy only contributed 24% from all 10 factors suggested. Secondary factors can influences various land use and transportation planning success factor in developing countries. Different developing countries have different factors disturbing land use and transportation planning particularly in the pattern of economy and political factor. Research analysis show colonized developing country need to emphasize on strengthen skill, knowledge, talents and educating people. So, it is important for colonized developing country to improve their economy level as it influences other factors in the land use and transportation planning success. The influences in economy may cause by delay of development, scarce of knowledge, low talent and uneducated citizens on the important of land use and transportation planning. However, there is no proof of colonization affects directly to the current land use and transportation planning situation.

Research analysis result shows in colonized and non-colonized group, politic factor cause failure in developing countries and do not relate to other factors. Therefore, strong political will to create efficient policy and applying land use and transport integration is crucial. Based on the questionnaire analysis result, we see that politics is an important part in defining the success of land use and transportation planning in developing country. Land control is a result of strong political will to planning success. Control land development aligns with coordinated transport system ensures improvement in many sectors. For example strategic land use planning will create adequate housing settlements to accommodate population that can influence the need of commuting thus directly reduces the problem of traffic congestion and time spend on the road. Steady institutional and controlling framework as result of strong political will of the government to achieved success in land use and transport planning is fundamental despite of any condition of developing country. Control

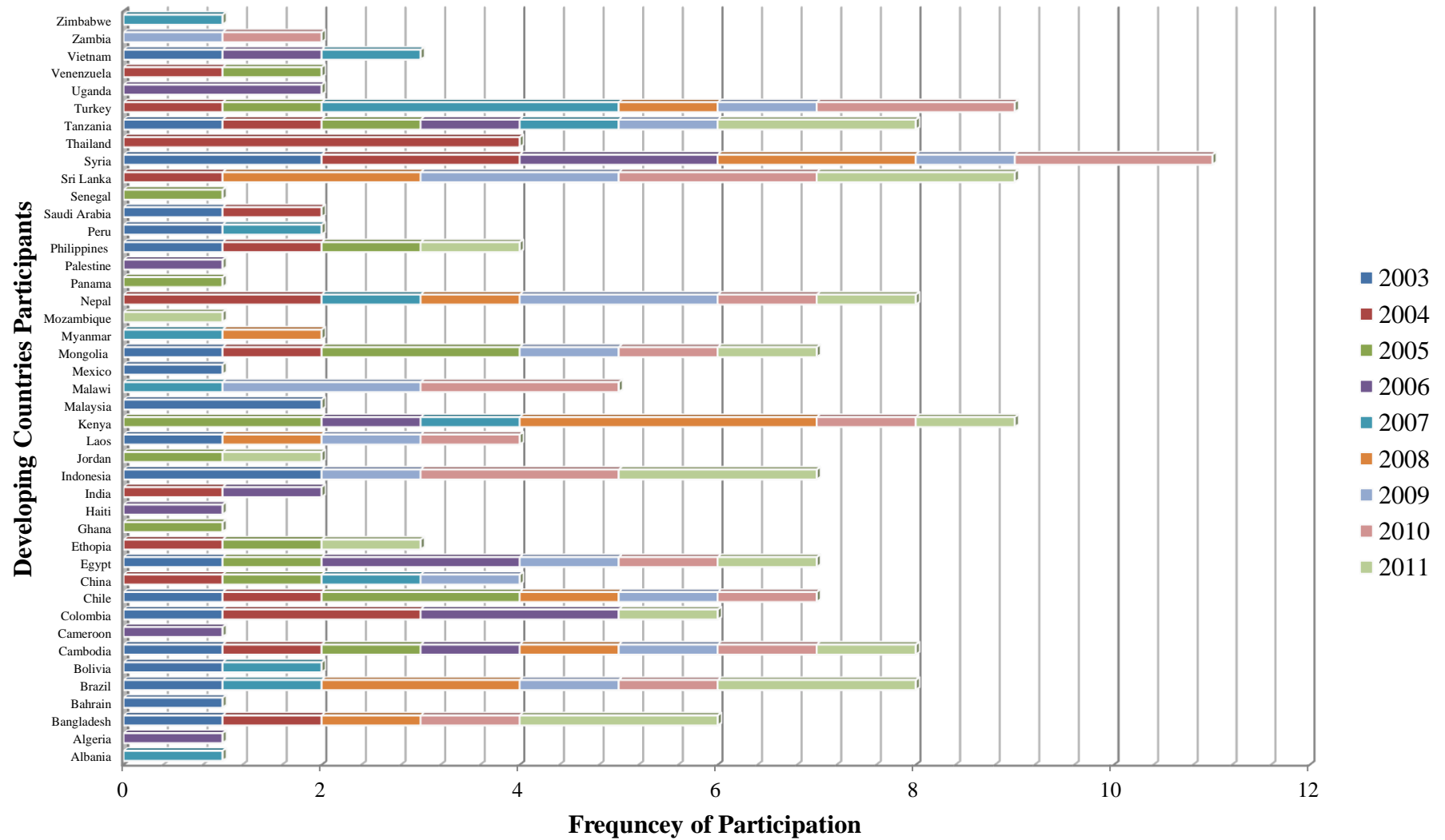
land development also ensures city revitalization and thus sustains economy interests within the city. Singapore land use and transport policy verified their strong policy making and implementation. Their strong economy also supports the strong policy. Hence, we understand that the success of land use and transportation planning counts many factors. Colonization history in Singapore certainly did not delay them to plan for land use and transportation planning success.

In summary, the success of land use and transportation planning in developing country is not defined only by economy factor. There are many factors involved to ensure the success. While, secondary factor like colonization established varies land use and transportation planning condition in developing country. This is cause by the delayed time of development as well as time of country administration. However, colonization does not hinder developing country from moving forward. The success of land use and transportation planning relies on the balance between all the factors. Singapore has proven to overcome colonization factor and move forward. In order to find the meeting point and ensure the success, progressive baby steps is important. Developing countries need to take chances and not afraid to do mistakes. Our recommendation is further research should be conducted towards economy and political factor differences among colonized developing country. This is to understand the influence of colonization towards political culture in developing countries that affects land use and transportation planning. In many developing countries, land use and transport fail to unite due to conflict between political interest and economy achievement. Undoubtedly, strong political will supported by economy factor is important. Agreeing to Newman and Kenworthy (1996), the political power is vital to offer well planned urban area and runway from the typical Western style that is not adequate to the setting of many Asia cities.

5. REFERENCES

- Almselati, A. S. I., Rahmat, R. A. O., & Jaafar, O. (2011). An Overview of Urban Transport in Malaysia. *The Social Sciences*, 6(1), 24-33.
- Ainul Jaria B M (2012). *Malaysian Town and Country Planning Law and Procedure*. CLJ Publication
- Barter, P. (2000). Urban transport in Asia: Problems and prospects for high-density cities. *Asia-Pacific Development Monitor*, 2(1), 33-66.
- Baxter A R P. (2000). Urban Transport in Asia: Problems and Prospect for High density cities. Paper submitted to Asian Pacific Development Monitor, April 2000
- Bye, R. T. (1939). The scope and definition of economics. *The Journal of Political Economy*, 623-647.
- Cox, W. & Ziv, J. C.(2007, June). Megacities and Affluence: Transport & Land Use Considerations. In World Conference on Transport Research, Berkeley.
- Dowall, D. E., Clarke, G., & Banque mondiale. (1996). *A framework for reforming urban land policies in developing countries*. Washington, DC: World Bank.
- Evans A W. (2003) Shouting Very Loudly, Economics, planning and politics. *Town Planning Review* (2)
- Fetzer J S. (July, 2008). Election Strategy and Ethnic Politics in Singapore. *Taiwan Journal of Democracy*, Volume 4, No. 1:135-153
- Gakenheimer R. (1997). Mobility Issue in the Developing World.

- Gakenheimer R. (April, 1993). Land Use/Transportation Planning: New Possibilities for Developing and Develop Countries. *Transportation Quarterly*, Vol. 47, No.2.
- Iyer Lakshmi (2004). *The Long Term Impact of Colonial Rule : Evidence of India*. Harvard Business School.
- Hayashi, Y., Doi, K., Yagishita, M., & Kuwata, M. (2004). Urban transport sustainability: Asian trends, problems and policy practices. *European Journal of Transport and Infrastructure Research*, 4(1), 27-45.
- Hook, W and Replogle, M. (1996). Motorization and non-motorized transport in Asia: Transport system evolution in China, Japan and Indonesia. *Land Use Policy*, 13(1), 69-84.
- Jamil H. (2006) Historical overview of Malaysia's experience in enhancing Equity and Quality of Education: Focusing on Management and Mediation of Multi-ethnic Issues. Africa Asia University Dialogue for Educational Development Network
- Kasipillai J and Chan P. (2008). Travel Demand Management: Lessons for Malaysia. *Journal of Public Transportation*, Vol. 11, No.3
- Kline P (1994). *An Easy Guide to Factor Analysis*. Routledge Publishing
- Kusbiantoro B S (1998) Transportation Problems in Jabotabek (The Greater Jakarta Metropolitan Area). In proceedings conference on transportation in Developing Countries. University of California, Berkeley.
- Lim Y.L (1997, December). A Case Study on Urban Transportation Development and Management in Singapore. In *Second International Expert Panel Meeting on Urban Infrastructure Development, Bangkok, Thailand* (pp. 8-9).
- Luo X, Daimon H, Morimoto A and Koike H. (2007). A study on Traffic Behaviour of High Income People in Asian Developing Countries. Proceedings of the *Eastern Asia Society for Transportation Studies*, Vol.6
- Mohd Rizal B M Y. (2010). The British Legacy on the Development of Politics in Malaya. *International Journal for Historical Studies* 2(1)
- Morita A, Takeuchi K, Doi K, Sigua R G, Honda K, Seta F and Murakami A. (2004) Urban Transport and Local Governance in Asian Developing Countries, In search for Transport Policies. *IATSS Research* Vol. 28 No 1
- Newman P W G and Kenworthy J R (1996). The land use transport connection An overview, *Land use Policy*, Vol. 13 No 1 pp 1-22. Printed in Great Britain Elsevier Science Ltd.
- Ocampo J. A, Rada C, Taylor L (2009) *Growth and Policy in Developing Countries, A Structuralist Approach*. Colombia University Press, New York
- Population Reference Bureau. (2012) 2012 World Population Data Sheet.
- Rakodi C (2001) Forget Planning, put politics first? Priorities for urban management in developing countries. *JAG* Volume 3 Issue 3
- Shariff, N. M. (2012). Private Vehicle Ownership and Transportation Planning in Malaysia. In *Singapore, International Conference on Traffic and Transportation Engineering* (Vol. 26, pp. 64-68



APPENDIX B: Colonized and Non-Colonized Developing Country Group Gaining Independence after World War 2 among JICA participants year 2003-2011.

Colonized Developing Countries						Non-Colonized Developing
British	France	Portugal	USA	Soviet	Netherlands	
Bangladesh	Algeria	Mozambique	Philippines	Mongolia	Indonesia	Albania
Bahrain	Cambodia					Brazil
Ethiopia	Cameroon					Bolivia
Ghana	Laos					Colombia
India	Syria					Chile
Kenya	Vietnam					China
Malaysia						Egypt
Malawi						Haiti
Myanmar						Jordan
Palestine						Mexico
Senegal						Nepal
Sri Lanka						Panama
Tanzania						Peru
Uganda						Saudi Arabia
Zambia						Thailand
Zimbabwe						Turkey
						Venezuela