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A Study on the Impacts of the Modification of Hue City's Master Plan Project

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Abstract: *The purpose of this research is to investigate the impacts of the modification of Hue City's master plan project in Hue City of VietNam, the project was sponsored by KOICA (Korea International Cooperation Agency); the project's roles were orienting the infrastructure development, the conservation of the complex of Hue monuments, and concurrently enhancing the socio-economic development for the 2014-2030 period and the vision 2050.*
The research focused on evaluation of the "perception" of Hue inhabitant with the master plan. Based on the objectives, purposes, and implementation accomplishment of the master plan and data collected from 190 Hue inhabitant. During the research, we carried out a survey questionnaire to identify, measure and analysis the impacts of the master plan's factors on Hue people.
The result of the research showed that there were five factors of the tourism - urban substantiality development, consensus for the social economic development and traffic, improving the quality of the service of the public administration, employment opportunities, and stimulating of the real-estate business influenced the master plan, the percentage of the impact of the factors on Hue people, and the study evaluated the difference among scales in five factors: age, income and educational level.
Through of the research, we concluded that the master plan project not only was highly appriated by Hue City's government but also it strongly impacts on Hue people's perception in the constructing Hue City stable development

Keywords*: project, KOICA, mater plan, impact, Hue City.*

1. Introduction

ThuaThien Hue location belongs the center of Vietnam. It was also the ancient capital of Vietnam during 1880-1945 period. Hue City (the downtown) is the center of ThuaThien Hue . ThuaThien Hue was home of around 1.1 million people, in which labor force was about 600,000 people (in which trained labor forces over 35%) people. Natural characteristics included 5,054 km2 of land, coastline of 128 km length, and 22,000 hectares of lagoon. Resources included sand mine containing quartz with reserves about 41 million m3, area of acacia plantation forest over 60,000 hectares, and area of rubber: over 19,000 hectares, and other valuable resources. Administrative organization included nine administrative divisions (Hue City, Huong Thuy, Huong Tra towns, and 6 districts: Phu Vang, Phu Loc, Nam Dong, A Luoi, Quang Dien, and Phong Dien).

In recent years, the rapid increase of population and socio-economics have been serious effects on Hue city, these factors gradually broke the integration of architecture and landscapes in the city. Therefore, Hue City's government has to look for optimal methods to harmonization of the development between urban spatial expansion and the conservation of the complex of monuments in Hue City. Infact, it is essential for a sustainable development of a city have a master plan and a vision. Especially, its master plan is the long term strategy and closely links with infrastructural, social and economic development, conservation of physical cultural values, environmental protection, and etc. Therefore, Hue City realized that this master plan constitutes the bridge to the

development resolution of the city; moreover, it is a prerequisite for the development for Hue City in short term and long term as well.

For the sake of saving this ancient capital – UNESCO (The United Nations Educational, Scientific and Cultural Organization) World Heritage Site, KOICA (Korea International Cooperation Agency) sponsored Hue City for the modification of Hue City's mater plan project. The project's roles are orienting the infrastructure development, the conservation of the complex of Hue monuments, and concurrently enhancing the socio-economic development for the 2014-2030 period and the vision 2050; the project's implementation duration was 3 years from 2011 to 2014 with the total budget of 3,750,000 USD (KOICA grant: 3,500,000 USD and Hue City's counterpart fund: 250,000 USD).

The purpose of this research evaluation of the "perception" of Hue inhabitant with the master plan by the methods such as using exploratory factor analysis (EFA) to find factors of the master plan, the percentage of the impact of the factors on Hue people, the study evaluated the difference among groups with age, income and educational level.

2. Methods

2.1. Participants

The participants were 190 Hue inhabitants. They were ramdonly selected and grouped into cohorts: Their age ranged from 18 to over 60. In terms of age, the participants were divided into four groups: Group 1 (18 to 30 years old); Group 2 (31 to 45); Group 3 (46 to 60); and Group 4 (over 60). In terms of Income, the participants were divided into five groups, namely, Group 5 (under 3 million Vietnam Dong); Group 6 (3 to 5 million); Group 7 (5 to 7 million); Group 8 (7 to 9 million); and Group 9 (over 9 million). In terms of academic qualification, the paticipants were classified into three groups, namely, Group 10 (under high school); Group 11 (high school); and Group 12 (college).

2.2. Questionnaire and Measure

2.2.1. Questionnaire

The questionnaire was posted on the website at https://docs.google.com. Its contents included two parts: Part one was the personal information and Part two was a contents of the survey. The personal information included respondents' name, age, income, degree, and gender. There were 20 survey questions based on the objectives, the impacts, and the aims of the project.

2.2.2. Measurement Scale

The measurement scale was built on the basis of the Link-ert scale as below:

1: Very week 2: Week 3: Moderate 4: Strong 5: Very strong

2.3. Procedures

Data were collected in individual formats. Respondents of various social classes who lived in Hue were invited to take part in the survey. They individually filled out the questionnaire.

2.4. Sampling Methodology

2.4.1. Stratification Sample

The survey could be stratified in 4 criteria: Income groups, degree groups, age groups, and gender groups. Stratification by gender divides the population of Hue City into 2 strata: male and female. There were approximately 200,000 people who were over 17 years old with the gender proportion of 50/50 (male/female).

2.4.2. Sample size

Overall sample sizes for the survey were determined by the stratification degree of the sample. The overall sample size depended on the decision of the sample size for level of stratification. The objective of stratification was to allow an acceptable level of precision for estimates and at the different levels of the gender stratification. The sample sizes for gender sizes for estimates of proportion with 10% precision in 95% confidence intervals are calculated by the following formula:

N (Hue population was more than 17 years old) = 200,000 people, P(estimated proportion of an attribute) = 0.5, Q = 1-P = 1-0.5 = 0.5, PxQ = 0.5 x 0.5 = 0.25 (The highest population proportion), k(desired level of precision) = 10%, 1 – α/2(equals the desired confidence level at 95%) is Z1-α/2= 1.96.

$$95 = \left[\frac{1}{100000} + \frac{100000-1}{100000} \frac{1}{0.5.0.5} \left(\frac{0.1}{1.96} \right)^2 \right]^{-1} \quad [1]$$

Consequently, an operational 95 samples size per stratum was selected, and total of sample size for survey were 190 people.

3. Result

3.1. Analysis of Exploratory Factor and Descriptive Statistics

As shown in Table 1, most of first-order indicators mainly reached above average level. The exploratory factor analysis (EFA) has only factor loading of 2 out of 19 items approached were smaller than 0.5 (The indicators with factor loading smaller than 0.5 were eliminated because they wre not statistically significant), the others ranged from above 0.5 to 0.78, the Cronbach's alpha coefficient of the scales were quite high (from 0.81 to 0.84),. the lowest mean was No.16 The master plan will restrict speculators in real-estate and properties in Hue City (3.21/5), followed by No.21 Service quality of Hue City People Committee will be enhanced in the urban field (3.26/5), and No.9 The master plan will contribute more jobs in construction, industry, agriculture, tourism and trade fields (3.30/5). The mean of No.2, No.12 The master plan helps connect Hue City and the urban satellites and The master plan will facilitate the conservation of values of the complex of the monuments of Hue City were considered the highest one (3.62/5), following was No.9 The master plan will protect the sustainable urban environment of Hue City (3.58/5), and No.15 The master plan will erase slums in Hue City (3.56/5). The second-order indicators sum up cronbach's alpha coefficient have value of smaller than 0.83 and the extraction sums squared loadings was 55%.

The factor loading was an indicator to ensure practical significance for EFA. According to Hair et al. (1998), the factor loading which was greater than 0.3 reaches minimum level; greater than 0.4 was acceptable; and greater than 0.5 was considered having practical value. However, we assumed that if the chosen factor loading was 0.3, the quantitative sample must have at least 350 survey samples. In different cases, the factor loading must been larger than 0.55 with the quantity of 100 survey samples, and 0.75 with $p \leq 0.01$ for the quanty of about 50 survey samples (Hair et al., 1998).[1] In terms of 190 survey samples in this research, we thinked that the factor loading which was not smaller than 0.5 is acceptable.

The indicators with factor loading smaller than 0.5 were eliminated because they were not statistically significant.

TABLE I: Hue City's Respondent: Scales, Items, Factor Loading, and Descriptive Statistics
(Source: Survey Data)

No.	Construct (first-order indicators)	Mean	SD	Factor loading*	Cronbach's Alpha
1.	Hue City should basically and comprehensively changes its profile in future	3.44	0.85	0.55	0.83
2.	The master plan helps connect Hue City and the urban satellites	3.62	0.81	0.54	0.83
3.	The administrative mechanism of Hue People Committee will be transparency in the policies of urban development	3.50	0.87	0.74	0.83
4.	Service quality of Hue City People Committee will be enhanced in the urban field	3.26	0.87	0.71	0.84
5.	The master plan will create the consensus among Hue City's stakeholders in urban renovation	3.48	0.80	0.44	0.82
6.	Hue City will develop into a city of modernization and civilization	3.45	0.90	0.50	0.82
7.	The master plan helps avoid the conflict between Hue People Committee and Hue people in case of expropriation and compensation of land and housing.	3.44	0.82	0.70	0.82
8.	Hue people will look for developing opportunities	3.60	0.86	0.34	0.83
9.	The master plan will contribute more jobs in construction, industry, agriculture, tourism and trade fields	3.30	0.90	0.78	0.84
10.	The master plan has to serve the need of social development of Hue City	3.47	0.84	0.58	0.82
11.	The master plan has to serve the need of economic development of Hue City	3.46	0.88	0.55	0.82
12.	The master plan will facilitate the conservation of values of the complex of the monuments of Hue City	3.62	0.92	0.57	0.81
13.	The master plan will protect the sustainable urban environment of Hue City	3.58	0.87	0.58	0.82
14.	The master plan will promote the investment in public infrastructure (roads, bridges, etc..) in Hue City	3.42	0.90	0.67	0.81
15.	The master plan will erase slums in Hue City	3.56	0.85	0.71	0.82
16.	The master plan will restrict speculators in real-estate and properties in Hue City	3.22	0.81	0.62	0.82
17.	The master plan will stimulate the real-estate business in Hue City	3.48	0.87	0.72	0.84
18.	The master plan will promote to develop Hue City's tourism	3.50	0.85	0.78	0.82
19.	The master plan helps reduce the traffic congestion of Hue City	3.38	0.91	0.76	0.82
Construct (second-order indicators)					
Cronbach's alpha coefficient					0.83
Extraction sums squared loadings					55%

* Extraction Method: Principal Component Analysis, rotation Method: Varimax with Kaiser Normalization.

3.2. Naming Factor

The data in Table 1 indicated that five groups of factor had impact on the project, in which the factors' Eigen values (from factor 1 to factor 5) were 5.18, 1.51, 1.38, 1.23, and 1.10 respectively. Accordingly, we named the factors as follows:

Determinant 1: The highest Eigen value of 5.18 included 7 variables that related the tourism and urban substantiality development. The name of a factor 1 is "tourism - urban substantiality development".

Determinant 2: The Eigen value of 1.51 included five variables that related the consensus for the social economic development and traffic. The name of a factor 2 is "the consensus for the social economic development and traffic".

Determinant 3: The Eigen value of 1.38 included two variables that related the quality of the service of the public administration and the transparency of administrative mechanism in urban development. The name of a factor 3 is "the consensus for the social economic development and traffic".

Determinant 4: The Eigen value of 1.23 included one variable that related to contribute more jobs in construction, industry, agriculture, tourist and trade fields. The name of a factor 4 is "employment opportunities".

Determinant 5: With one variable of the master plan will stimulate the real-estate business in Hue City, and the Eigen value coefficient was 1.10. The name of a factor 5 is "stimulating the real-estate business".

3.3. Frequency Analysis and Evaluation of the Impact Factors

3.3.1. Analyzing the Factor of the Tourism - Urban Substantiality Development

The respondent that the respondents' feedback on the impact of the tourism – urban substantiality development of Hue City. The result analysis of the respondent of the impact of the tourism – urban substantiality development of Hue City for each numerical value from 1 (very weak) to 5 (very strong) was 4%, 5.5%, 20.5%, 30%, and 40% respectively. The survey result also indicated that more than 90% of Hue people expected the tourism and urban substantiality development when the master plan finishes.

3.3.2. Analyzing the Factor of the Consensus for the Social Economic Development and Traffic

The respondents' feedback about the impact of the consensus for the social economic development and traffic of Hue City. For levels from 1 (very weak) to 5 (very strong), the result was 3%, 30%, 44%, 20%, and 3%, respectively. The survey result also indicated that 94% of Hue people hope to have the consensus for the social economic development and traffic when the master plan finishes.

3.3.3. Analyzing The Factor of Service Quality Improvement of the Public Administration

The percentages of the impact of the service quality improvement of the public administration of Hue City on the scale of 1 (very weak) to 5 (very strong) were 17%, 23.5%, 48.5%, and 17% respectively. The survey result also indicated 89% of Hue people hope the service quality of the public administration would be improved.

3.3.4. Analyzing the Factor of Employment Opportunities

The percentage of the impact of the factor of employment opportunities on Hue people ranging from 1 (very weak) to 5 (very strong) were 1.5%, 12%, 38%, 37%, and 11.5% respectively. The survey result also indicated that 86% of Hue people expected their opportunity in terms of offering jobs to Hue people when the master plan finishes.

3.3.5. Analyzing the Factor of Stimulating the Real-Estate Business

The percentage of the impact of the factor of employment opportunities with Hue people from 1 (very weak) to 5 (very strong) were 1%, 11.5%, 45%, 30%, and 12.5% respectively. The survey result also indicated that 87.5% of Hue people expected their opportunity in terms of stimulating the real-estate business when the master plan finishes.

3.4. Between-Subjects Differences

We tested for relationships between age, gender, income and educational level. T-tests revealed income differences for the factor of the tourism - urban substantiality development ((TIncome (Group 6 – Group 8); P=0.04), (TIncome (Group 5 – Group 9); P= 0.03)) and the factor of stimulating the real-estate business (TIncome (Group 7 – Group 9); P=0.02); these differents showed that the higher income groups wish the tourism - urban substantiality development and demand of buying the land or housing of the middle incomers (Income Group 7 = 5 to 7 million VND) serving for their living were higher than rich incomers (Income Group 9 = Over 9 million VND). Degree for the factor of the consensus for the social economic development and traffic ((TDegree (Group 10 – Group 11); P = 0.049) and (TDegree (Group 10 – Group 12); P = 0.02)) and the factor of stimulating the real-estate business (TDegree (Group 10 – Group 12); P = 0.02) indicated that the consensus for the social economic development and traffic of Group IDegree = Under high school would be negatively affected by changing economic restructuring and social structure because most of them hardly accessed jobs with high professional requirement in Hue City, the people of high level of degree recognized the real-estate business would "unfrozen" after the master plan spread of announcement, the real-estate business would be transparent transaction at the same time; therefore they could easily approach "real easte information" for their puporse. and avoiding domination of real estate speculators. Age for the factor of employment opportunities

(TAge (Group 2 – Group 3); P = 0.03) was young people (Group 2) hope the master plan to make more job for them because most of people of Group 3 have stable work. Besides, the others found no significant differences.

4. Conclusion

The modification of Hue City's master plan to 2030 and its vision to 2050 is one of the crucial missions of Hue City People's Committee during the period, 2011-2015. The KOICA and Korean consultants has supported Hue in implementing a great number of works such as the evaluation of Hue situation, the environmental evaluation of the project (pre and post stage), Hue City's and Hue satellites' master plans, development plan of 2015-2020 period, and the budget plan and mobilization for them.

The result of the research showed that firstly, there were five factors of the tourism - urban substantiality development, consensus for the social economic development and traffic, improving the quality of the service of the public administration, employment opportunities, and stimulating of the real-estate business influenced the master plan, secondly, the percentage of the impact of the factors were more than 80% being "strong", the issues showd that Hue people was perception of important role of the matster plan, lastly, there were the differences among groups about the income, degree, and age were income of (Group 5 – Group 9) and (Group 6 – Group 8) of the factor of the tourism - urban substantiality development, and the income of (Group 7 – Group 9) of the factor of stimulating the real-estate business; the degree of (Group 10 – Group 11) and (Group 10 – Group 12) of the factor of the consensus for the social economic development and traffic; and the age of (Group 2 – Group 3) of the factor of employment opportunities respectively.

Through of the research that the master plan project not only was highly appriated by Hue City's government but also it strongly impacts on Hue people's perception in the constructing Hue City stable development.

After the research and analysis of the master plan that the author would like to recommend to stakeholders with some ideas as below:

For Hue City People's Committee:

The project was the first ODA project of Korea, and it is the best quality to comparing with the previous master plans. Korean consultants assisted Hue City People's Committee that designed Hue mater plan to 2030 and its vision to 2050. The result of the evaluation of the social and economic effectiveness of the project showed that the project had approached most of the project objectives; moreover, the Korean consultants designed Hue City's master plan and other plans that are accordant with a demand of the urban development of sustainability, and responding the criteria of a urban special grade of Vietnam.

As the mention above, we highly appreciate the project that very effectiveness in Hue social and economic development, and positively impacting on Hue people; therefore, we would like to recommend to Hue City's People Committee as below:

Firstly, minimizing the change of the master plan for other purposes, because anything of the modification of it leads to the change of the other categories. However, any change needs to consulting with national and Korean specialization experts, and Hue people's opinion.

Secondly, Hue City is the tourism, culture, education, health care, industry, and trade center of Vietnam, and the city welcomes the annual number more than 3 million tourists, students, officers, and workers to Hue for visiting, learning and working yearly. With this growth momentum, the amount of them will be from 8 to 9 million. Thus, annual total of resident will be up to 10 million (including 700,000 Hue habitant) in the 2025 – 2030 period. This case shows that using the public traffic for Hue City such as Tram, Bus and BTR (bus transit rapid) will not solve traffic congestion in Hue City on a rush hour or in a peak seasons. In addition, Hue City is one of the cities being increasingly and extremely impacted by disaster such as typhoon, heat wave, and whirlwind. With some problems has mention about, we would like to suggest with Hue City People's Committee adding design of the subway system.

Thirdly, periodically during the three or five years, the government should coherent with Korean and national experts review between actual implementation and target of the mater plan that in order to giving solutions to adjust its activities.

Fourthly, the budget for the project implementation is one of the most important category, because it will decide to success or failure of the project. Even though, Korean experts estimating the executing budget for project was about 3,405 million Korea Won and offering some of the solution to budget mobilization, we glad to recommend to the government classifying types of investment for the project categories such as FDI (foreign direct investment), PPP (public private partnership), ODA (official development assistance), and state budget; this way helps investors easily choose a method of investment.

Fifthly, The impact of the master plan with Hue people is also one of the reference channels for Hue government in the choosing priority rates of categories of the master plan; moreover, It will tighten the relationship between Hue people and Hue City People's Committee in issues of the social economic development of Hue City by this way.

Lastly, the government should widely promotes the project for everyone in mass communication. The promotion methods and the promotion languages would like to have to diversity and abundance.

For Hue people:

The master plan is more and more important with infrastructural, social and economic development of Hue City, the conservation of the complex of Hue world heritage, and environmental protection of Hue City as well. Through the result of survey analysis had showed that the project directly impacts on Hue people; therefore, each person of Hue City would to like to share their responsibilities with the government that aiming at helping the master plan in the success.

In order to achieve this, we suggest to Hue people with some of points as below:

Firstly, Hue people should access the master plan aiming at orientation of real estate business, construction, and other works, because its content contained plenty of information being related to their daily life such as land master, road expanding, job demand, etc.

Secondly, expanding the roads, the urban areas, the industrial zones, and used land, being trend of the urban development will influence on the Hue inhabitants in the land clearance; therefore, the inhabitant who affecting the master plan or living in clearance areas would like to be consensus with the government about capital and land compensation or moving to other places.

Lastly, through the survey showing the impacts of the project on Hue people being five factors or five issues are the core works of the project, and being the main beneficiaries from the project also should facilitate to help the government doing success of the master plan at the most.

For Sponsor:

The master plan is the best typical project between Hue City and KOICA, and its budget is also biggest that Korean government sponsoring for Hue City at this time. The master plan is not only a key for infrastructural, social and economic development and called for investment into ThuaThien Hue, but it also enhances the relation between Korea and Vietnam in general as well as Hue City and KOICA in particular.

Up till now, the master plan has accomplished, Hue City People's Committee implements the tasks in 2015 – 2020 period. In order to enhancing effectiveness of the master plan that we would like to be following recommendation to KOICA:

Firstly, during the three or five years, KOICA would like to review the actual implementation and target of the mater plan that aiming at KOICA's recommendations for Hue City People's Committee.

Secondly, even though the project budget is ODA grant that nonrefundable, we think that KOICA should announce the revenues and expenditures of the project that the government 's fund finalization following equivalent rate to Hue City People's Committee .

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