City Colour: South Korea Gimhae City Colour Palette of Representative Colours and Symbolic Colour Development

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Abstract
Gimhae city in South Korea has high cultural properties from both tradition and modern era. Through an analysis on Gimhae city dominant colours; environmental colours and regional colours were extracted and identified to develop the representative colours and main symbolic colour of the city. Representative natural environment, artificial environment, humanity & cultural environment and objects were selected as the study object. The objects' colour identities were captured with the technique of CADI (Color Analysis through Digital Imaging) and analyzed through KSCA (Korea Standard Color Analysis) for colour extraction. Gimhae city colours palettes were arranged with 100 environmental colours, 50 regional colours, 10 representative colours and one main symbolic colour. A further research is expected to be carried out on the Gimhae city color guideline according to the representative colours extraction of this study.

Keywords: Gimhae Color, City Color, Representative Color, Symbolic Color

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Background

City colours analysis and guidelines development could be a way for the city to become more sustainable and be developed with an excel city image. Gimhae has high unique cultural properties from both tradition and modern era due to Gaya Kingdom's culture.

Gimhae city has a long history and tradition based on the Gaya Kingdom from AD 42–532 in Korea. It is one of the leading kingdom of Korea's history. King Kim Suro had founded Gaya and married to Heo Hwang-ok, a princess from the Indian country of Ayuta. It was the first international marriage in the history of the Korean Peninsula. This is one of the reason making the Gaya culture to be more unique and special. Gaya Kingdom was advanced in the production of earthenware and ironware compared to the other nation by that time, thus, Gaya created a splendid civilization in short time. And the products were traded with neighbour countries like China and Japan. Come out with, Gaya has thrived as a center of international exchange in Northeast Asia in that era, and its culture was also remarkably developed.

Gimhae, which is a city in South Gyeongsang Province of South Korea. It is the birthplace and root of the Gaya culture, it has a important rule of continueing to preserve, build on, and develop the Gaya culture and heritage. This study was carried out to extract the Gimhae city's overall environmental colours, regional colours, representative colours and a main symbolic colour.

Purpose

Developing a systematic and designed city color palettes is one of the way for the city to developed with an excel city image, harmony environment between artificial and nature, and to become more sustainable. This project was carried out to extract the Gimhae city's 100 environmental colours, 50 regional colours, 10 representative colours and a main symbolic colour.

Literature Review

Every city has it's unique color identity. This study was started with analysis and study on other leading citys' city colour plannings and guidelines around the world.

London, England, the representative color of London, comes from it's historical background form the beginning until now. The governemnt has firstly made red color as the color of the public transportation since 1910. As the time goes, red color has became the main color of the traffics and facilities to ease the citizen from recognising. As a result, red color that gives a strong impression has became a significant color of the city for citizen and foreigners. And other than that, London has grey series of basic color, and blue series for harmonious color.

Berlin, Germany, the historical buildings were being preserved strictly by the government. Thus, modern and newly built buildings must take the historical buidings'colors as a consideration and reference. And Berlin has developed a 100 city colors palettes or system after the country's reunification. The government has soon made a strict color guidelines for the whole city. For example, gorverment officers

and proffesional designers will go throught and discuss all the sign board design submissions of every company. To be more detail, the rule has even made the font color of every signboard must match with the buildings'color.

Japan, every city of Japan has it's own developed city color system according to thier natural environment colors and the cultural colors. They take the harmony of the natural environment color and the artificial environment color very seriously, because they consider human is a part of the nature.

Yokohama, Japan, has chosen white color as the symbolic color of the city. Because white has a great contrast with the sea view environment of Yokohama. Thus the whole city look very clean, modern and harmony with the great view of white colour. Kinda like the Santorini Island of Greece.

By looking at how well the color of natural environment, artificial environment and the cultural environment mixing together of a city, you got to know the easthetic landscape value of the city.

Research Method

First, a process to choose all the synificant study objects in Gimhae city was carried out. The objects are separated in 3 catogeries, natural environment, artificial environment or cultural environment. This process started with a survey to the citizens of Gimhae to list out the significant location or object of gimhae that they prefer. A survey that about gimhae's image and landmark from the citizen and non citizen was done.

A list of 108 objects from natural environments, artificial environment, humanities & cultural environments and objects that able to represents Gimhae city were selected. 20 objects from natural environment, 72 objects from artificial environment, and remaining 16 from humanities & cultural environment.

Data was collected by the technique of CADI (Color Analysis through Digital Imaging), more than 1200 photos were captured by DSLR during the data collection stage from the 108 locations mentioned just now. All of the photos were captured in two version. One is the full view version, and one is with a color reference tool. Next, all the data will undergo filtering process to find out the best significant and representable images by the expertise. At the end, 248 photos were brought to the next step. Then, Colour correction was done in the software E-Lightroom for ensuring the best white balance image for the color extraction in the next step.

Color extraction was carried out through a software called KSCA (Korea Standard Color Analysis). This software was created since 2008, And it is recommended by government as the standard color palette extraction method. It's able to differentiate 2676 colors from images. All the color will be analyzed with standard colour codes(KS, LAB, RGB, CMYK), and also in the table of chroma and value. All of the data for this project was analyzed with this method.

Discussion and Conclusion

From the 108 representative objects of Gimhae City, 248 colours were extracted. Among 248 colours, 19 natural environment colours, 70 artificial environment colours, and 11 humanities & cultural environment colours, total of 100 Gimhae city environmental colours was extracted. The 100 colors was arranged by the name GC (Gimhae Color), from GC001-GC100.

Figure 1: 100 Gimhae Environmental Colours.

From the 100 environmental colours, 50 colour with better value in uniqueness, aesthetics, and meaning was selected and named Regional Colours with 12 natural environment colours, 30 artificial environment colours, and 8 humanities & cultural environment colours.

Figure 2: 50 Gimhae Regional Colours.

A citizen investigation survey was carried out from 208 Gimhae citizen for the Gimhae's identity, possibility and etc before creating the 10 representative colours palette. And based on the survey data, and also a discussion with the city colour expertise, 10 Gimhae representative colours with great value of history and cultural were selected.

Figure 3: 10 Gimhae Representative Colours and relevant images.

Each of the 10 representative colours GC018, GC020, GC041, GC046, GC062, GC063, GC074, GC080, GC089 and GC99 were named accordingly with their own identity and relevant meaning that corresponding with Gimhae city in Korean.

A survey from 321 surveyees from online survey system and 768 surveyees from offline survey, total in 1089 was done before deciding the symbolic colour that represent the whole Gimhae City.

The result for the first second and third place that online surveyees think the colour that can represent gimhae city is green, yellowish orange and orange among the 10 representative colours of gimhae.
And the first second and third place that they personally prefer is blue, green and yellowish orange.

For offline survey, green is first place, blue as second and deep green as third for the Gimhae symbolic color preference. And the color that they personally prefer is blue, green and orange.

수로녹색
GC063
KS 6.25GY 7/10

Figure 4: Gimhae Symbolic Colour and relevant image.

Thus, After the survey result and the discussion, the final result of the symbolic colour of Gimhae city is Suro Green (6.25GY 7/10). This green colour are extracted from the the green filed of the King Suro's Grave in June. And King Suro also is the key person of the whole Gaya Culture. This Suro Green will be the symbolic color that help the city to heritage and develop the historical and cultural value of Gimhae.

This project will be carry on to the next step to build a detail city colour guideline according to different catogery of environment. For example goverment building, facilities, living area's buildings, historical and cultural buildings, and etc. So that Gimhae City can use this city colour guideline to create a well designed and better living city.

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