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The Challenge of Spiritual Change  
for the Urban Green Living Benefit

“Less built for the better quality of life”

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## Abstract



During last decade ,the world has face to the enormous environmental change, Earth quake in many country Haiti and lastly New Zealand, Flood plane in Asia and recently Tsunami in Japan which effected a huge damage for human life in the World history. As many of the big City, Bangkok is one of the capital where exist the important urban rapid growth from urban agglomeration in parallel with population increasing. This phenomena produce one of the urban impact on the quality of life in the City as the environmental quality impact as well.

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The ratio of urban expansion show the un-balance of land use which is the main obstacle for the sustainable development for urban green area. as show in following statistic for land use classification for Bangkok Metropolitan area:

Types of land use	year 1989 (%)	year 2009 (%)
Paddy field	51%	21%
Urban forestry	21%	14%
Swam area	11%	6%
Green area	7%	5%
Built up area	10%	54%

Source : Department of Statistic ,Ministry of Agriculture ,2010

The reduction of agricultural land has turn to the urban built in reason to fulfill the need of Housing demand as in the big City where the migration is quite serious with the rapid expansion of population growth. The green area disappear and replace by housing estate development where the green footprint turn into the yellow area of light and dense residential area. During 20 years ,the capital has face to the enormous increasing of population growth and the demand of Housing which confirm that the capital is the magnet for all the challenge for the new life. The phenomena of urban land use change has turn the city in physical built and grey field in stead off urban green field, and the green vacant land which represent the pure nutrition land has completely change , the more built bulk increase ,the less vacant nutrition land left.

The acceleration of natural resource utilization such as deforestation ,natural green land reduction ,green vacant land decreasing and turn to urban bulk and the increasing of urban bulk, deteriorate the balance of urban ecology.

Today The world security is one of the Top issue for the worldwide affaires, the City has to ensure their save area by Natural and physical solution as well. Natural mitigation such as to preserve the green Natural land, keep the balance of the

ecology and protect the green nutrition land the future of mankind, While the mitigation for the physical dimension are: reduction of urban bulk expansion, reduction of world energy consumption , decrease the world garbage and reduction of industrial waste to bring our world green and clean.

The green mitigation is now become the new strategy of Bangkok Metropolitan region and the committee for the sustainable City Development has been set up for the special mitigation and brainstorm to reach for the sustainable outcome for Sustainable and green City. It is now the affaire of every City in Asian to cooperate in order to bring our Region become the most Green region in the World for our next generation where people can live with safety ,peaceful and wellness.

Keywords : Green footprint , pure nutrition land, grey field , green nutrition land

Objective of the Paper : Using the experience from the research done concerning the protection of green Natural resource in order to evoke the attention on Natural resource Utilization in the appropriate and suitable manner and plan the sustainable Master Plan in the Future.

## Introduction

Only in early 20th century that the modernization has entered the country after the trip of his Majesty the King Rama V from Europe (1897-1907) ,Thailand has moved to Modernization ,the first Electricity distribution factory was built in on September 20,1884 which change a candle light City into the electric City and influence by European inspiration.

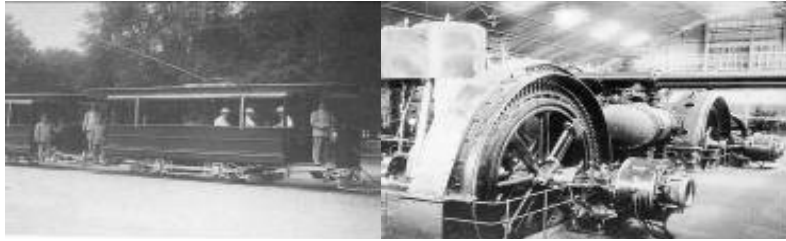


Figure 3 The first tram in Thailand and the first Electricity Distribution unit in Bangkok



Figure 4 Traditional row boat has replaced by motor Taxi Boat

The City has change its behavior from the waterway living into in land settlement  
 The Traditional wooden row boat disappear more and more and the canal will soon infill by the motor long tail boat ,the other way of travel in to the city. In fact the canal represent essentially with the people who live in the outskirts and need to travel into the inner city for every day work, as long as the city expand ,the people will loose their time for entering the city and stuck in the traffic jam : the economic spoiled.

### Town expansion make the city difficult

During the last two decade with the economic boom, the city has its face to the competitiveness in the Industrial investment where the country has to Improve all

public facilities and infrastructure. These phenomena increase not only The economic investment but also employment and others urban elements : housing Project to support the need of housing demand , Commercial complex for every day living , leisure and public recreation those are the main indicators for the new urban built : construction. And represent the magnet and accelerator for the construction sector Till year 2005 ,the statistic has shown the optimistic result in sector of Industrial as show bellow:

Statistic of employed persons

unit / thousand

Industry	2003	2004	2005
Agriculture ,Forestry, Fishery /Hunting	13,880.1	13,633.8	13,617.0
Mining & Quarrying	46.7	50,4	56,6
Manufacturing	5,298.7	5,298.7	5,587,9
Construction- repair . demolition	1,880.7	2080	21,2128
Electricity gas water and sanitation services	94.8	100.4	106.9
Commerce	5,199.2	5,540.3	5,553.3
Transport-storage and communication	1,049.6	1,100.5	1,108.1
Service	6,373.4	6,718.5	7,050.2
Others	17	28.5	47.9
Total	33,841.0	34,728	35,257.2

Source :Year book of labour protection and Welfare Statistic 2005  
Department of labour Protection and Welfare.

The huge part of work sector are :agriculture, services and Manufacturing which found in the big cities and in parallel all these workers need to have at least a

minimum standard of living place ,this phenomena indicated the increasing of Housing demand in the big cities as well as the transportation to mobilize the labour force to the workplace. The city expand its surface to the outskirts area in order to response to the huge housing demand , the green vacant area in the urban fringe are sold and no longer become the site of Housing estate project for medium and High income ,it is the mutation from natural vacant space to the dense and junk new settlement which completely change urban figure from green to gray terrain and mentally from tranquility to chaotic and dynamic transformation.

### The Impact of rapid growth.

Since 1990 the economic growth turn Asian country into the dynamic huge change physically and mentally as well. Bangkok City is one of the Mega city where the natural ground has become the field of physical Development : from the paddy field to the new Industrial estate in reason to increase the GDP (Gross Domestic Product) of the country. The industrial investment has made a huge change for the vicinity and the area nearby and product the magnet of other main infrastructure in order to serve the mechanism of the industry. The state has to invest more than half of its annual budget to improve the infrastructure services : highway ,road ,local road etc.to balance the demand and supply in Industrial sector.

It is the progressive change in term of new investment but unfortunately came a various environmental impact from the ecology spoiled , green natural deterioration, decreasing of natural farm product and eco-cultural change due to the expansion of Industrialization.



Figure 5 Urban figure of Bangkok has change into the vertical growth City

In the same time the City become more consumer for the energy consumption , considering by the increasing of number of vehicle and the consumption of various energy, gasoline ,fuel ,diesel and electricity etc.

Statistic for the origin of energy consumption in Bangkok city(2004-2005)

Bangkok Province	categories	year 2004	year 2005
1. number of particular car register *		176,933	188,936
2. number of new van and truck		94,245	111,677
3. number of new motorcycle		352,149	399,845
4. number of new Micro bus		9,743	9,931
* Depart of Land Transport, Ministry of Transport, KingdomofThailand			
Energy consumption / commercial energy	unit/ ktoe	year 2004	year 2005
1. Liquefied petroleum gas **		2,543	2,750
2. Unleaded gasoline 91		3,451	3,228
3. Unleaded gasoline 95		2,257	2,171
4. High speed diesel		16,737	16,749

\*\* Ministry of Energy, Kingdom of Thailand



As long as the number of vehicle increase ,the country have to lose the revenue for the energy imported especially all kind of fuel to serve the individual transportation.

### City have to keep the Balance between Built up area and the Green

With the trend of the City growth , the green vacant land will no longer resist to the new investment and the new land Development , all the West part of Bangkok, Nonthaburee: an urban fringe where exist since many generation the perfect orchard of all kind of fruits ,durian ,mango , rambutan but unfortunately become now the field of housing estate development ,the land cost increase much higher than the owner resist to the persuasion and the orchard field are finally fail in trap of these new agglomeration by the big city.



Figure 6 The green permanent tree is now replace by the modern High rise

As the Urban agglomeration expand rapidly , the green urban fringe has been change in to the huge concrete construction as a complete mutation between the

natural green and the Physical built up development .Eventually the way of life has change from the tranquil and modest way into the rapid modern life and dense compact living box , it is now the time to keep the green footprint or to change into the modern life, only the city can give the appropriate answer.

### The impact of losing green foot print

Due to the urban agglomeration ,the urban area expand to the urban fringe and swallow the agricultural land and green fringe where people are still living with the nature . Since the 8<sup>th</sup> national plan basing on the creation of Green footprint, preserving the eco-green natural land , promoting reforestation after the huge lose of deforestation which increase the ambience heat temperature .The inner city is now become more dense than ever with the urban bulk et built increasing rapidly:

The table shown the average of urban density in Bangkok comparing with other countries.(1990)

Country or continent	Average urban density (people /hectare)	green space/ pers./m2*
Australia	12.3	>45 m2
United State	14.2	41 m2
Canada	28.5	25 m2
Europe	49.9	24 m2
Bangkok	149.3	2.5m2
Asia city	161.8	12.5m2

(source : Kenworthy ,Laube et al. 1999)

(\* Boonwong&eggarin KU. research 1996)

## Green space, the Balance of the City

Many of European cities has successfully addressed the attitude change by abandon the use of private car and turn to use public Mass transit :Tram or Bus or Underground subway which mobilize huge mass of voyageur instead of using the particular vehicle .These solidarity reduce successfully the decreasing of energy use: reducing the use of gasoline ,make the city clean without producing carbon dioxide and help to preserve the environment clean for the better living of everyone in the city. Unfortunately Bangkok city seem to continue expanding the number of caruse in the city and built up more and more hard scape for the infrastructure as expanding the road . In fact Bangkokcitycanlearnbytheexperienceofothercitieswhosedownside the pave of urban circulation and expand the green pave for pedestrian.



Figure 7 tentative of green Parking in the city to reduce the urban heat temperature

To bring the city green, it is the task and responsibility of everyone who live in the city to cooperate in having Public responsibility to promote the increasing of green space and bring back and preserve the green nutrition land which has been used un appropriately . The hard pave can be replace by the green pave ,also the pedestrian way can be the green pedestrian instead of hard concrete pedestrian and should be a universal pedestrian for all , for disable and elder people as a beautiful pavement.

## Changing the attitude from Materialize to Naturalize

Today the expectation of all the city citizen is to live in the beautiful place, tranquil green and peaceful place cause the city is the place where the people can live with healthy wellness and prosperity and the place where the mixture between modernity and the traditional can blend together smoothly as well. The city can be developed in a appropriate way by preserving the ecology as it use to be ,the green space represent as the cultural heritage which make the people survive by their own living way. The modernist approach for City planning need to keep the balance of land use and the appropriate balance between the built up area and green nutrition vacant land preserve as the food feeder land for the whole population. The modernity appear with the contribution of transport and basic infrastructure, road ,pavement and improvement of all public facilities for the better quality of life while the natural green land have to be protected to be the nutrition land for all population and to be the nutrition heritage for the future .Bangkok have to keep the balance of its green natural space in order to protect the environment for the better quality of life of the people.

## Turning the City to the urban green living place

To save the city from suffering due to all urban problems : high density of land use, mal function on land utilization ,unbalance of land use those are the major constrain for urban development . Bangkok have to slow down the rhythm of development especially the huge Mega Project : over scaling development which is an illusion and rethink for the sustainable way of development to make the city livable. After the different research and brainstorming, the new understanding of urban development aim to emphasize on public participation and the integration of green urban space. The decreasing of urban built is one of another measurement for reducing the urban

heat temperature and integrate green space to raise up the quality of urban landscape for the better environment.

The city is a diversity place of lifestyles with multi culture and various built and environmental heritage and people can appreciate the real value of their own heritage and can be proud of their own living place while the authorities those are the direct responsible for urban management and control have to rethink for the appropriate solution for the urban development.



Figure 8 City have to preserve its own cultural heritage and environmental heritage as well.

## Conclusion

Bangkok city is called Veniceoriental with its canal and waterfront living place but in the same time the city have to rethink to bring back the ecosystems in the City in order to protect the environment : man have to live within the good environment. It is the way how the recognize the value of the environmental heritage. In term of physical value , Bangkok need to improve its public facilities from the pavement into a permanent green pavement and integrating the green pocket park to make the city green in the urgent and short term. For long term mitigation plan , the city should provide Public mass transit in form of green transport by using the electric public mass transit to reduce private cars in the city, making the city green by promoting the renewable energy . Beyond the road all the sidewalk

need to be integrate with the green landscape to protect the sidewalk from the pollution for the master plan ,the implementation plan need to emphasize on the urban land use reordering to put in order the land use ,defining and ordering zoning of urban land use to avoid mal function of land use and to reordering the appropriate zoning and urban land use .These mitigation need to be recognize as the Bangkok Agenda for the sustainable urban development for the better quality of life and environment for every life of the people and to be proud of the old environment and cultural heritage.

Paper Background :

Research from :

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