Central Intelligence Agency (CIA: www.cia.gov/cia/publications/factbook/geos/th.html) summarizes the Thai economy that after enjoying the world's highest growth rate from 1985 to 1995 - averaging almost 9% annually - increased speculative pressure on Thailand's currency in 1997 led to a crisis that uncovered financial sector weaknesses and forced the government to float the Baht. Long pegged at 25 to the dollar, the Baht reached its lowest point of 56 to the dollar in January 1998 and the economy contracted by 10.2% that same year. However, the economy has been recovered. On September 3, 2002, the currency exchange rate is Baht 41.72 to the dollar (http://www.bbl.co.th/bankrates/fx_rates_curr.htm).

It can be said that due to the economic transformation of the country from an agricultural-based economy to an industrial-based economy, a gigantic boom in housing and real estate appeared in Thailand. The above figure shows that since 1987, the proportion of GDP of manufacturing has significantly been higher than that of agriculture. Because of this transformation, wealth has accumulated resulting in the boom in housing and real estate for over a decade (1987-1997).

1.2 Bangkok

Bangkok is the capital city of Thailand and was established in 1782. Its total area is 1,568.737 sq.kelometres. According to the database of the Department of Local Authorities (DOLA), the population of Bangkok is 5,795,267. However, the total number of population in the Bangkok Metropolitan Region is 9,400,487 (June 9, 2002 http://www.dola.go.th). Most residents in Bangkok are native Thais with around 25% of the city's inhabitants being Chinese or of Chinese descents as well as Indians, Arabs, Malays and Europeans (http://www.bma.go.th/bmaeng/body_general.html# population).

1.3 Bangkok's Economy

The economy of Bangkok is very gigantic. In 1993, the Gross Provincial Product of Bangkok alone was 42% of the total Gross Domestic Product (GDP). The other 5 provinces of the BMR shared another 12% of the GDP. The rest of the country shared only 47% or even less than half of the GDP. This implies the primacy of this megalopolis of Bangkok. However, the situation improved in 1999 which possessed the latest data on the GDP. In 1999, the rest of the country shared 51% of the GDP. The 5 adjacent provinces of the BMR shared the same 12%; whereas, the share of Bangkok decreased to 37%. Expectedly, due to the development of other cities and regions, the uneven growth would be alleviated.

Fig.2: Launching of New Housing Units, 1994-2002
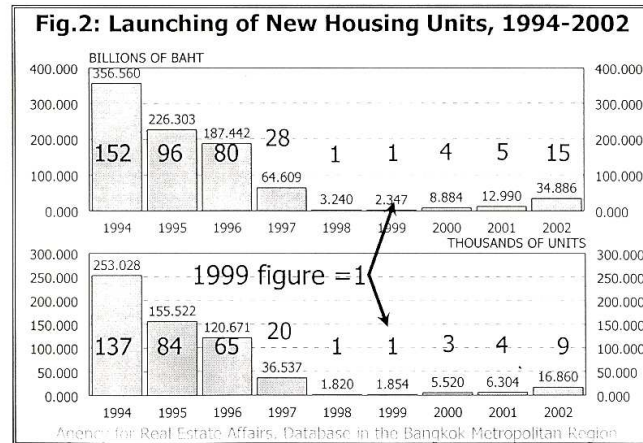
2. REAL ESTATE MARKETS IN THAILAND

2.1 Current situation

The following Figure shows the launching of new housing units each year during 1994 to 2001 in terms of the total value of the development and the number of units launched. It should be noted that the launching implies the market activities in each year. However, not all of the launched units were actually built. Many of them were cancelled over time due to the worsening market situation.

In this Figure, the 1999 figures in value and units were used for the comparison because it is believed to be the year of the bottom. According to the findings, although the recovery in 2001 was observed (3-4 times higher than the bottom year of 1999), it was still considered very insignificant when compared with the boom time. This is mentioned because at present many developers try to conduct some propaganda to encourage people to decide to buy a house to help ease the developers' sales. They tend to say that the situation is recovered and it is the time to buy.

2.2 Future Expectation

According to a study of Agency for Real Estate Affairs (2001), the recovery of housing markets is in the process. The recovery date for each market is shown as follows:

2.4.1 High-income Detached Houses (Baht 5,000,000 and over / unit)   March 2001

2.4.2 Medium Price Townhouses (Baht 1,000,000 - 1,500,000 / unit)   August 2001

2.4.3 Low-cost Townhouses (<Baht 800,000 / unit)   September 2002

2.4.4 Medium Price Detached Houses (Baht 2,000,000 - 3,000,000 / unit)   October 2003

2.4.5 Low-cost Condominium (Baht <400,000 / unit)   August 2005

2.4.6 Medium Price Condominium (Baht 1,000,000 - 2,500,000 / unit)   February 2007

2.4.7 Luxury Condominium (Baht 3,000,000 and over / unit)   March 2007

2.4.8 Other type on the average   April 2005

2.4.9 The overall average   April 2004

FIG.3: STAGES OF THE DEVELOPMENT OF DIFFERENT TYPES OF PROPERTIES IN BANGKOK
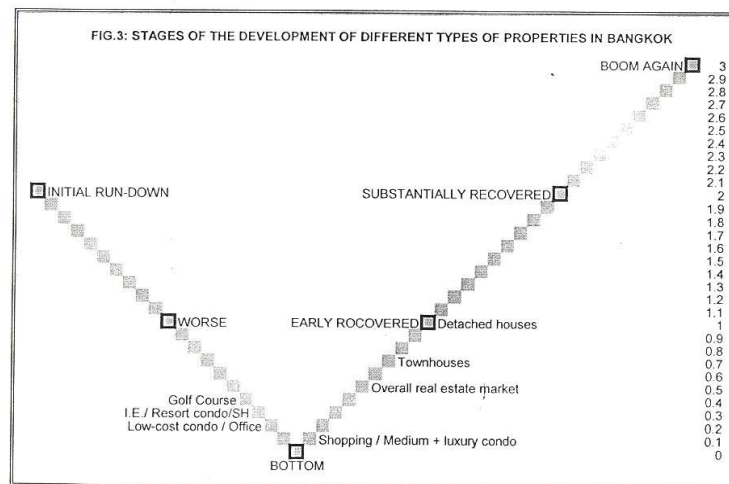
3. LAND READJUSTMENT

3.1 The Concept

A. L. Fernandez (http://www.uncrd.or.jp/res/ws/landread.htm) summarized the land readjustment as follows:

"Land readjustment (also known as land consolidation or land pooling) is a land management instrument or method by which a public authority assembles land for conversion from rural to urban use, installs all public services, and finances the cost of the operation from the increase in land value resulting from the new infrastructure. It is essentially a social-cum-technical skill to balance public

interest (i.e., environmental protection) and private interest (smooth land transactions), by way of inducing into full play the four variables, viz., supply of land for development, the role of the people, the role of the government, and the role of society at large.

It has potential in dealing with crosscutting urban problems which are rooted to land issues such as shortage of housing, traffic congestion, and environmental issues. The objectives are to make available land for development through private inititative and with least expense to city government. As a process, it fosters private volunteer cooperation and strengthens liaison between the city government and the citizens."

In addition, A World Bank - MIT program summarized the following land pooling or land readjustment scheme as follows (http://web.mit.edu/urbanupgrading/upgrading/issues-tools/tools/Reg-of-land.html):

"Urban land pooling is a technique for carrying out the unified servicing and subdivision of separate landholdings for planned urban development. It is also know as urban land consolidation, land readjustment, land replotting, and land redistribution in particular countries because it involves these processes. It is widely used in Japan, South Korea and Taiwan and in some cities in Australia and Canada. A somewhat similar technique known as plot reconstitution is used in some cities in India. Land pooling can be used for 1. consolidating separate landholdings for their unified subdivision for the planned pattern of urban land uses; 2. achieving the timely servicing and subdivision of urban-fringe landholdings to a good standard; 3. financing the cost of providing the road and public utility service networks out of the related land value increases and 4. ensuring an adequate supply of land for new housing development".

3.2   The Application in Thailand

The following shows the efforts to materialize land readjustment schemes in Thailand.

1988 The Pracha-u-tid land readjustment, the National Economic and Social Development Board conducted by the Land Institute Foundation

1993 The Beung Bua Mon land readjustment under the Study of Options for Financing Infrastucture Extension conducted for the Bangkok Metropolitan Administration by the Land Institute Foundation.

1994 The Suwintawong land readjustment in the Northeast of Bangkok conducted by National Housing Authority.

1995 The Rama IX land readjustment conducted by Agency for Real Estate Affairs for the Town and Country Planning Department.

1997 The Pakred land readjustment: a study conducted by the Department of Town and Country Planning.

2000 The Modeling for land readjustment conducted for the JICA by Agency for Real Estate Affairs.

2000 The Beung Bua Mon land readjustment conducted by the Bangkok Metropolitan Administration (the study still not yet completed)

2001 The Lampang land readjustment conducted for the JICA - Department of Town and Country Planning by Agency for Real Estate Affairs.

2002 The Yala land readjustment: land value estimate conducted for the JICA - Department of Town and Country Planning by Agency for Real Estate Affairs.

3.3   A Case Study in Bangkok

The 1990 land readjustment scheme is used for this case study. It is the case of Beung Bua Mon off Koo Bon Road, Ram Indra, Northern Bangkok.

3.3.1 This piece of land is located off Koo Bon Road, Ram Indra Km. 8, some 25 metres northeast of Bangkok. It is surrounded by water. However, there are two land subdivision projects even if there is no road access. It was a cheating of informal developers in 1970's.

3.3.2 The Bangkok Metropolitan Administration planned to cut a road from the Outer-ring Road to the east to Highway No.1 (Pahonyothin Road) to the west through this land. If the road proposal was conventionally built, only those on the proposed road would get benefit but the rest would not get anything. Therefore, a land readjustment scheme was planned.

3.3.3 The total land area is 528 rai (208.75 acres or 84.48 ha) of which only 1.3% is public road (with no public access because it was surrounded by water). However, after the proposed land readjustment scheme, the owner will have only 73% of land left. The rest will be for road, facilities (recreational and communal uses) and recovery for 13%, 7% and 6% respectively.

3.3.4 The recovery means that some 7% of the land would be sold for cost recovery.

FIG 4: SITE PLAN OF THE NONG BUA MON LAND READUSTMENT
OFF KOO BON ROAD, RAM INDRA KM.8, SOME 25 KM. NORTH OF BANGKOK

LAND PARCELS BEFORE THE LAND READJUSTMENT
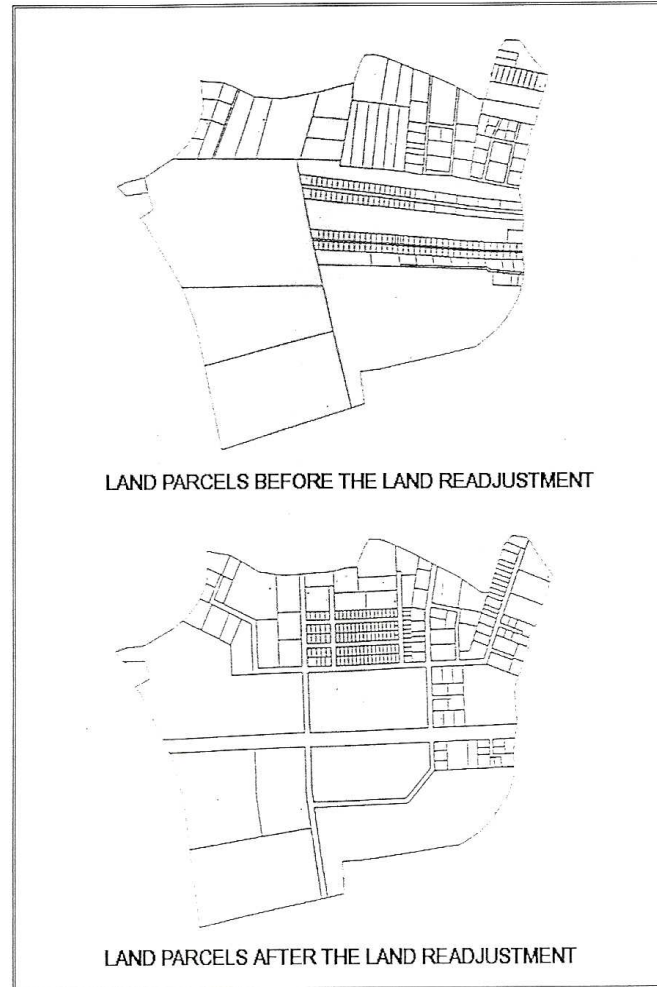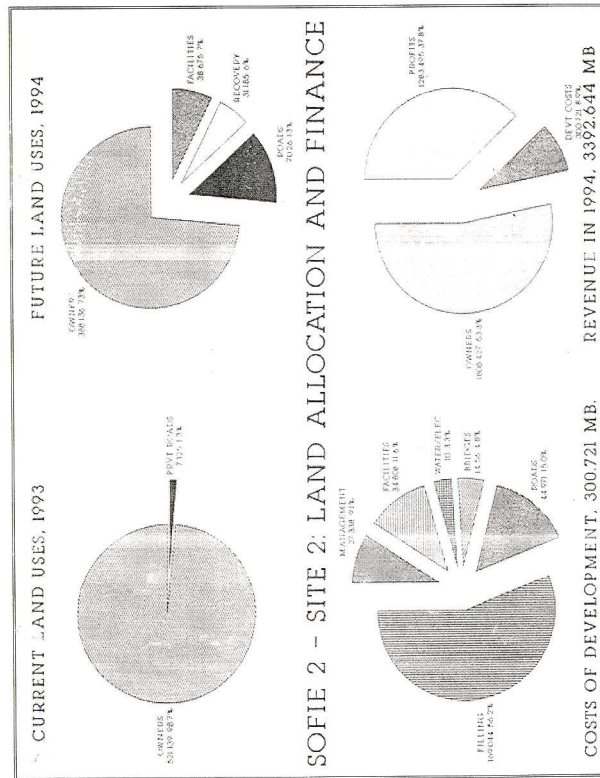
LAND PARCELS AFTER THE LAND READJUSTMENT

FIG 5: LAND ALLOCATION, COSTS AND REVENUE OF THE NONG BUA
MON LAND READUSTMENT

3.3.5 The cost of the development was estimated to be 301 million Baht. Major costs are land filling (56%), road construction (15%), facilities (12%), management (9%), bridge construciton (5%) and water and electricity supplies (3%).

3.3.6 It was calculated that the value of land of the owner left after the subdivision would be Baht 3.393 billion. Prior to the adjustment, the undeveloped land of these owners was worth Baht 1.808 billion. Hence after the deduction of the development costs (of Baht 301) from the total value (Baht 3.393 billion), the profit would be 1.284 billion or 71% of the original value of the land owners. This is thus a profitable development.

3.3.7 In sum, the feasibility of the land readjustment scheme is the automatic increase in land value. In Thailand and other Indo-china countries, serviced land is limited. Therefore, feasibility of land readjustment is plentiful.

3.3.8 As such, land readjustment scheme is good for the land owner who earn more on their land (even if they possess less), the government who could build more road and infrastructure without using much budget and the general public who would have more public road for transportation purposes.

4. LAND VALUE MODELING

In modeling land value estimate, the Multiple Regression Analysis (MRA) is conventionally used for the model. However, there are some limit(ation)s on the uses of MRA. Therefore, in the model, more scrutiny must be applied.

4.1 Limi(ation)s of MRA

Conventionally, in international discussion on constructing statistical model to estimate / forecast the value of properties, the Multiple Regression Analysis (MRA) will very often be mentioned. Actually, this MRA is too simplified in nature. If the R Square is less than 90%, it will not be used efficiently and will be misleading instead. Limit(ation)s of MRA are 1. no room for conflicting but contributing variables, 2. mixture of related variables, 3. linear relations. If an MRA is needed, it is suggested to have several different MRA models in different layers of information such as zones, types, market situation, property characteristics and the like.

However, do not believe too much on sophiticated programs such as neural networking. It could make us blind. Sometimes, these sophisticated programs cannot explain the phenomenon.

4.2 The Variables

In actual modeling land value estimate, different layers of information must be treated distinctively. They cannot be mixed.

4.2.1 Timing: This is one of the most important variables. As in the case of Thailand, land value dropped for around 30% during 1997 to 2000. This variable of market situation represented by timing is thus a key factor for consideration.

4.2.2 Zone: Properties in different zones are different in value. For example, a piece of land facing a wider road would possess higher value. Hence, value of land on 20-metre road should be higher than that of land on 8-metre road. However, if it is located in the fringe (e.g. the outer-ring road) where the road is around 100 metres wide. Fringe land on a larger road would still be cheaper than on smaller road in town.

4.2.3 Neighbourhood: The environment, road characteistics, neighbourhood characteristics are all different variables to use to compute an ample market value.

4.2.4 Property characteristics: These include land filling, shape, road frontage, size, depth, accessibility, blind land or not, on-site developments, and the like.

4.2.5 Regulations on parcel: development potentiality, minimum plot size, stipulated land uses on the site.

4.2.6 Specific adjustment for the site in particular

4.3 Modeling

4.3.1 The MRA is basically used to formulate and test different variables at different stages of the construction of the model.

4.3.2 Relation among variables can be like a curve instead of a linear line. This would require a hypothetical development analysis and tests in the market. Non-linear relationship can happen in the case of width of road, frontage, depth of the plots and the like.

4.3.3 Layer consideration is a must; otherwise, the model constructed will not be able to use with great confidence. Similar to the different road frontages in different zones, another example is the corner lots. That is value of corner lots for commercial properties will be very significant; whereas, it is insignificant in the case of residential properties particularly the higher income ones.

4.3.4 Other typical major variables which should be considered are distance to city centres, public utilities, social amenities and the like.

FIG 6: SAMPLE MODELING OF LAMPANG LAND READUSTMENT

4.4 Actual Modeling

4.4.1 The above is a model used for the land readjustment scheme in Lampang, a province located in the Northern Region of Thailand.

4.4.2 It can be used in the case of 'before' and 'after' the proposed land readjustment scheme (new roads of 14 and 20 metres wide).

4.4.3 Sub-zones such as locations on different tissues of the cities are considered. Other variables include smaller/larger sub-roads (Sois), plot width and depths, accessibilities and shapes.

4.4.4 Co-efficients of shapes of the properties are worked out by a hypothetical development analysis on the highest and best uses.

4.4.5 This model can accommodate different / conflicting / contributing variables such as size-width-depth of the property.

5.0 FUTURE CHANGES OF THE PROFESSION

With the globalization based on telecommunication, our valuation profesion will change dramatically.

5.1 Future Major Tendency

5.1.1 The uses of legally and easily accessed aerial photographs and more frequently updated maps will be available. This can be witnessed from the www.mapquest.com where both aerial photographs and locator's maps can be used free of charge.

5.1.2 In western countries as well as Hong Kong and Singapore, public data on properties are available. This would help prevent corruption and fraud. In addition, modeling for CAMA (computer-assisted mass appraisal) can be materialized.

5.2 Effects on Valuation Profession

5.2.1 The general trend of appraisal business is moving towards 'desk-top' valuation. Consequently, conventional valuation will be minimized. This would greatly affect the industry. In the future, appraisers will be in smaller number. Our experience is that after the 1989 bubble in USA, the number of appraisers decreased by half. Perhaps, only 25% of the later half will remain.

5.2.2 It is very frightening to know today that to train an appraiser to know statistics is more difficult than to train a statistician to know valuation. Due to the availability of GIS Mapping and aerial photographs (even free in www.mapquest.com), fewer number of actual field survey are required. Therefore, to replace 10 appraisers with 1 statistician + 2 appraisers + 5 inexpensive junior surveyors is an economy of scale.

5.3 But No International Real Estate Investment

There is a proposition that there will be international investment in real estate around the globe. I don't believe. Here is my understanding.

5.3.1 Most, if not all, of the real estate developments are for local uses. In fact, most real estate products are residential properties particularly for local people. For example, 90% of real estate developments in Thailand are housing. This should be similar in

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other countries. Properties attracting foreigners are some few exceptional income producing properties.

5.3.2 Naturally, those who realize the value of properties are neighbours. This is truly the law of estate agency particularly in developing countries where people will move to their known areas or where they have relatives or acquaintance.

5.3.3 Real estate is passive in nature. It is not good for foreign investments which tend to be of short-term/speculative. Other wiser, more flexible and particularly more secure investment alternatives are available such as in the stock exchange.

5.3.4 In reality, in a booming period where prices increase in all sectors, there may be some foreign investments. But when the prices drop, few will come. This is because in the bust period, buying will not have short-term capital gain. 2002 Land prices in Bangkok dropped to only one-third of the 1996 prices but few foreign buyings can be observed.

5.3.5 In the past, Japan also tried to buy out as many real estate products as possible in USA, Australia and other parts of the world. Even my Thai big enterpreises also expanded to Indonesia, the Philippines and the like. This is in situ the nature of 'big boys' who want to show off to some extent. However, later it was proved that these were careless and over-confident tragedies i.e. buying at too high prices and also cheated by local agents.

5.3.6 It is worthwhile to know that even Hong Kong investors also failed or not as successful as those local / smaller developers in China. Why so even if they have over 30-40 years of experience in Hong Kong? Their knowledge in prime location developments would be outdated when going to China where prime locations can be created anywhere.

5.3.7 Foreign Investments can help boost the economy if they are economic activities where land is only a mode of production. This was proved when Japan directly invested in ASEAN countries in mid 1980's. If land or real estate itself is considered a speculative commodity or goods, such a activity is not constructive but rather destructive and annoying. Other productive investments are in infrastructure developments such as road, subway, tollways, industrial estate, or even mega new towns such as the Putrajaya of Malaysia.

5.3.8 There are some exceptions such as the currently very active development of a-million-US-dollar houses in Phuket and Samui which are the world-class resort destinations located in Thailand. Similar to very prime income producing properties, resort homes for foreign billionnaires and even some time-share schemes are exception and very

minimal compared with the overall country real estate investment per year. Exception cannot be made norm.

5.3.9 Therefore, it can be concluded that the idea to promote that real estate can be sold around the globe is just a propaganda statement of some beneficiaries which is not a fact.

5.4 No Confusion on Valuation Knowledge

Do we think that sometimes valuation / appraisal is made to be a mystery? In many cases valuation standards in our non-western countries are considered sub-standard or even no standard. Is it true?

5.4.1 Disputes on the standard and standard practices of valuation will be raised in some situation such as in a taxation between telecommunication companies and the tax office - whenever/wherever benefits are involved. Another example,

5.4.2 Don't we think that valuation is basicly very simple? A simple but knowledgeble man can know house prices in his neighbourhood better than a very experience appraiser but first time to that nieghbourhood. This means that valuation is not a very complicated issue. It is not the complex knowledge on how to build a rocket to the moon or something.

5.4.3 However, problems will arise when we forecast the future. In this case, none will definitely know but we have to judge on the rationale. This dispute can be finalized but there is nothing about different standards or the different knowledge of appraisal.

5.4.4 There is also a tendency of trying to build its own professional of 'valuation / appraisal'. Actually, valuation is considered an interdisciplinary approach to work out the value. How can a valuer / appraiser know and do everything? An appraiser cannot be an engineer-cum-accountant-cum-researcher-cum-analyst-cum-etc. We need different experts to help in complex properties.

5.4.5 In valuing any complex properties, is it not right to have experts in the field who really know the particular industry? Industrial knowledge cannot just be reloaded to valuers. We need someone who is our counterpart in the valuation.

5.4.6 In sum, there is nothing to be confused about valuation. Valuers as specific professionals cannot be very versatile.

The Authors: Sopon Pornchokchai

Sopon has had experience in real estate research and valuation since 1982. He is an experienced valuer and educator on valuation at the undergraduate and graduate levels and in training courses in Thailand and abroad. He was a consultant to the ESCAP, UN-Habitat, International Labour Organization, USAID, JICA, and other international organizations.

He is the owns the Agency for Real Estate Affairs (AREA: www.area.co.th) which is the largest real estate information centre in Thailand. AREA is also the first / only wholly ISO 9002 certified property consultant firm in Thailand. He also built the Thai Real Estate Business School (www.trebs.ac.th) which is a real estate education centre in Thailand.

He is active in the field of real estate in Thailand. Currently, he is the president of the Thai Appraisal Foundation, a director of the Valuers Association of Thailand and the Thai Business Consultants Association. He also serves as an advisor to the Property Managers Association of Thailand and the Housing Mortgage Association. He is a member of the International Association of Assessing Officers (IAAO) based in Chicago.

He has been involved with several major projects such as the master plan of regional airport system of Thailand (a consotium project led by Lufthansa Consulting), land price modelling (JICA), property information centre (a World Bank project), property assessment (ILO), land use planning (PADCO – Washington DC), valuation workshop (FAO) and valuation of most Marriots hotels (Thailand and Indochina), Seacon Square (the largest shopping centre), the Emporium (the most high-end shopping centre), St. Louis Hospital (the largest private hospital) and the like.

His major findings or construction are 1,020 slums in Bangkok (1985), land price modeling (1990), 300,000 unoccupied housing units (1995), the first/only Bangkok real estate GIS (1998), the recovery sign (2001) and the like.

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