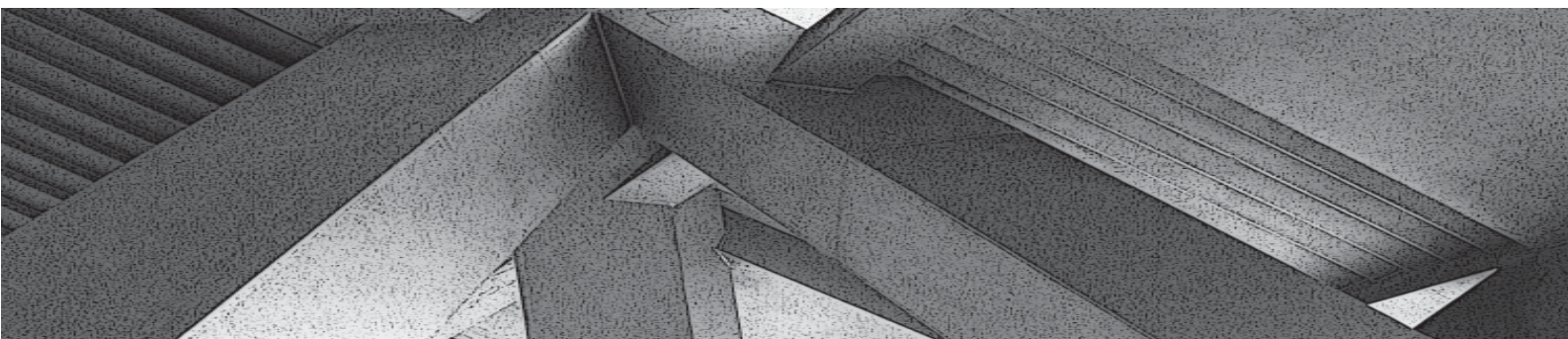


**In Search of His Majesty the King's Underlying Concepts
in Royally-Initiated Urban, Community and Architecture Development**

**สู่การค้นหาแนวคิดมูลฐานในพระบาทสมเด็จพระเจ้าอยู่หัวในการพัฒนาเมือง
ชุมชน และสถาปัตยกรรมตามแนวพระราชดำริ**

Professor Vimolsiddhi Horayangkura, Ph.D., Assistant Professor Dr. Yongtanit Pimonsathean,
Associate Professor Urya Weesakul, Ph.D., Associate Professor Krittiya Lertpocasombut, Ph.D.,
Associate Professor Worawut Romratanapun, Ph.D., Instructor Dr. Eakaboon Wongsawatgul
and Instructor Siwaporn Klinmalai

ศาสตราจารย์ ดร. วิมลสิทธิ์ หรยางกูร ผู้ช่วยศาสตราจารย์ ดร. ยงธนิศร์ พิมลเสถียร
รองศาสตราจารย์ ดร. อรุยา วีสกุล รองศาสตราจารย์ ดร. กฤติยา เลิศโคตะสมบัติ
รองศาสตราจารย์ ดร. วรวัณ โรมรัตนพันธุ์ อาจารย์ ดร. เอกบุญ วงศ์สวัสดิ์กุล
และอาจารย์ศิวพร กลิ่นมัลย์





In search of the essence of royal initiatives of the “Development King”

*“We shall reign with righteousness, for the benefits and happiness
of the Siamese people.”*

The Oath of Accession by His Majesty the King
at his coronation on 9 June 1946.

In Search of His Majesty the King's Underlying Concepts in Royally-Initiated Urban, Community and Architecture Development

สู่การค้นหานวคติมูลฐานในพระบาทสมเด็จพระเจ้าอยู่หัวในการพัฒนาเมือง ชุมชน
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****Professor Vimolsiddhi Horayangkura, Ph.D.,¹ *Assistant Professor Dr. Yongtanit Pimonsathean,¹
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Associate Professor Worawut Romratanapun, Ph.D.,³ Instructor Dr. Eakaboon Wongsawatgul⁴
and Instructor Siwaporn Klinmalai¹**

****ศาสตราจารย์ ดร. วิมลสิทธิ์ หรยางกูร¹ *ผู้ช่วยศาสตราจารย์ ดร. ยงธนิศ พิมลเสถียร¹
รองศาสตราจารย์ ดร. อรุยา วีสกุล² รองศาสตราจารย์ ดร. กฤติยา เลิศโกะกะสมบัติ²
รองศาสตราจารย์ ดร. วรวุฒิ โรมรัตนพันธุ์³ อาจารย์ ดร. เอกบุญ วงศ์สวัสดิ์กุล⁴
และอาจารย์ ศิวพร กลิ่นมัลย์¹**

¹Faculty of Architecture and Planning, Thammasat University

²Faculty of Engineering, Thammasat University

³Faculty of Social Administration, Thammasat University

⁴Faculty of Law, Thammasat University

¹คณะสถาปัตยกรรมศาสตร์และการผังเมือง มหาวิทยาลัยธรรมศาสตร์

²คณะวิศวกรรมศาสตร์ มหาวิทยาลัยธรรมศาสตร์

³คณะสังคมสงเคราะห์ศาสตร์ มหาวิทยาลัยธรรมศาสตร์

⁴คณะนิติศาสตร์ มหาวิทยาลัยธรรมศาสตร์

Abstract

King Bhumibol Adulyadej has been paid tribute to and presented with many international awards as the world's "Development King." Throughout 60 years of His Majesty's reign, there have been over 3,000 royally-initiated projects for country development and improving the livelihood of his subjects. This research is intended to investigate His Majesty's concepts in royally-initiated urban, community and architecture development, especially among those projects that are vital and beneficial to social and national development. It covers royally-initiated projects in urban development and improving the quality of life regarding traffic and transportation, flood mitigation, improvement of water quality, the provision of open spaces for urban areas, royally-initiated projects in self-reliant community development, community development through knowledge management, community development in enhancing spiritual and social cohesion, including royally-initiated projects in royal architecture and religious architecture development. Applicability analyses focus on the potential for future application in royally-initiated development models as well as on the legislative dimension.

** Research Project Director and Principal Investigator

* Principal Investigator

In parallel to examining the accomplishments and constraints of selected projects, comprehensive analyses are undertaken concerning concepts and theories/principles related to royal initiatives, His Majesty's roles and concepts, royal statements and guidance, activities, etc. To provide a sufficient basis for concept investigation, relevant information was collected from documentary resources, physical surveys and structured interviews of key informants. Through systematic analyses of the arrays of concepts among various urban, community and architecture development initiatives, underlying development concepts, which are substantially philosophy/principles, have been emerged. Further integration of the proposed significant underlying concepts reveals a "sufficiency development" approach.

บทคัดย่อ

พระบาทสมเด็จพระเจ้าอยู่หัวทรงได้รับการสรรเสริญพร้อมการทูลเกล้าฯ ถวายรางวัล และการยกย่องให้ทรงเป็น "พระมหากษัตริย์นักพัฒนาผู้ยิ่งใหญ่" ตลอดช่วงการครองราชย์เป็นเวลารวม 60 ปี ได้มีโครงการพัฒนาตามแนวพระราชดำริที่สำคัญ ๆ กว่า 3,000 โครงการ เพื่อการพัฒนาประเทศและชีวิตความเป็นอยู่ของประชาชน งานวิจัยนี้มุ่งศึกษาแนวคิดในพระบาทสมเด็จพระเจ้าอยู่หัวในส่วนที่เกี่ยวข้องกับการพัฒนาเมือง ชุมชน และสถาปัตยกรรม ที่เป็นโครงการอันเนื่องมาจากพระราชดำริที่มีความสำคัญและเป็นประโยชน์ต่อการพัฒนาสังคมและประเทศชาติ โดยครอบคลุมโครงการการพัฒนาเมือง และการปรับปรุงคุณภาพชีวิตตามแนวพระราชดำรินี้ด้านการจราจรและการขนส่ง ด้านการป้องกันและแก้ไขปัญหาอุทกภัย ด้านการปรับปรุงคุณภาพน้ำ ด้านการจัดหาพื้นที่โล่งสำหรับเมือง โครงการพัฒนาชุมชนตามแนวพระราชดำรินี้ ในการพัฒนาชุมชนให้สามารถพึ่งตนเองได้ การพัฒนาชุมชนด้วยการจัดการความรู้ การพัฒนาชุมชนตามแนวพระราชดำริ 'บวร' และรวมทั้งโครงการตามแนวพระราชดำริเกี่ยวกับการพัฒนาสถาปัตยกรรมสถาบันพระมหากษัตริย์ และการพัฒนาสถาปัตยกรรมสถาบันศาสนา การวิเคราะห์ความสามารถในการประยุกต์ตามศักยภาพของแบบจำลองการพัฒนาตามแนวพระราชดำรินี้ รวมทั้งตามมิติทางด้านกฎหมาย

ควบคู่กับการวิเคราะห์สัมฤทธิ์ผลและอุปสรรคของโครงการ ได้มีการวิเคราะห์เชิงลึก แนวคิดและทฤษฎี/หลักการเชิงวิชาการ บทบาทและแนวคิดในพระบาทสมเด็จพระเจ้าอยู่หัว พระราชดำรัส พระบรมราชวินิจฉัย พระราชกรณียกิจ ฯลฯ ทั้งนี้ได้มีการรวบรวมข้อมูลจากแหล่งเอกสาร การสำรวจทางกายภาพ และจากการสัมภาษณ์แบบมีโครงสร้างบุคคลสำคัญที่เกี่ยวข้องกับแต่ละโครงการ จากการวิเคราะห์อย่างเป็นระบบ แนวคิดหลากหลายที่ปรากฏจากการศึกษาโครงการพัฒนาเมือง ชุมชน และสถาปัตยกรรมตามแนวพระราชดำรินี้ ได้นำไปสู่ข้อสรุปที่เป็นแนวคิดมูลฐานเชิงปรัชญา/หลักการที่ได้นำเสนอเชิงบูรณาการเป็นแนวทาง "การพัฒนาแบบพอเพียง"

Keywords (คำสำคัญ)

Underlying Concept (แนวคิดมูลฐาน)

Royally-Initiated Development Project (โครงการพัฒนาตามแนวพระราชดำรินี้)

Royal Initiatives in Urban Development (โครงการพัฒนาเมืองตามแนวพระราชดำรินี้)

Royal Initiatives in Community Development (โครงการพัฒนาชุมชนตามแนวพระราชดำรินี้)

Royal Initiatives in Architecture Development (โครงการพัฒนาสถาปัตยกรรมตามแนวพระราชดำรินี้)

Flood Mitigation (การป้องกันและแก้ไขปัญหาอุทกภัย)

Improvement of Water Quality (การปรับปรุงคุณภาพน้ำ)

Sufficiency Development (การพัฒนาแบบพอเพียง)

Research Initiation

Throughout the history of the reign of Chakri Dynasty, the kingdom has been developed under the influence of the past rulers, from the determination of the capital's location to the development of infrastructure, utilities and facilities. In short, the kingdom of Thailand has been gradually modernized in various aspects in both urban and rural areas. In the present reign, over 60 years of the development efforts of King Bhumibhol Adulyadej have revealed His Majesty's never-ending roles in the enhancement of the livelihood of the people.

Since the first rural infrastructure project initiated in 1952 – the construction of a road to provide more convenient access to Huay Kot (now Huay Mongkol) Village, an impoverished settlement in Prachuap Khiri Khan Province, that was followed in the next year with the building of a reservoir at Khao Tao – there have been over 3,000 development projects under the royal initiatives of His Majesty King Bhumibol Adulyadej. In recognition of His Majesty's lifetime devotion to improving the livelihood of his subjects, King Bhumibol Adulyadej has been paid tribute to and presented with many international awards for being the world's **Development King**. Notably, these include the **Gold Medal** of the United Nations Environment Programme in 1992, the **Agricola Medal** presented by the United Nations Food and Agriculture Organization in 1995, and more recently, the United Nations Development Programme's first **Human Development Lifetime Achievement Award** [1] presented by UN Secretary-General Kofi Annan to His Majesty on May 26, 2006 to coincide with the 60th anniversary celebrations of His Majesty's accession to the throne. His Majesty was also honoured as one of Asia's heroes over the past 60 years by **Time** in the 60th Anniversary Issue of its Asian edition (November 13, 2006) for being a beloved monarch who has always set an example for putting public interest first [2].

Under the philosophy of “sufficiency economy” initiated more than three decades ago, His Majesty has pursued his fundamental vision for the country's development through a multitude of royal initiatives that holistically address various aspects of development, as part of his lifetime dedication to the seemingly never-ending work of improving the well-being of the people. The realization of the royally-initiated development projects does inherently reflect His Majesty the King's specific thinking approaches for development that should be critically investigated to uncover the potential array of underlying development concepts.

Objectives of Research

This research aims to investigate the key issues of royally-initiated development projects, specifically those which are related to urban, community and architecture development. The research mainly focuses on the following major topics as presented in:

- I: Royal Initiatives in Urban Development and Improving the Quality of Life
- II: Royal Initiatives in Community Development
- III: Royal Initiatives in Architecture Development
- IV: Applicability Analyses: Model Setting and Legislative Concern
- V: In Search of His Majesty's Underlying Concepts in Urban, Community and Architecture Development

The analytical contents cover the royal development projects as presented in parts I to III. Each project includes a brief project background and implementation process, explanation of His Majesty's roles, analysis of His Majesty's concepts, and project achievements. The comprehensive account can be found in Horayangkura et al. [3].

This research article is intended to provide an overview of the remarkable accomplishments of every project, providing an understanding of His Majesty's roles and concepts in each one. The arrays of prevailing concepts among various development initiatives are collectively examined in the attempt to identify the underlying development concepts.

In so doing, this research aims to serve as a source of inspiration for all Thai people in general and for academics and professionals in urban, community and architecture development in particular.

Research Method

The study of His Majesty the Kings's involvement in royally-initiated urban, community and architecture development is initially based on documentary research. In addition, field surveys of

physical condition as well as structured interviews of key informants were conducted.

Specific royally-initiated projects were selected from lists of multiple projects for further investigation according to prominence of project, demonstration of project category and accessibility of information. It is expected that the selected projects will provide a sufficient basis for examining His Majesty's concepts that are inherent in the royal initiatives. Thus, secondary data were collected from various documentary resources including reliable websites regarding selected royally-initiated projects and activities as well as contextual factors concerning urban, community and architecture development. Theories and concepts related to royally-initiated projects were incorporated for theoretical investigation. Primary data were subsequently collected through structured interviews with persons involved in implementing the royal initiatives and recipients of His Majesty's guidance.

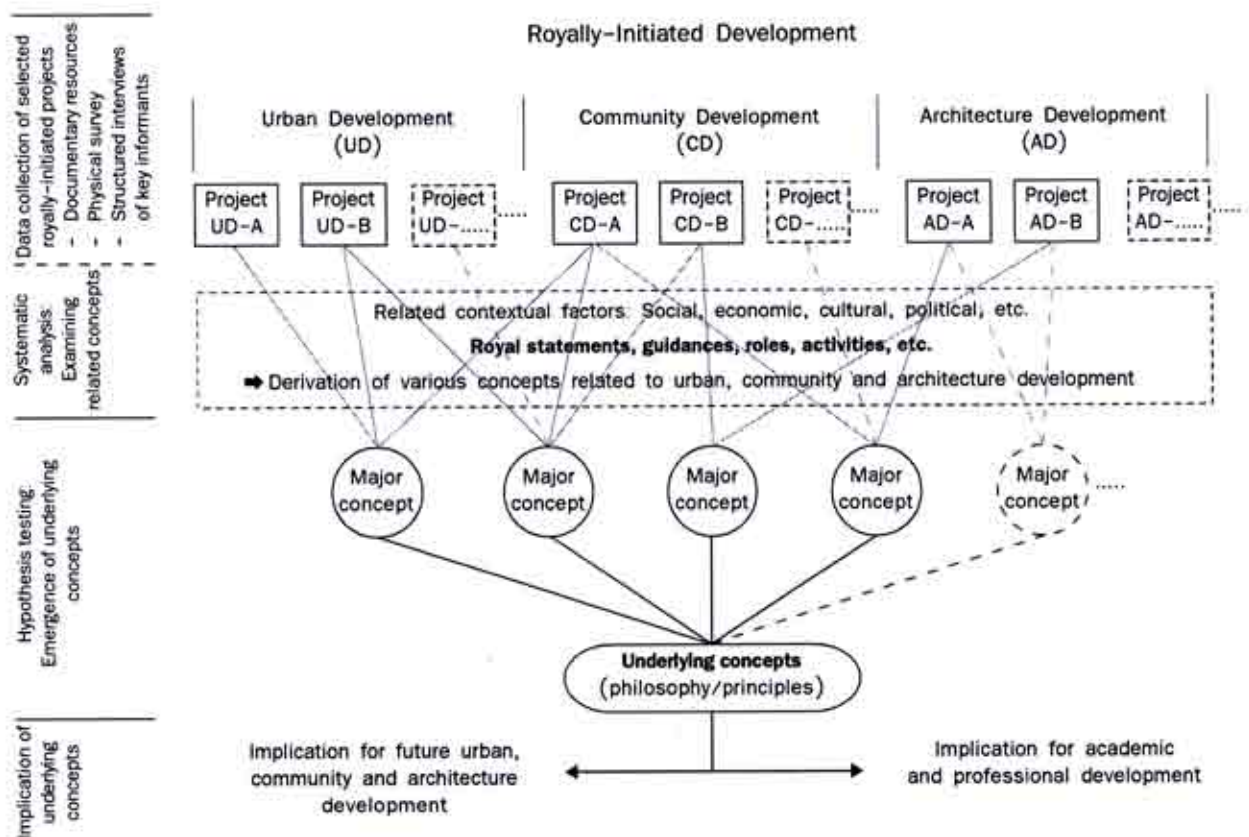


Figure 1. Research procedure and research conceptual framework.

Through systematic analysis of royal statements and guidance given in the development of each project as well as the investigation of His Majesty's roles and activities, it is hypothetically expected that the underlying concepts can finally be synthesized to describe His Majesty's wisdom and philosophy of sufficiency in urban, community and architecture development.

Research procedure and research conceptual framework are diagrammatically presented in Figure 1.

Research Findings and Discussion

I: Royal Initiatives in Urban Development and Improving the Quality of Life

Problems in urban areas are diverse and complex in many aspects. His Majesty has shown a commitment to solving problems in the city through many royally-initiated projects. The projects aim at appropriate urban development and the enhancement of urban quality of life. The selected royally-initiated projects can be classified into four main topics, which are 1) traffic and transportation, 2) flood mitigation, 3) water quality improvement, and 4) the provision of open spaces in urban areas. The achievements revealed in the four areas of investigation reflect His Majesty's wisdom and talent in solving urban problems as well as his heart-felt concern for his people.

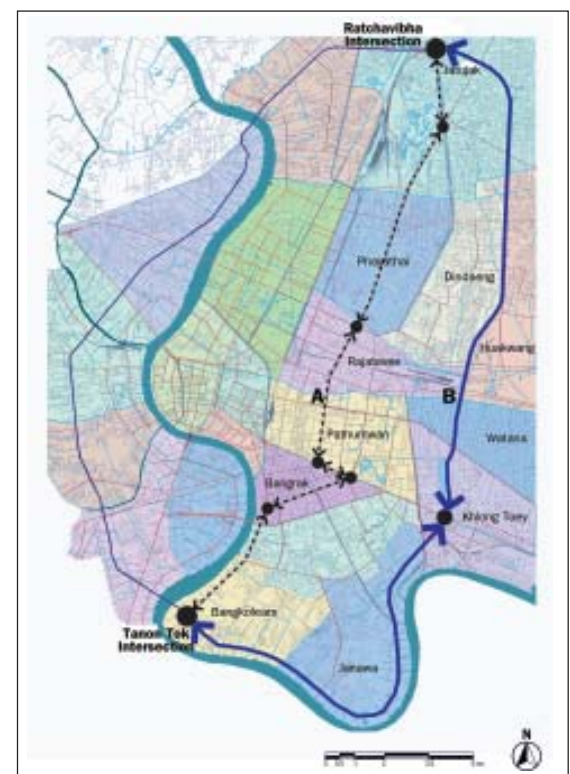
1. Traffic and Transportation

1.1 Ratchadapisek Road Project

(Project duration: 1971–1993)

The Ratchadapisek Road project reflects well the broad vision of His Majesty in urban transportation planning. The project commenced in 1971, being the first royally-initiated project

concerning urban transportation. At that time, traffic congestion in Bangkok was not so critical. Even the government paid little attention to it. But the King had the intention to have an inner ring road constructed, which later became a key element of the main transportation network of Bangkok [4], (Figure 2). Ratchadapisek Road has contributed much to the alleviation of traffic congestion in the city [5]. However, at the time, the construction of Ratchadapisek Road was like the introduction of a new and peculiar urban element into the long-established and conservative Bangkok society. Therefore, it took time to attain public understanding among citizens as well as government organizations. The success of the project came primarily from His Majesty's talent in the realm of urban planning, coordination and management. Indeed, to say that the King is a capable planner would not be an overstatement.



----- Route A Primary roads
 ————— Route B Ratchadapisek

Figure 2. Map showing the comparison between two different routes from Ratchavibha intersection to Tanon Tok intersection. Route A is on Primary roads and route B is on Ratchadapisek ring road.

1.2 East-West Corridor Project

(Project duration: 1995–2000)

In recognition of traffic congestion as one of the prime problems being faced by the residents of Bangkok, His Majesty has assisted his people through the creation of the East-West Corridor Project. Due to the complication of the problem, comprehensive planning was required, which was based on facts, figures, theory and science and engineering principles. In order to facilitate the project, the King phased this mega project into a number of small projects that could be gradually and continuously implemented [6]. The East-West Corridor Project entailed the construction of a series of radial roads connecting Bangkok city center with eastern and western suburban areas. It has helped shorten commuting time, as pointed out by Roess et al. [7], particularly from home to work and vice versa. In this project, the King played a direct role on many occasions, for instance, giving guidance on the corridor alignment, alternative designs of elevated roadways as a way to increase traffic lanes [8] (Figure 3), and site selection for the Rama VIII Bridge that would have the least negative impact on existing communities and environment.



Figure 3. Borommaratchonnanee elevated road at western outer ring road (Kanchanapisek) interchange, traversing through Talingchan District of Bangkok.

Besides being an outstanding planner, His Majesty demonstrated great determination in providing valuable advice to responsible officials throughout the project [9].

1.3 Ratchadamnoen Avenue Projects

(Project duration: 1993–1996)

The Ratchadamnoen Avenue Project involved the widening of traffic lanes on the roadway and bridges in order to accommodate additional traffic volume emerging from the East-West Corridor Project (Figure 4). To ease traffic congestion, the King's guidance on widening the road surface as an alternative to the planned construction of a tunnel in front of the demolished Department of Public Relations building resulted in the remarkable reduction of construction time and budget. Undertaken in honor of the beloved King of all, the project benefited from good cooperation of the private sector in donating land to widen the lanes of Phanfah Leelart Bridge. The King's talent was also demonstrated when two parallel bridges were constructed in a sympathetic way to respect and maintain the heritage value of the historic Makawan Rangsang Bridge. The Ratchadamnoen Avenue Project, including the widening of traffic lanes around Democracy Monument, was implemented with diverse problem-solving approaches, yielding an efficient and cost-effective solution and resulting in better traffic circulation [10].

The four selected royally-initiated projects related to urban transportation have been undertaken by His Majesty for the benefit and well-being of the residents and commuters in Bangkok and surrounding areas. They demonstrate the gracious benevolence of His Majesty towards his people. These initiatives in the alleviation of urban problems should be regarded as models by planners and responsible persons in this field.

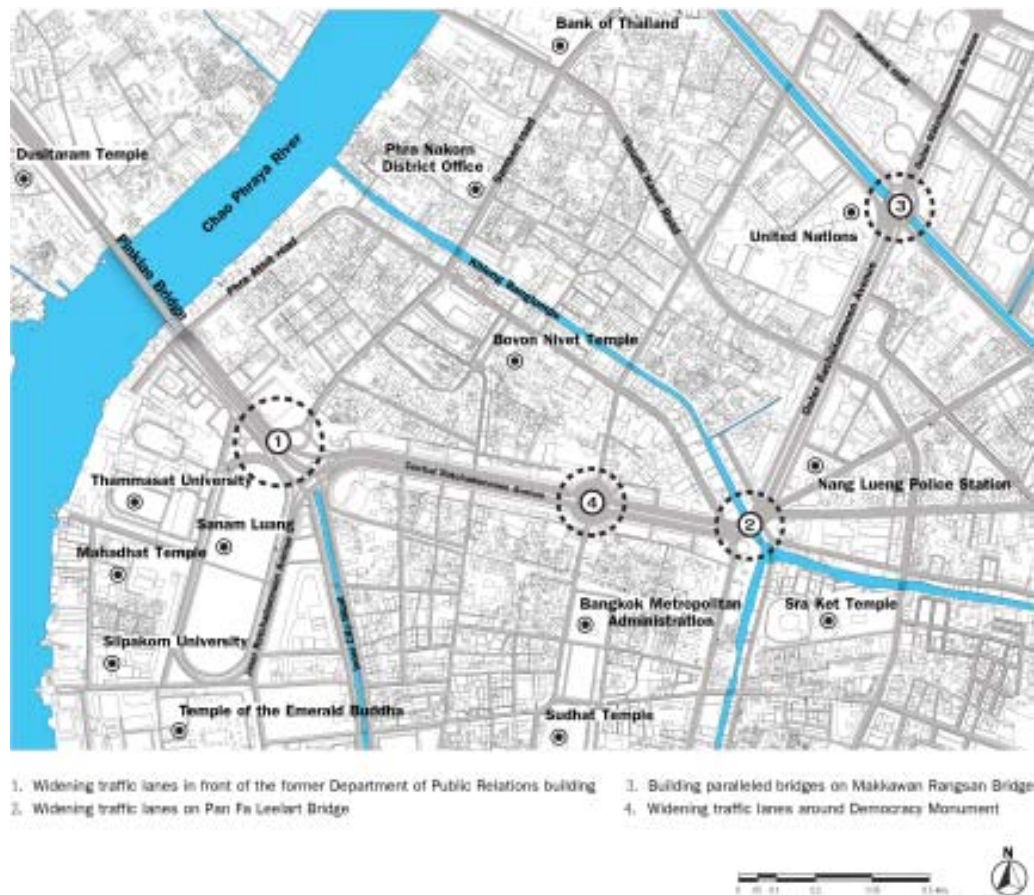


Figure 4. Map showing locations of the four projects on Ratchadamnoen Avenue.

2. Flood Mitigation

(Project duration: 1980–present)

His Majesty has deep concern for his subjects who are vulnerable to regular flooding in Bangkok Metropolitan Region. As such, since 1980 a great number of royally-initiated water management projects have been launched under an integrated problem-solving approach [11] (Figure 5). They include five major flood mitigation techniques [12]: 1) construction of dikes and flood barriers, such as along the Chao Phraya River; 2) green belt zoning for flood ways, such as the Flood Mitigation Green Belt in Eastern Bangkok; 3) improvement of water channels (rivers, canals and ditches), such as along Khlong Saensab and Khlong Padung Krung Kasem; 4) improvement of ponds and reservoirs to increase capacity in water retention, in accordance with the

royally-initiated Water Detention Project referred to as the ‘Kaem Ling Project’ which literally means ‘Monkeys’ Cheeks,’ and 5) increasing water channels passing through existing barriers such as railways and highways. These undertakings are based on His Majesty’s concept of relying on natural gravity-driven water flow, which allows for low investment cost, energy savings and reduced negative social and environmental impacts. His Majesty himself was instrumental in undertaking field surveys, collecting and analyzing data, as well as making follow-up visits to inspect the progress of the initiated projects. The successful achievements have provided relief to affected people in flood-prone regions. The project outcomes reflect the King’s dedication and tireless efforts, as well as his wisdom in seeking the most appropriate solution to improve the plight of the people.

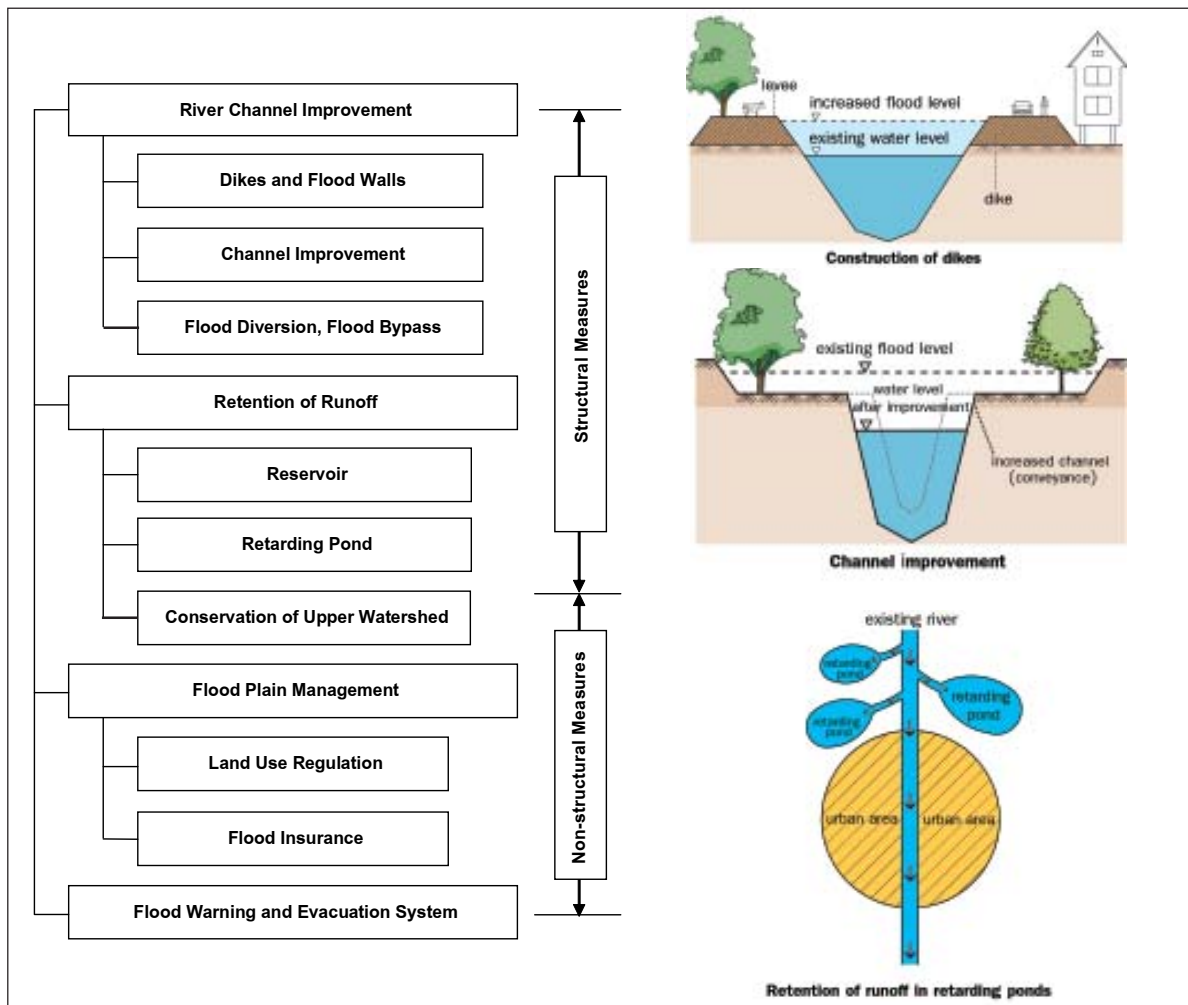


Figure 5. Measures and techniques of flood mitigation.

3. Improvement of Water Quality

3.1 Canal (Klong) Water Quality Improvement

Projects in Bangkok Metropolitan Area

(Project duration: 1985–present)

His Majesty's compassion for residents along canals and rivers, who not only have to face problems from regular flooding, but must also endure the foul-smelling water, has resulted in measures to improve water quality since 1985. The royal initiatives rely on natural methods to the possible maximum extent. They emphasize economical operation and the dual functions of canals in both draining and flushing out polluted water. Such straightforward concepts have been widely applied

all over the Bangkok and Thonburi region, resulting in much better water quality and quality of life [13, 14].

3.2 Makkasan Pond Improvement Project

(Project duration: 1985–present)

Started in 1985, the Makkasan Pond Improvement Project was the first water quality improvement project to be launched in Thailand. Implemented by the Bangkok Metropolitan Administration, this royally-initiated project, which required an initial investment of less than 4 percent of the construction cost of a comparable wastewater treatment plant, was planned to treat wastewater from canals in the the inner Bangkok Metropolitan

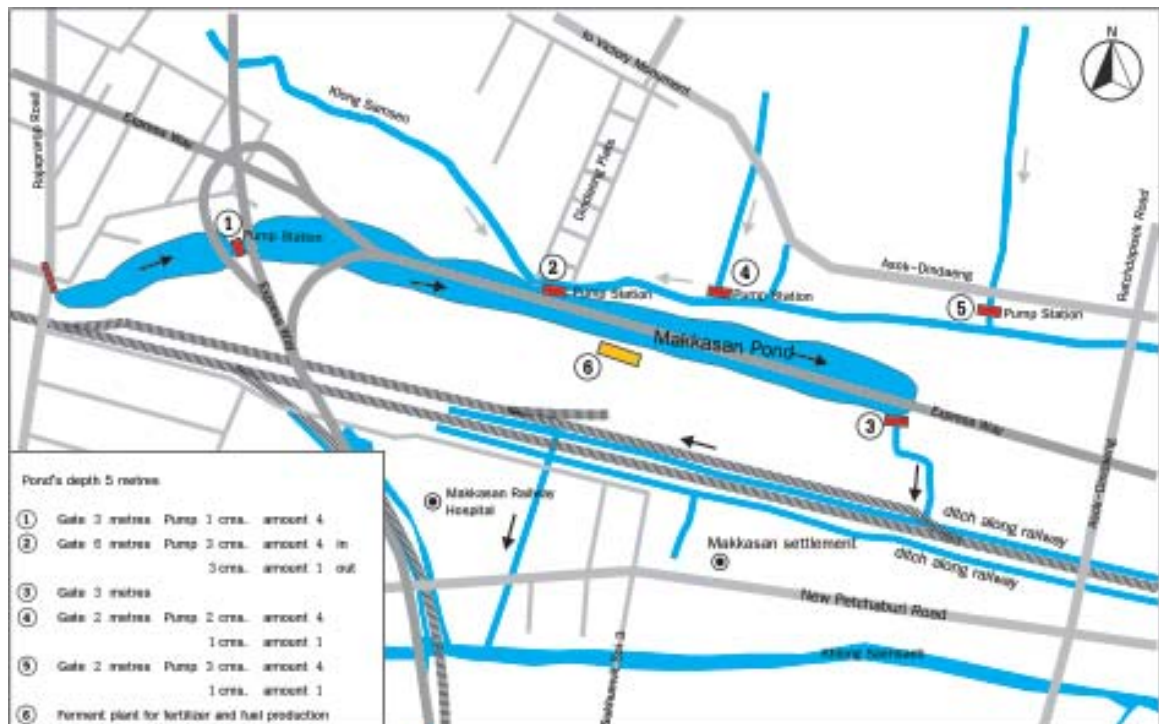


Figure 6. Site plan showing Makkasan pond and vicinity.



Figure 7. Makkasan Pond today still uses water hyacinth as an effective agent for the improvement of water quality.

Area (Figure 6). In accordance with His Majesty's guidance, Makkasan Pond and its surroundings were considered inappropriate for recreational purposes. Employing an economical approach, water hyacinth was used as an effective filtering agent (Figure 7). The weeds were also transformed into fuel later, which is consistent with the current trend for recycling waste products as a source of renewable energy. The Makkasan Pond Improvement Project distinctively reflects His Majesty's sustainable development concept in improving water quality [15, 16].

4. The Provision of Open Spaces in Urban Areas

4.1 The Provision of Open Spaces for Flood Mitigation in Eastern Bangkok

(Local regulation: 1981–1982)

His Majesty's far-reaching vision in mitigating urban disasters in a cost-effective way calls for respecting nature and not disturbing natural systems as much as possible. This approach is applied in the eastern suburbs of Bangkok, the agriculture reserved region adjacent to the north of Suwan-nabhum Airport complex, that are regularly flooded since the commencement in 1980. The royally-initiated project has preserved the open space as a flood retention zone in order to mitigate flooding. Covering a large area, of approximately 200,000 rai or 320 square kilometers, the open space uses the natural property of the eastern area of Bangkok, being low in elevation and swampy. The competent planning authority, the Department of City Planning of the Bangkok Metropolitan Administration, implemented the project by imposing a series of development control regulations. However, due to

high development pressure and legal loopholes, there have been a number of buildings constructed in violation of these regulations that block the floodways. Being responsive to the emerging problem, the King recommended to plan for an alternative way of development, that is, the provision of drainage ditches alongside building construction in order to maintain flood drainage capacity. The conservation of open spaces in eastern Bangkok is difficult due to large tracts of land are interspersed with communities in industrial zone, thus challenging the control of development in privately-owned land. Nonetheless, the project has contributed significantly to the flood protection system of Bangkok, owing to the gracious contributions in the field of land use planning of King Bhumibol [17].

4.2 Suanluang Rama IX

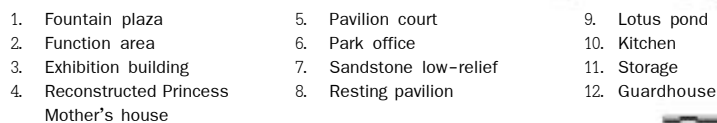
Located in Prawet district in eastern Bangkok, Suanluang Rama IX regional park is one



(Project duration: 1993–1996)

II: Royal Initiatives in Community Development

Between 1979 and 1983, His Majesty established six Royal Development Study Centres in his effort to set up community development models as showcases for every region of Thailand. They include the Khao Hin Son Centre, the Pikun Thong Centre, the Kung Kraben Bay Centre, the Phu Phan Centre, the Huay Hong Krai Centre and the Huay Sai Centre. These Royal Development Study Centres are based on the concept of community development through knowledge management by providing real-life examples for



Professor Vimolsiddhi Horayangkura, Ph.D., et al.



Figure 10. His Majesty's site visit to the royally-initiated Khao Hin Son Centre.

agricultural community development while at the same time serving as recreational sites [24].

His Majesty's initiatives in sustainable rural development have been recognized worldwide and led to the conferment of the United Nations' Agricola Medal and Human Development Lifetime Achievement Award.

Moreover, His Majesty has initiated the revitalization of spiritual and social cohesion, as prevalent in the past, through encouraging the integration of home (community), temple (wat) and school, both in spiritual and physical terms [25]. The community surrounding Rama IX Pond has been set up as a demonstration project in this regard.

5. Self-Reliant Community Development: The Royally-Initiated Huai Ongkod Project

(Project duration: 1992-present)

The success of the Huai Ongkod Community Development Project in Kanjanaburi Province reveals His Majesty's compassion for a community of 800 families whose settlement had been earmarked as a forest reserve by the government. Instead of enforcing the dislocation of the community, His Majesty insisted on undertaking community development alongside environmental conservation and rehabilitation [26]. Consequently, resource management zoning was introduced, allowing for the area to achieve ecological balance, while at the same time accommodating multiple functions not only for conservation, but also for residential use, agriculture, as well as public utilities. Thus, the livelihood of the people has been improved while protecting natural resources in an ecologically symbiotic manner. Moreover, within the framework of self-sufficiency, the concept of His Majesty's New Theory on Agriculture has been put forward as a way of creating self-reliance in the context of limited environmental resources [27] (Figure 11). In addition, local industrial works were established in order to absorb surplus labor in the area. These

The Three Stages of New Theory on Agriculture

New Theory, Stage I: To maximize land use efficiency in accordance with production for sufficiency living and self-reliance, a plot of 15 Rai is subdivided into four parts: part 1 for paddy field (5 Rai); part 2 for plantation and cultivation of perennial trees (another 5 Rai); part 3 for a pond (3 Rai); and the last part for a residence and other uses (2 Rai).

New Theory, Stage II: Forming a co-operative to help each other in terms of production, marketing, social welfare, education, social and religious activities.

New Theory, Stage III: Coordinating with outside community agencies to seek source of funding and energy resources for the improvement of members' quality of life.

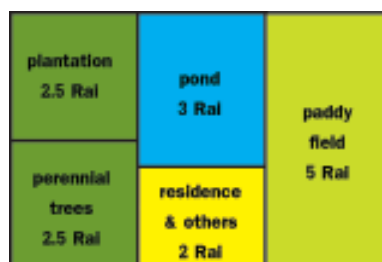


Figure 11. Land use efficiency in accordance with His Majesty's New Theory on Agriculture.

community development measures all aim at improving quality of life in a self-reliant way. The traditional rural community has been socially revitalized, while mitigating environmental degradation caused by deforestation. The project's outcomes clearly reflect His Majesty's wisdom in his concept of helping the people to achieve self-reliance.

6. Community Development through Knowledge Management: Royal Development Study Centres

(Project duration: 1981-present)

The six Royal Development Study Centres were established after His Majesty had made a number of visits to each region of the country to examine local conditions and problems. Initial guidelines for rural development for the establishment of each centre were formulated and officially assigned to the Office of the Royal Development Projects Board through Secretary-General Dr. Sumet Tantivejakul who proceeded further with an inception study as well as consultation with His Majesty [28]. Different agricultural and natural resources development guidelines were given to each of the six centres, which are all located in different geographical and geological conditions. Additional royal guidance was provided continuously during His Majesty's follow-up visits to inspect the progress of each project site (Figure 12).

His Majesty's roles in the establishment of the Royal Development Study Centres indicate the significance of inducing development through education and learning from real-life development examples (Figure 13). Knowledge management has been emphasized as the key conceptual approach, in which development studies and examples are displayed as 'living museums.' Local farmers and those from other regions can visit and observe, study and apply these examples, demonstrated as best

practices, in order to increase agricultural productivity, while at the same time preserving and restoring natural resources in each region. Fruitful developments have taken place in centres' vicinity villages as well as those of subcentres and others. The development study centres have also initiated a 'one-stop service' for farmers by promoting closer cooperation among various government agencies.



Figure 12. His Majesty inspected the implementation of Khao Hin Son Royal Development Study Centre Project.

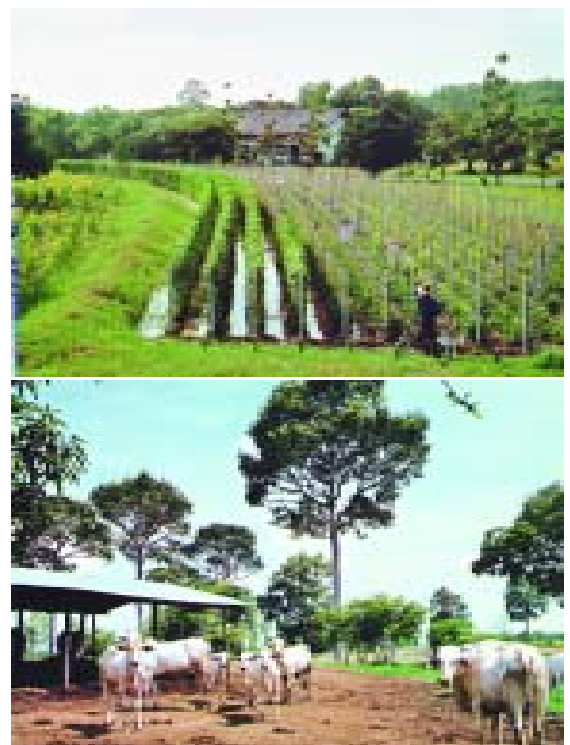


Figure 13. Various agricultural demonstration activities at Khao Hin Son Royal Development Study Centre.

The achievement of the Royal Development Study Centres reveals His Majesty's wisdom in community development planning. This approach begins by developing knowledge and the surrounding environment in order to provide long-term guidance for improving the livelihood of the people and building up community self-reliance [29]. Later on, special services would be added to better the lives of the subjects such as a rice mill or rice bank.

The community development approach has employed knowledge management in such demonstration and dissemination of knowledge as taken place in Royal Development Study Centres, which have also become interesting case studies for other countries.

7. Royal Initiative in Enhancing Spiritual and Social Cohesion for Community Development: Rama IX Pond Community

(Project duration: 1988-1998)

In conducting a water improvement project at the Rama IX Pond, His Majesty realized that the low-income community surrounding the pond should also be put forward for amelioration. A demonstration development project for the community around the Rama IX Pond was initiated in 1988 in accordance with His Majesty's initiative for building up spiritual and social cohesion through integrating home (community), temple (wat) and school, both spiritually and physically, as it was in the past. The establishment of the Rama IX Golden Jubilee (Kanchanapisek) Temple Project [30] and the Rama IX Golden Jubilee (Kanchanapisek) School Project [31] is thus mutually supporting, promoting both knowledge and morality that is needed for developing sustainable livelihood (Figure 14). His Majesty's initiative reflects his wisdom in community development by setting up a model representing the revitalized community cohesion of traditional

Thai society, which is the basis for achieving sustainability in social development. His Majesty's roles and concepts reflect his talent in creating wholesome physical environments that enhance human development and community livelihood on the basis of being a good Buddhist.



Figure 14. Site plan showing surroundings of Rama IX Golden Jubilee Temple.

III: Royal Initiatives in Architecture Development

Though the royal activities in connection with architecture are less high-profile in comparison with those related to rural community development, this part of the research will reveal His Majesty's roles, concepts, talents and wisdom mainly in undertaking royal and religious architecture projects. These royal initiatives and guidance indeed reflect His Majesty's potential as an architect with talent and wisdom.

8. Royal Architecture Development

8.1 Borommarajasathitmaholan Hall Project

(Project duration: 1958–2006)

The Bureau of the Royal Household had made several attempts since 1958 to undertake His Majesty's intention to extend Chakri Maha Prasat Throne Hall to provide a venue for holding royal banquets for state visitors and significant national dignitaries, a project seemingly requiring a grand-scale building and a large budget. Finally, this royally-initiated project was completed in 2006 with the construction of Borommarajasathitmaholan Hall (Figure 15), which was used in hosting the royal banquet on the auspicious occasion of the 60th anniversary celebrations of His Majesty's accession to the throne in June 2006 [32] (Figure 16). His Majesty played a significant role in offering design guidance and advice for saving costs. The Hall, with



Figure 15. Layout plan showing the location of Borommarajasathitmaholan Hall inside the Grand Palace.



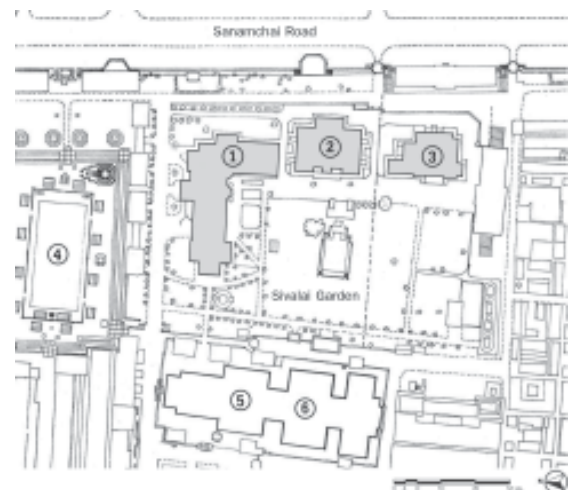
Figure 16. Inside view of Borommarajasathitmaholan Hall.

simple but magnificent decoration, is functionally flexible to serve various royal purposes and is thus in line with current architectural concepts. The approach reveals His Majesty's talents in solving budget constraint problems during a concurrent economic crisis over the past years.

8.2 Extension of Borombhiman Royal Residence and Lodging Buildings for Retinues Project

(Project duration: 1959–1961)

Foreseeing the need to provide a royal residence for state visitors, in 1959 His Majesty initiated the modification and extension of Borombhiman Royal Residence to appropriately serve the required state function (Figure 17, ①). Royal guidance for site planning, functional arrangement and architectural design was given in a manner suitable for the programmatic needs and the environmental context for both the extension of Borombhiman Royal Residence and the erection of two lodging buildings for retinues [33, 34] (Figure 17, ② and ③). The resulting buildings have been deemed most fitting and elegant, in line with international norms and a source of national pride.



- ① Extension of Borombhiman Royal Residence
- ② ③ Lodging Buildings A and B for Retinues
- ④ The Temple of Emerald Buddha
- ⑤ The Audience Hall of Amarindra
- ⑥ Paisal Hall

Figure 17. Layout plan showing Borombhiman Royal Residence and lodging buildings.

8.3 *Bhubing Ratchanives Palace Project*

(Project duration: 1959–1962)

His Majesty initiated the building of Bhubing Ratchanives palace for hosting state visitors and to serve as a royal residence during His Majesty's rural development missions in the northern region [35]. His Majesty's contributions included initiating a survey to identify an appropriate site in Chiang Mai Province, giving design guidance in the selection of a residential complex concept as the initial design, providing recommendations for the provision of modern amenities for comfortable modern living inside the Thai-style pavilions and granting permission to use porcelain ware leftover from the Grand Palace for decoration. The concept of combining modern conveniences in a Thai-style structure confirms His Majesty's determination to integrate local wisdom with modern technology for contemporary living [36] (Figure 18). State visitors are able to enjoy both up-to-date comforts as well as a warm family atmosphere, thus providing opportunities for forging closer diplomatic relationships.



Figure 18. Bhubing Ratchanives Palace and central court and pavilion for viewing Chiang Mai City.

8.4 *Thaksin Ratchanives Palace Project*

(Project duration: 1972–1973)

The Thaksin Ratchanives Palace project demonstrated His Majesty's dedication to undertake his development mission in the four southernmost provinces (Narathiwat, Pattani, Yala and Songkhla), which have been continuously facing serious security problems. His Majesty's wisdom was revealed when new plots of land were provided under royal initiative to thank the Muslim land owners who had offered their plots on Tanyong Hill as a tribute to His Majesty King Bhumibol Adulyadej. In addition, a new mosque was built next to the royal compound. Thus, negative impacts on the existing community brought about by setting up the Palace were mitigated, while the palace has facilitated royal visits to the vulnerable people in the south [37]. Moreover, His Majesty also focused on the design of the palace to be in harmony with the local context [38]. This royal policy showed the intention to build up mutual understanding with local communities in the southern region.

9. Religious Architecture Development

9.1 *Sothornvararam Voraviham Temple Project*

(Project duration: 1966–2006)

His Majesty initiated the partial reconstruction of Sothornvararam Voraviham Temple in Chachoengsao Province with the aim of dedicating an elegant temple to honour Luang Por Buddha Sothorn [39, 40]. His Majesty's continuous guidance and concepts contributed greatly to what is now regarded as a significant part of the country's architectural heritage (Figure 19). In addition to its designated function for worshipping the revered Buddha Sothorn image, the temple which was completed in 2006 has also become a tourist attraction. The project's achievements can be partially attributed to His Majesty's ideas and talent in the area of religious architecture [41].



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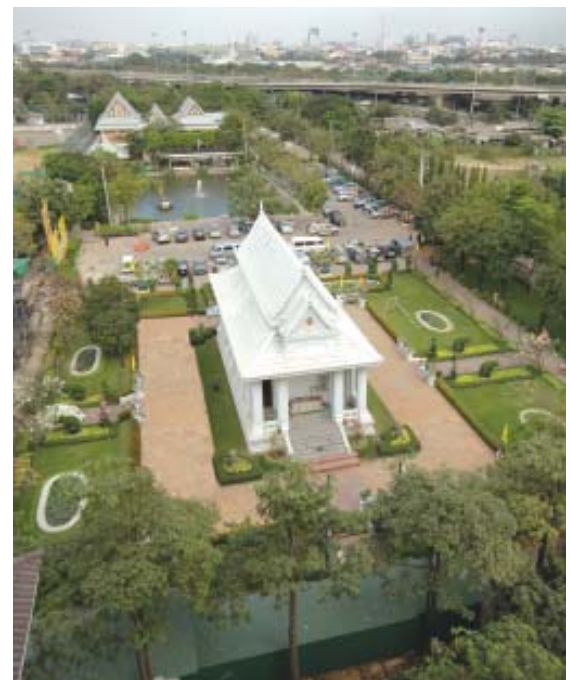
Figure 19. Sothornvararam Voravihan Temple.

9.2 Rama IX Golden Jubilee Temple Project

(Project duration: 1988–1998)

Rama IX Golden Jubilee (Kanchanapisek) Temple (Figure 20) has emerged as part of His Majesty's initiative to develop the Rama IX Pond community as a model of community development in 1988, in accordance with His Majesty's objective to enhance spiritual and social cohesion for community development through integrating home (community), temple (wat) and school, with the 'wat' being the community centre as in the past. Thus, despite having the status of a royal temple, His Majesty's intention was to build a small 'ubosotha' (ordination hall) for only 30–40 persons with a simple design in order to reduce construction costs and allow for completion within a short period of time [42, 43]. This concept is different from the prevalent current situation in which too large temple structures are built and sometimes left unfinished, and more significantly, often not even serve the function of being the centre of the community as in the past [44]. It should be noted that the uniqueness in terms of building a small and simple temple reflects the principles of Buddhist Economics as described in "*Small is Beautiful*" by Schumacher [45].

Completed in 1989, the Rama IX Golden Jubilee Temple thus reveals His Majesty's wisdom in attempting to create a physical environment that enhances spiritual and social cohesion. This new creative perspective in architecture and community development is mainly based on the sufficiency development concept.



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Figure 20. Rama IX Golden Jubilee Temple.

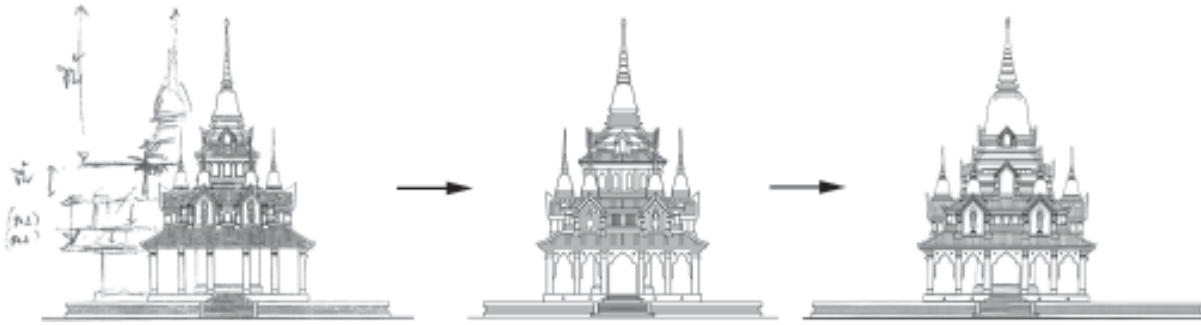


Figure 21. Design development of Phra Mahadhat following His Majesty's sketch and guidance.

9.3 Phra Mahadhat Chalermrajsaddha Stupa Project

(Project duration: 2001–2005)

In the 50th anniversary celebration of King Bhumibhol Adulyadej's accession to the throne in 1966, the buddhist monks and lay fellows of a Thai monastic temple in Kushinara, Uttarpradesh, Republic of India, planned to build the Phra Mahadhat Chalermrajsaddha Stupa, and had asked for His Majesty's guidance and design concepts which were offered in sketch form (via the Thai Ambassador to India) to the architect who designed the stupa [46]. The project resulted in the creation of a piece of religious architecture that is graciously designed, with the appearance, color and materials clearly reflecting Thai architectural identity. In following His Majesty's guidance, modifications were made to achieve better proportions which allowed for improved visibility of the bell-shaped stupa body and through the elimination of the third-level eave (Figure 21). With the architectonic quality of simple but magnificent decoration, the stupa appropriately represents Thai architecture abroad and clearly demonstrates His Majesty's intellectual achievement in the realm of Thai architecture [47].

9.4 The City Pillar Shrine Reconstruction Project

(Project duration: 1982–1986)

The reconstruction of the City Pillar Shrine has finally reinstated the original design with a 'prang' pinnacle, as seen in the reign of King Rama IV (Figure 22). The project also included the upgrade of the surrounding area. All these transformations were based on His Majesty's concepts regarding conservation and contextualism, and reveal his aesthetic concerns with respect to formal identity

and harmony with nearby buildings, proportion of building components and the use of durable materials. It should be noted that the well-proportioned City Pillar Shrine is attained by raising the new structure above existing ground level (Figure 23).

The City Pillar Shrine Reconstruction Project has served its objectives of creating architectural identity as well as a symbol of belief and prosperity for the country. As such, this is another project that reflects His Majesty's accomplishment in architecture [48–49].



Figure 22. The City Pillar Shrine after reconstruction.

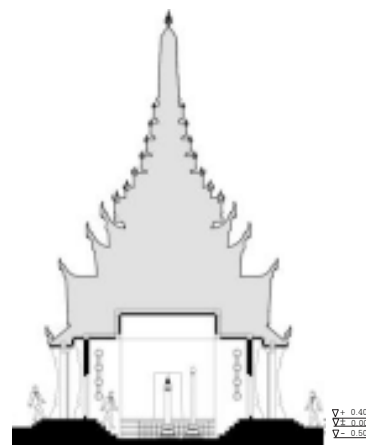


Figure 23. Section showing the ground level of the City Pillar Shrine after reconstruction in accordance with royal guidance regarding proportion of the structure.

IV: Applicability Analyses

10. Model Setting

The concern for the potential of applying the royally-initiated development models is a parallel objective of investigation. Many of the royally-initiated projects have been designated as models, each of which represents the output of a pilot study. The six Royal Development Study Centres demonstrate this approach: each centre has been set up in a different region with unique geographical and geological contexts. The knowledge gained from each royally-initiated development centre can be applied directly in the area or indirectly in many other similar projects located elsewhere. Moreover, it is likely that a range of fruitful results can intrinsically be achieved from following the royally-initiated projects since they often have multiple objectives. For example, Suanluang Rama IX, planned as a city park, also serves the function of being a reservoir as well as a natural resources sanctuary. Furthermore, the royal initiatives also have great potential for further application because many employ natural means and resources, especially those that rely on the principle of “nature supports nature,” such as the water improvement projects [50]. This approach makes the projects inherently sustainable and readily applied.

11. Legislative Concern

To attain sustainability development, it is necessary to consider the legislative dimension in urban, community and architecture development, since proper legislative development would generate legal measures to lessen controversial issues in these types of projects. The analysis of various royally-initiated projects, especially urban and community undertakings involving green area,

open space, and impacts of land use, led to the conclusion that such development projects under participatory consultation have indeed established legal precedents and frameworks for future legal amendment which would support future community and urban development projects [51]. This includes the Huai Ongkod Project that was intended to solve deforestation problems, the Royal Development Study Centres Project that was initiated to provide models for rural community development and other urban development projects as well. It is expected that the legal achievements of these projects have the high potential for legal amendment to be applied for sustainability transformation in future development projects, especially those related to flood mitigation, water quality improvement, the provision of open spaces in urban areas, self-reliant community development, provided that appropriate planning and implementation can be achieved.

V. In Search of His Majesty's Underlying Concepts in Urban, Community and Architecture Development

The last part of this study contains the ultimate research findings. This research attempts to search more critically for His Majesty's underlying concepts in various development projects. The underlying concepts are derived from analysis of royal statements and guidances given in the development of each selected project and of His Majesty's roles and activities.

The following analytical framework and procedure are proposed and undertaken as follows: (More detailed analyses can be found in Horayangkura et al. [52]) (Figure 1 and Figure 24).

1. Based on the 32 royally-initiated development projects included in the study, 7 project categories can be identified: **1) Traffic and Transportation; 2) Flood Mitigation; 3) Improvement of Water Quality; 4) Provision of Open Spaces for Urban Areas; 5) Rural and Urban Community Development;**

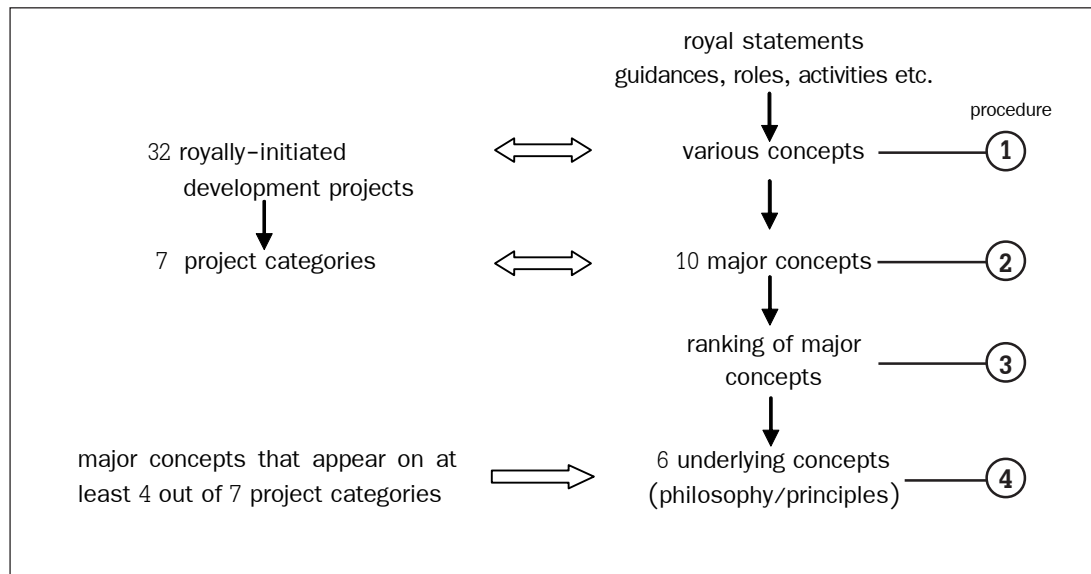


Figure 24. Analytical framework and procedure in search of underlying development concepts.

Table 1. Matrix showing the coincidence of the 10 major concepts with the 7 project categories.

<div>10 major concepts →</div> <div>7 project categories</div>	1. Being economical	2. Mitigating development impacts	2. Requiring proper planning and management	4. Serving multiple objectives	5. Creating social and public benefits	6. Ensuring sustainable development	7. Being functional	8. Enhancing national image	9. Establishing formal identity/conservation	10. Creating architectural design
Traffic and transportation	X	X	X		X				X	
Flood mitigation	X	X	X	X		X				
Improvement of water quality	X			X		X	X			
The provision of open spaces for urban areas	X	X	X	X	X	X			X	
Rural and urban community development		X	X	X	X	X				
Royal architecture development	X	X					X	X		X
Religious architecture development	X		X		X			X	X	X

6) Royal Architecture Development; 7) Religious Architecture Development.

2. Various concepts that are apparent in each development category are collectively analyzed in relation to each royally-initiated project by means of structuring matrices. Seven such matrices in accordance with seven project categories are proposed [53].

3. Major concepts are derived from grouping of similar concepts for each project

category. Ten major concepts were then formulated.

4. Major concepts were ranked. The level of significance of each major concept was determined by the coincidence of the major concepts with the project categories (Table 1).

5. In examining the level of significance together with further evaluation of the appearance of various concepts under each major concepts on each of the seven project categories, six underlying concepts can be distilled and are ranked as follows:

	RANK
1. Being economical	1
2. Mitigating development impacts	2
3. Requiring proper planning and management	
4. Serving multiple objectives	3
5. Creating social and public benefits	
6. Ensuring sustainable development	

The six underlying concepts substantially represent philosophy and principles. The integration of these six interrelated underlying concepts shapes the following development approach:

**Sufficiency Development and Underlying Concepts
as the Essence of Royal Initiatives of the “Development King”**

In royally-initiated development projects, proper planning and management are required to ensure that the undertakings are economical, development impacts are mitigated, and multiple objectives are served. This allows the projects to maximize social and public benefits and ensure sustainable development, which demonstrates the holistic value of the projects.

Epilogue

Since His Majesty’s philosophy of “sufficiency economy” was initiated more than three decades ago, it has been prevailingly instrumental for institutions at all levels and has been universally acclaimed as a balanced path of development – an alternative amid the vagaries of globalization. Within the sufficiency economy framework, this research affirms a parallel approach which can essentially be referred to as **sufficiency development** for urban, community and architecture development. In this regard, the six underlying concepts derived from this study can be applied as the fundamental

philosophy and principles guiding sufficiency development in these three areas. Academics, professionals and concerned authorities should be encouraged to apply the conceptual framework of sufficiency development as an extension of His Majesty’s sufficiency economy philosophy [54]. Indeed, as put forth in this research, the practice of sufficiency development is in fact the main vehicle leading to His Majesty’s emergence as the world’s “**Development King**” and the conferment of many international awards. More precisely, the sufficiency development under the proposed six underlying concepts is virtually the essence of royal initiatives of the Development King.

His Majesty's distinctive roles and underlying concepts in royally-initiated development projects as presented in this research reveal His Majesty's never-ending efforts to improve the livelihood of the people during the past sixty years of his reign. Through his wisdom, talent, perseverance and compassion, His Majesty's contributions towards development in Thailand have greatly benefitted his subjects in an inestimable way over the years. Taken as a whole, His Majesty's unwavering commitment to the sustainable approach to development reflects

his concern of providing resilience in the face of global challenges and changes.

Acknowledgement

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Figure 25. UN Secretary-General Kofi Annan conferred the United Nations Development Programme's first **Human Development Lifetime Achievement Award** to His Majesty on May 26, 2006 to coincide with the 60th anniversary celebrations of His Majesty's accession to the throne.

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- Figure 2 Basic maps from geographic information system, City Planning Department. Bangkok Metropolitan Administration. (modified)
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