Online
ISSN : 2539-5513

Volume 1 Number 2
July - December 2014

RJSH

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES

http://www.rsu.ac.th/rjsh
ISSN: 2286-976X

ISSN 2286-976X / Online : ISSN 2539-5513

RJSH

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES

Volume 1, Number 2, July – December 2014

Published by:
Rangsit University, Pathumthani, Thailand

Editorial Office: Rangsit University Research Institute, Rangsit University
52/347 Paholyotin Road, Pathumthani 12000, Thailand
Phone: + 66 2 997-2222 ext. 1067, Fax + 66 2 997-2222 ext. 1027
Email: rjsh@rsu.ac.th
Website: www.rsu.ac.th/rjsh

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)
Volume 1, Number 2, July – December 2014

Editor's Note

I am pleased to note that this is the second issue of *RJSH*. Our first volume was launched at the beginning of 2014 with the theme 'The World Turning East'. This second volume aptly focuses on the theme 'Innovative Creativity', referring to thinking or creating in different ways that result in new solutions.

The policy 'RSU: University of Innovation' is being carried through a five-year plan (2012-2016) at Rangsit University because innovation plays a vital role in education. Thus, we need an education system that promotes both innovation and creativity. Innovativeness is required in designing more creative instructional methods that combine theoretical and practical knowledge. Grades may not reflect the quality of learning but innovativeness in creating new methods of evaluating the quality of teaching and learning is one solution. How to master new technologies and tools for creating and facilitating educational opportunities is more challenging. Is it better for our students to be involved in innovative practices than merely participate in traditional learning through lectures? What can education institutions, organisations and government do to assist these educators, practitioners and students? These are questions to ponder in applying innovation and creativity to education.

Hence, the two words 'innovation and creativity' are highlighted in this volume. Contributions include the letter on innovation in education from Dr. Arthit Oruairat, President of Rangsit University, and a special article by Professor Anthony Glendinning, Department of Sociology at the University of Aberdeen, Scotland, UK. In addition to these features, the article 'Green Architecture Movement in AEC' and articles on a variety of other topic types are included.

To ensure the quality or our issues, our editorial team works tirelessly and will continue to survey provide a high level of service to readers and authors. Links to our manuscript submission site can be found at the *RJSH* Online Submission and Review System at http://rjsh.rsu.ac.th. Thank you for supporting our efforts by sending your work to *RJSH*.

Sincerely,

Anek Laothamatas
Editor-in-chief

RSU: University of Innovation

Arthit Ourairat

President of Rangsit University, Pathumthani 12000, Thailand
Email: arthit.ao@rsu.ac.th

In the Summer 2013 issue of the University of Chicago's magazine "The CORE", I came across an interesting news item entitled "A Race in the Sun". The article highlights the story of Kewin Wang, a student who founded the university's Solar Car Team with the ambitious goal of designing, constructing and entering his brain child, "Angstrom" in the 2013 American Solar Challenge Formula Sun Grand Prix. Even though the university has no engineering classes, his team received backing from the student government and the private sector, namely, Wells Fargo bank and Adams Foam Rubber. Meanwhile, Rangsit University newsletter No. 211/August 2013, reported on Nachapat Phusakol and Nathapol Swaitkitirath, fourth-year students in the Faculty of Engineering who developed a model for a LPG driven motorcycle whereby the alternative fuel not only reduces costs, but is more friendly to the environment through reduced emissions.

From the above examples, they shed light on innovation, a critical component of education today. It appears high in the agenda for development throughout the world. We can hardly mention higher education today without hearing the word "Innovation". In the United States, a strong State Department policy underscores the all-hands-on-deck approach to this key issue: "Educate to Innovate", a comprehensive plan to provide students at every level with the skills to excel in the highly rewarding fields of science, technology, engineering and mathematics (STEM). This also requires training of effective STEM teachers and enhanced public-private partnerships mobilising the business community to take part in improving STEM education. Elsewhere, like in Canada, the University of Guelph Kemptoille Campus's Dairy Education and Innovation Centre successfully developed and installed a robotic milking system that was found to work well in the production of milk. Likewise Sweden, once among the poorest nations in Europe, has become a world leader in innovation. 'Inventing Tomorrow's World' is the concept and practice in Swedish education. In 2011, the INSEAD Business School's Global Innovation Index ranked Sweden second place behind Japan. Among Asian countries, Singapore practices state-funded, strongly merit-based innovation in high education. What I cite here is less than a handful of sand in the vast global battlefield of competitive innovations. In our knowledge-based, increasingly high technology era, all players fully realised that investment in education, training and skill upgrades is vital if a country is to maintain its competitive edge and prosper in a volatile regional and global market place.

At Rangsit University, we deem as our duty to keep track of global and regional development, most particularly in terms of manpower and technology key to national development. Our mission is to assist the country to produce such manpower that will be competitive in the vast, rapidly changing and versatile world market. In our 2013 annual staff meeting, we reiterated the utmost importance of our five-year plan (2012-2016) under the stated policy, 'RSU: University of Innovation', that aims to produce a creative and skillful workforce who are mindful of good governance and social responsibility and ready to meet the new challenges of our rapidly changing world. From 2013 on, orientation of new students changes from the conventional ceremonial CEO's talk to students, welcome dances and the like to the digital presentation of the world in which they live, the changing situations, steps toward reinventing Thailand, its energy resources, etc., with the intention to inspire and install in our students the power of inspiration, creativity and readiness to thrive as good citizens in the country and the world.

For Thailand, we realize each nation gives importance to educational development. We are facing unprecedented challenges, brought by the convergent effects of globalization, and the increasing importance of knowledge as the principal driver of growth and the ICT revolution. It is unsurprising that all

governments commit to providinge equal access to high quality education and learning to all their citizens. Quality in an education system, requires various components such as students, teachers, curriculum, learning materials and facilities and suitable environments for learning. These components interact in the process of teaching and learning to reach educational goals and objectives. Without doubt, great awareness interest and actions are taking place among ASEAN member countries to meet new challenges, make the best use of new opportunities and compete against their neighbours. All agree that the most important tool for attaining success is education, which must be reformed or reinvented in response to changing situations and needs. Therefore, quality improvement in education has become the ultimate goal in order to promote sustainable development. Human resource development is viewed as key to developing the whole nation, and education plays a pivotal role in developing human resources.

Our ASEAN neighbors, such as Malaysia, Indonesia, Laos, Cambodia and Vietnam have taken progressive steps in response to the forthcoming ASEAN Economic Community (AEC) through human resource development including preparation for essential networking under China's 'New Silk Road of Oil and Gas' and 'String of Pearl Strategy'. In contrast, I must admit that Thailand has been slow to progress, particularly in education. In the latest Global Competitiveness Report 2010-2013 of the World Economic Forum, Thailand ranked 78 of 144 countries in its Quality of Education System. Within ASEAN, Thailand lagged Singapore at No. 3; Malaysia, 14; Philippines, 45; Indonesia, 47; Cambodia, 58; and Vietnam at 72. In terms of Quality of Primary Education, Thailand ranked 82, a little better than the Philippines at 86 and Cambodia at 87. When looking at the capability of Thai people in creating innovation, Thailand ranked 79. This has created great concern in the Thai education sector, particularly among private universities with a strong commitment in providing high quality manpower to the country's workforce for reinventing tomorrow's world.

For Rangsit University, to avoid missing the faster than a bullet train AEC Express and being left behind by our ASEAN partners, we need to strengthen our educational strategies to catch up with our neighbors whose progressive development relies on export oriented and high technology driven economies. Singapore and Malaysia, for example, have invested in innovation and higher education, and their graduates are ready to become productive and competitive players in the AEC open market. In Thailand, our urgent needs lie in human resource development, particularly reorientation and training for our less educated, unskilled or inadequately skilled workforce; foreign language lessons to facilitate easier access for jobs; and, more critically, to reinvent university education mere teaching and learning. I totally agree with what Benjamin Disraeli once stated that 'A university should be a place of light, of liberty, and of learning' and would like to assert that educational institutions should not only jump on trends but start new trends, that is, education must stay a step ahead of society and lead the nation.

Since we give priority to educational development, the following are the teaching and learning activities occurring at Rangsit University:

- Education is viewed as innovation and promotes creativity in teaching and learning without blocking staff and student inspiration and innovative ideas.

- Traditional teacher-centred methods focusing on textbooks were abandoned in favor of student-centered and tasked-based approaches to learning. Teachers assume the new role of facilitators to promote the liberty of lifelong learning while enhancing the inspiration, creativity and hands-on experience of students in real life situations.

- Education in Thailand must adhere to its stance, not to follow in the footsteps of the West, but to develop the Kingdom's firm foundation, its rich culture and indigenous wisdom, which means remaining Thai.

- With the advent of ASEAN+3, AFTA and AEC, networking at various levels of educational institutions is promoted. In this aspect, Rangsit University has entered into close and continuing partnerships with renowned overseas universities, educational institutions and industries for educational exchange, staff and student exchange and skill training.

- Since RSU's inception 27 years ago, Corporate Social Responsibility has been enhanced to nurture students to have a sense of responsibility for the country, to adhere to good discipline, good conduct, honesty, and good governance to become model citizens of the country and the world.

- Education is not a social or welfare service. It should not be divided by class or status, but open to all and free from discriminations.

- Education does not screen losers, but ensures that everyone wins by creating appropriate measures for continuing support and making the best use of all players, facilitators and students in their specific talents.

When considering the strengths of Thailand proven most competitive among other ASEAN nations, innovative development needs to be undertaken in the six areas:

- Agriculture: In terms of geographical location and quality of land, Thailand is at its best in growing rice, fruit and other crops, as well as animal husbandry of good quality for local consumption and export.

- Medical care services and technology: Thailand is renowned in medical care services in terms of caring and service-minded staff, well-trained and skillful specialists in all fields of modern and Eastern traditional medicines, and most of all, competitive pricing for examinations and specialized treatments that are an important point of sale for patients from overseas.

- Tourism and hospitality: Around the world, Thailand is said to be gifted with amazing tourist attractions, not only in Bangkok but throughout the Kingdom. Its growth and development have been promoted in many areas based on travelers' interests such as culture, heritage centers, Thai culinary arts, traditional arts and crafts, and community-based tourism such as home stays, massages, spas, etc. The Tourism Authority of Thailand is targeting niche markets such as golf holidays and holidays combined with spa and medical treatments while aiming to become the hub of Buddhist tourism in the region. In support of this development, Rangsit University envisages more creative tourism by having staff and students initiate new approaches and action-oriented models for community-based tourism with local people implementing them through R&D principles.

- Creative Arts: The first Creative Economy Report jointly issued by UNCTAD and UNDP in 2008 highlighted the rapidly increasing global exports of creative goods and services and envisaged creative industries as one of the most dynamic sectors of world commerce because of the great potentials it holds for developing nations In the field of art and design, I believe a new breed of creative workforce needs to be generated, encouraged and supported to spur such innovations that could lead to creative products while providing jobs and tax revenue for the country. Rangsit University's Faculty of Art and Design, Faculty of Digital Arts and Faculty of Architecture strongly support creativity and hands-on experiences as much as R&D among staff and students in areas most needed by the country to the extent that new discoveries can be modified, upgraded, tested, verified and put into practice.

- Geo-political location: Thailand is fortunate to be geo-politically situated between the Indian and Pacific oceans as well as between Indochina and the Malaysian peninsula and amidst the New Power Pole, particularly near China and India and not distant from the Middle East. We need to be aware of current movements in fast-track infrastructure, communication networks and economic development of all players and potential customers and devise creative and competitive development strategies and implementation methods to meet the great challenges of Easternisation.

- Promoting Creativity and R&D: This is the area where education must take direct responsibility to develop the sense of creativity and come up with new ideas to gain more competitive power in the new market. Universities must be the source wisdom, new ideas, pools of knowledge and professional expertise in all fields of specialisation essential for reinventing Thailand towards good governance and a democratic society.

On the RSU campus, we will nurture our graduates whose characters embrace the following credo to:

Think creatively

Strictly adhere to virtues

Bring changes for betterment

RSU will continue to thrive with diverse curricula, to contribute our best to society with freedom of thought, and to challenge young generations to be the leaders of creativity.

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

Volume 1, Number 2, July – December 2014

CONTENTS

RJSH Vol. 1, No. 2, July – December 2014, pp.1-13

The Problem of the Relationship between Land for Construction and Farmland in China's Socio-Economic Development

Anthony Glendinning

King's College, University of Aberdeen, Scotland, AB24 3DX, UK
Government & Public Governance, Rangsit University, Patumthani 12000, Thailand
Email: tony@abdn.ac.uk

Submitted 25 February 2014; accepted in final form 13 April 2014

Abstract

The study is about China's problematic relationship between land for construction and farmland. Land use policy has reacted to economic reforms already underway to control losses of farmland caused by changing models of development. Policy and legislation were in reaction, for example, to what was seen as out-of-control entrepreneurial development in the countryside of the 1980s, and also later to the consequences of industrialization and pro-urbanization programs brought about by the devolved fiscal system of the 1990s. Socio-economic development came to be funded through local governments' expropriation and capitalization of collectively-owned farmland through its release to urban land use markets. At the same time a national land use policy of 'requisition-compensation balance of cultivated land' was said to be necessary to ensure China's food security by fixing a minimum 'red-line' amount of farmland reserved for agriculture. The present critical policy analysis provides a case study of the central government's reactions to changing local conditions that badly affected farmers and their livelihoods. Socio-economic divides between the countryside and the city only increased and cash-strapped local governments have since become burdened with debt because of a 'land finance' model of development that was no longer sustainable after the economic slowdown of 2008. The new leadership plans a different approach to socio-economic development and increasing urbanization, but farmland itself remains under 'strict control' of the state in China's particular approach to reform.

Keywords: *urbanization, socio-economic development, farmland, farmers, rural land use policy, China*

1. Introduction

China's leadership is concerned that increasing urbanization must be 'co-ordinated' so that socio-economic development improves the whole population's living standards, including that half of the population who still live in the countryside[1]. Under the previous leadership team, the State Council, the highest executive organ of government, and the Party's Central Committee (CPC), had been particularly concerned to mitigate the 'uneven' effects of development on the nation's farmers and its farmland; the new leadership has said it will improve farmers' property rights (Zhu, 2013). According to Premier Li Keqiang, industrialization has been the driving force for China's development, but agricultural modernization that ensures the nation's food security must form the basis of national policy for increasing urbanization. He explains:

> As a country with a large population, China must at all times be able to solve its own food problems… Valuing and rationally utilizing every inch of land and steadfastly protecting farmland are basic national policies. We must resolutely uphold these basic policies if we are to push forward with industrialization and urbanization. We must also deal effectively with the relationship between land for construction and farmland. This problem, in particular, must be treated seriously.
>
> (Li, 2012)

[1] Government and Party concerns relate to economic growth, social stability and state control as much as farmers' situations. Analysis of land use policy has to be understood in its political context (McGregor, 2012).

The purpose of the present study is to analyse what Premier Li meant by the problem of the relationship between land for construction and farmland. Such an analysis is worthwhile because it is revealing of how industrialization and urbanization have been achieved in China in recent decades; the contradictions involved in that process and why the development model was no longer sustainable; and also, why central government had been so concerned about the consequences for farmers as well as farmland. It is notable that Premier Li used the word 'problem' when addressing senior cadres (McGregor, 2012). Government agencies do not to employ negative language and they do not highlight policy differences[2]. Critical analysis is not the norm (Yin, 2014).

2. Concerns about the nation's stock of farmland, or about its farmers

Figure 1 shows China's changing amounts of 'cultivated land' under the charge of the People's Republic (PRC)[3]. Today the total amount of farmland stands at levels similar to when that land was first taken into collective ownership in 1958, whereas the size of China's population has more than doubled in that time along with a six-fold increase in the number of city dwellers. Agriculture represented the majority share of economic output and most citizens belonged to the peasant class at the beginning of China's socialist transition in 1952, whereas it overtook Japan to become one of the world's largest industrial economies, and the majority of its population no longer lived in the countryside by 2011[4]. It seems obvious, as Premier Li argued, that the nation's stock of farmland would come under pressure from increasing industrialization and urbanization.

Researchers were more sceptical than Premier Li about the potential threat to the nation's food security caused by the incursions of industry, urban sprawl and the use of farmland for construction; at least, that was during initial reform of China's land administration laws from the mid-1980s through the 1990s (SCNPC, 1998 [1986]). Based on detailed analyses of satellite images of changes in land use, Deng, Huang, Rozelle and colleagues (2006) concluded that losses of cultivated land had been and would continue to be balanced by increased productivity under agricultural modernization. However, the concerns of China's leaders thereafter were just as much about controlling 'uneven' socio-economic development and the growing inequities between its rural and urban populations (Ravallion and Chen, 2004) as they were about controlling use of farmland for construction under the guise of ensuring the nation's food security. Social and income divides between China's farmers and its urban citizens had only increased after an initial period of major improvements seen with 'opening-up' and economic reform between 1978 and 1986 (Zhou, 1996). That might better explain Premier Li's seemingly bland exhortation of a 'co-ordinated' approach to plans for further urbanization[5].

---

[2] Then Vice-Premier Li was one of the few leading politicians authorized to speak on Beijing's economic policies under the previous leadership team (Miller, 2009).

[3] PRC land administration laws and policies relate to designated land uses and use rights. The category of 'cultivated land' represents a broad indicator of productive farmland only. Estimates of arable land as opposed to sown land area, for example, mean different things for grain production due to practices such as double-cropping. Agencies do not even agree over some categories; for example, what counts as 'forest land' differs between the Department of Agriculture and Ministry of Land and Resources (MLR). In other words, official records provide broad indictors and estimates. The present study draws on data from the first national land survey conducted by the China State Land Administration Bureau (CSLAB, 1996; Liu, 2000) and, thereafter, MLR surveys. Sources and categories are explained in detail by Wang and colleagues (2012). Other data come from official reports by the China State Statistics Bureau (CSSB, 2000; 2009).

[4] China's official urbanization rate was 50.6% in 2011, with an annual rate of change of 2.85% projected between 2010-15; the corresponding figures for Japan were 91.3% & 0.57% and for Thailand 34.1% & 1.6%.

[5] Premier Li voiced further concerns about social and income divides emerging in China's developing urban centres and new mega-cities due to poor living standards and conditions of migrants from the countryside who were not registered officially as urban dwellers, and also of the many farmers who retained different registration status when they had been displaced from the countryside to live on the urban periphery due to the expropriation of farmland for regional industrial development and urbanization projects.

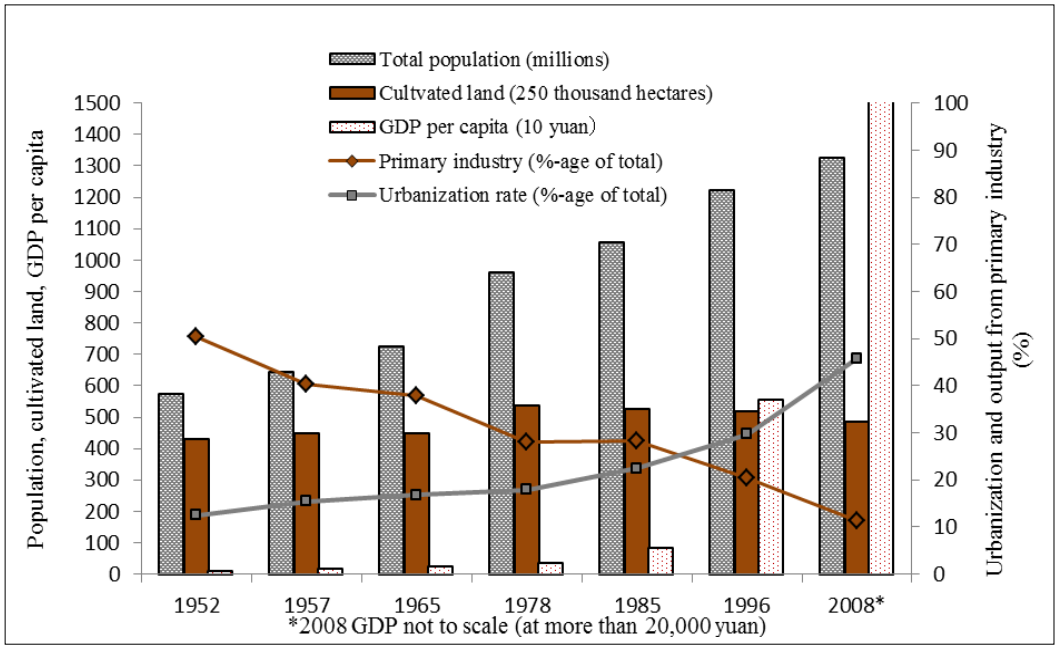

Figure 1 Area of cultivated land, population, urbanization and economic growth, China 1952-2008

The more recent effects on farmers have been considerable. China's land use policy may well have been effective in promoting socio-economic development under modernization, at least to the pragmatist, but those same policies have been much less functional in their outcomes for many of the nation's farmers. The extent of dysfunction was highlighted by the findings of a 17-province interview survey of farm households concerning the disruption to farmers' livelihoods, planning and investments that were caused by 'land-takings' by local governments for the construction of administration, services, real estate, industry, transport and infrastructure developments (Zhu, Prosterman, Ye *et al.*, 2006). The degree of dysfunction was shown by the findings of an in-depth study of the experiences and reactions of 'land-lost' farmers in a large, Central-south provincial city over an eight-year period (Hongping, 2011). The land of the farmers' agricultural collective had been requisitioned by the local government and the farmers were re-settled to the city's margins to make way for the construction of a regional administrative headquarters, judiciary and security buildings, a science-and-technology park and real-estate development.

3. The political, economic and social context to rural land use

3.1 Centrally-planned economy

A short period of 'economic recovery' after the establishment of the PRC in 1949 up to 1952 saw the redistribution of farmland to the peasantry 'fairly, rationally and uniformly' under Article 10 of the Land Reform Law of 1950 (Meisner, 1999). Reform intended to remove control of private property from the landed-gentry with peasants' grassroots' decision-making so as to end feudalistic practices. The CPC saw this as an initial phase only and individual peasant 'ownership' was not to last for long (Zhou, 1996). In the 'socialist transition' period, farmers were required to form producers' co-operatives of some 150 households.

The countryside saw collectivization of agriculture in 1958 with the formation of large state farms of some 5,000 households each. The aim was to ensure food production for a growing population (Zhou, 1996). Planning and heavy industry came to be emphasised as the basis of a socialist society over the alternative policy of an incremental, locally-based approach to development (Bachman, 2006). The 'Great Leap Forward' at the end of the 1950s planned to move China to a modern industrial society in one generation, but the amount of cultivated land went into decline and peasants and agriculture suffered greatly

(Xu, 1996). Policy shifted to large-scale construction projects. Their purpose was to enable strategic migration of key industries to the central provinces under the 'San Xian' program[6].

Along with the collectivization of agriculture and development of central planning, the *hukou* household registration system was first introduced in 1958. That system divided and fixed the status of rural and urban residents and the movement of rural residents and their access to welfare and services (Wang, 2005). The 'Great Proletarian Cultural Revolution' was underway by the mid-1960s as national policy turned to mass 'rustication' (Perkins, 1991). Millions were sent to work in the countryside (Bian, 1991). The area of cultivated land increased annually by one million hectares. The area of cultivated land peaked at 134 million hectares in 1978, and the urbanization rate never reached 20 per cent at any point during the operation of the centrally-planned economy.

3.2 Market-oriented economic reform

3.2.1 The household responsibility system and town & village enterprises

China's reform was gradual and without loss of public ownership, quite unlike post-socialism elsewhere (Walder, 1996). It was marked by two key changes in the countryside (Zhou, 1996). First, a 'two-tier' household responsibility system (HRS) became widespread whereby collectives continued to own farmland but land use contracts were extended to individual farm households. The system required farmers to meet basic quotas for the collective while they were also able to produce directly for the market. Marketization of trade in agricultural products was in place by the mid-1980s. The second key change was that the establishment of town and village enterprises (TVEs) that drew on farm labour to work in small and medium-sized industries in the locality instead of mass migration of rural workers from the countryside to the cities. TVEs meant continuity with pre-reform anti-urbanization policy insofar as they promoted locally-based development[7]. Their success was not anticipated (Zhou, 1996).

As a result of the HRS system, cultivated land was in high demand for farm production, but it was also increasingly used for TVE development, often in haphazard fashion. New TVEs occupied almost one million hectares. China's stock of cultivated land went into decline. A policy of strict cultivated land conservation was mooted and administrative curbs on uncompensated and unlimited duration of land use were introduced by the mid-1980s (SCNPC, 1986). Fixed-asset investment and occupation of cultivated land for urban development slowed annually during the country's first economic 'soft-landing' between 1986 and 1991, which had been put in place to control rapid growth and price inflation. Burgeoning rural entrepreneurship was also reined in (Huang, 2008). It is important to realise that the income divide between China's rural and urban populations was at its lowest point due to the effects of the HRS and TVEs during the initial period of opening up and reform in the countryside in the first half of the 1980s. Thereafter, rural and urban incomes increasingly diverged (Ravallion and Chen, 2004). In addition, city dwellers had better access to services and welfare provisions than rural households (Wang, 2005).

3.2.2 Regional industrial development and urbanization

Central government policy shifted to regionally-based economic development under a new, devolved fiscal system in 1994. Local governments began to prioritise the change of use and requisition of farmland for industrial, residential and infrastructure development over maintenance of cultivated land resources. Indeed, a policy target of 128 million hectares had been agreed upon as the 'preservation' amount in National Land Use Planning to run from 1997 to 2010, but China's stock of cultivated land was already below that minimum amount by 2001. Conflicts between competing interests over use of farmland

---

[6] Large-scale construction of strategic defence, industry and infrastructure projects was carried out in 13 central provinces (autonomous regions) in mid-West China from 1964 in readiness for and removed from the possible incursions of external aggressors. There was mass migration to Sichuan, Guizhou, Yunnan, Shaanxi, Gansu, Ningxia, Qinhai and other regions. Policy caused major shifts in land use; for example, deforestation and land reclamation schemes led to soil erosion over large areas.

[7] Special economic zones (SEZs) were kept quite separate and their particular role within a socialist market economy was clarified only later, in 1992, by the leader of opening up and reform, Comrade Deng Xiaoping.

for construction became a major issue. Monitoring established through the Ministry of Land and Resources (MLR) showed the extent of losses and illegal use of farmland, so much so that a moratorium was placed on all conversions of land use for a six-month period from May 2004 ('Urgent Notice on Further Regulating Land Market and Strictly Controlling Land Administration,' promulgated by the State Council of the PRC, 30 April 2004). The State Council released 'Decisions of the State Council on Deepening Reform and Tightening Land Management' in October 2004 further to counter acts of unlawful appropriation and misuse. The minimum 'red-line' amount was re-set to 120 million hectares (or 1.8 billion Yi Mu) as the long-term target in the 'Eleventh Five-Year Plan' approved at the National People's Congress, 14 March 2006.[8] Policy directives issued in the form of notes and decisions of the State Council, its Ministries and the CPC's Central Committee were used to manage national land use as much as China's legal regime approved by the Standing Committee of the National People's Congress (Chen, 2011).

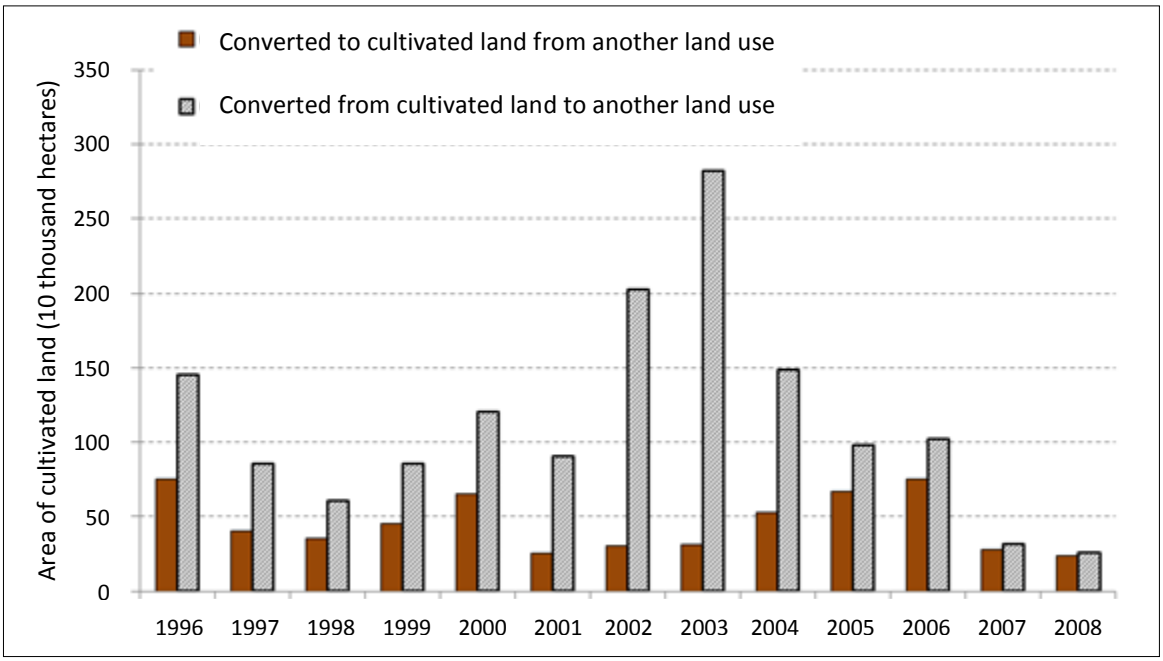

Figure 2 Conversion of cultivated land to other uses, China 1996-2008
Source: Wang *et al.* (2012)

Surveys carried out by the MLR had found that the conversion of cultivated land to other uses without adequate replacement was running at an all-time high around 2003. Figure 2 shows the cultivated land conversion balance from the beginning of land use monitoring in the 1990s. Conversion of cultivated land peaked in 2003 and its replacement by land converted from other land use types was well below 50 per cent in terms of total area in each of the years 2001, 2002, 2003 and 2004. Nine times more farmland was converted to other uses than was replaced in 2003. The rate of increase in the area of urban developed land had been over 200 thousand hectares per annum since 2000. It was twice that of the 1990s. Clearly local governments had not 'steadfastly' protected farmland. Nor did they 'rationally' utilize land resources. China's economic development model was reliant on acquiring new land even when existing stocks of urban development land remained under-used[9]. The MLR estimated that there were 55 thousand hectares of 'vacant' urban land (not tenured), 70 thousand hectares of 'idle' urban land (tenured but not in use) and 135

[8] An authoritative explanation as to why exactly the figure of 1.8 Yi Mu is lacking.
[9] Developed land was under-utilized in the countryside, too. The character of development and scale of out-migration had produced the phenomenon of the 'hollowed-out' village (Long, Li, Liu *et al.*, 2012). Ten to fifteen per cent of village land and farm households lay empty at the time of the MLR surveys in 2004.

thousand hectares of 'new' urban land (approved but not yet in use) in 2004. That amounted to more than one-quarter of a million hectares and represented some one-twelfth of the nation's urban developed land. It was estimated that the amount not actually in use represented as much as one-fourth of the built-up areas in some of the cities surveyed.

4. Food insecurity

Food security had been seen as the necessary base for China's development and political independence in the period of the centrally-planned economy before 1978, and that dictum applied just as much under market-oriented reforms (Christiansen, 2009). China's changing amounts of cultivated land are set against its national grain production over six decades in Figure 3, including the severe disruptions to grain supplies in the late 1950s under the 'Great Leap Forward' (Yang, 2008)[10]. Certainly, the nation's stock of farmland declined after opening up in 1978, but were there any risks to national food security caused by the manner in which market-oriented reforms to land use had been realised?

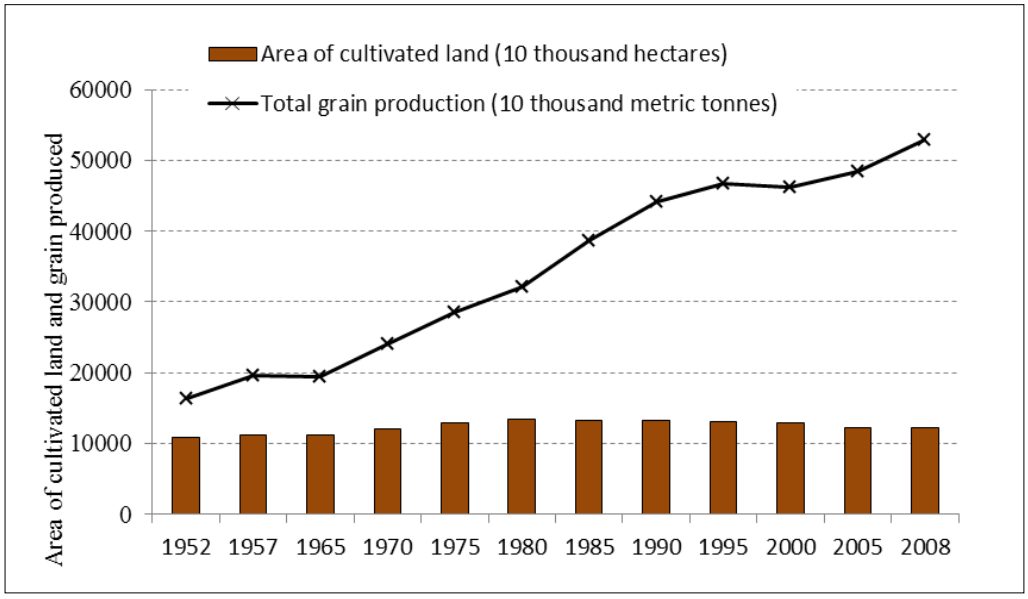

Figure 3 Area of cultivated land and total grain production, China 1952-2008

In the immediate period after opening up from 1978 to 1985, econometric modelling has shown that increased agricultural productivity due to 'de-collectivization' of farming through the HRS on its own accounted for some 50 per cent of national grain output growth (Lin, 1992). Changes to market and state procurement prices for grains also led to increased farm inputs, especially in the form of chemical fertilizers, and that explained a further 40 per cent of national grain output growth from 1978 to 1985. In addition, the market was able to compensate for reduced state procurement prices for grain as well as the government-led 'economic soft-landing' in the second half of the 1980s. Certainly the outflow of farm labour to work in TVEs began to affect the rate of grain output growth within the farm sector from 1985; but notably, detailed econometric analysis also showed that widespread loss of farmland to the nation's locally-based TVE-driven industrial development policy of that time did not, in fact, greatly affect national grain output growth.

[10] Nonetheless it is worth noting that China's only years of recession during the period of the centrally-planned economy had been 1958 to 1961 (Perkins, 1991).

New concerns were expressed about grain production between 1997 and 2002 (Li, 2005) when socio-economic development policy shifted to regionally-based industrial zones and pro-urbanization programs. However, Aubert's (2008) critical re-examination of food production and consumption patterns over a 20-year period between 1985 and 2005 concluded that the nation's 'grain problem' was, in the final analysis, simply 'a statistical artefact'. In addition, according to Zhou (2010) national grain reserves had been in excess of 30 per cent for much of the development of China's market-oriented economy[11]. That was regarded by Zhou as quite different from the situation during the centrally planned economy, when there had been times the nation's reserve stock of grain had been below what was considered a 'secure' amount. Thus, notwithstanding the degradation and losses of farmland due to increasing industrialization and urbanization, it seemed that the nation's grain supply was not under threat.

5. Rural land use policy

The real point is that the nation's food security has always provided a legitimate reason for why the use of farmland should be placed under the 'strict control of the State' (SCNPC, 1998 [1986]: Article 4). It was taken-for-granted and a given of national policy to protect and control the use of farmland; at the same time, it masked the dependency of China's regionally-based economic growth under a devolved fiscal system of taking farmland for construction to sustain industrialization and increasing urbanization, development also justified as being in the national interest. There were inherent problems with the state's policies for managing 'the relationship between land for construction and farmland'.

5.1 Policy studies of land use under economic reform

Policy studies of land use under Chinese economic reform had begun with questions about the development and operation of land use markets and leasing systems but with the research focus on urban land use (Cai, 1990; Han and Wong, 1994; Liu and Yang, 1990; Tang, 1989; Yeh and Wu, 1996; Zhang, 1997). Such assessments and prospects for land use policies raised the question of how to monitor national land resources and land use changes, including monitoring use of farmland (Ding, 2003; Feng, Lin and Yang, 2005; Han and He, 1999; Ho and Lin, 2004; Lin and Ho, 2003). Monitoring was developed more fully with the establishment of the MLR (Wang, Chen, Shao *et al.*, 2012), but questions remained about the operation of land administration legislation that had to square the demand for urban land with the protection of farmland (Li, Feng and Hao, 2009; Yang and Li, 2000). A national system of planning, monitoring and control of land resources had been put in place that intended to maintain a 'requisition-compensation balance' where land taken for construction had to be replaced (Wang, Liu and Wanag, 2010). Concerns persisted about the degradation of the nation's stock of farmland, due to the manner in which developers, or local governments as their agents, met statutory requirements for replacing cultivated land used for construction, as well as direct losses through illicit uses and serious environmental pollution caused by industrialization and urbanization (Chen, 2007; Ren, Zhong, Meligrana *et al.*, 2003; Tan, Li, Xie *et al.*, 2005). The manner of industrial development and pro-urbanization programs, and their uneven distribution regionally, also meant that it was higher-quality farmland that was being lost (Wang *et al.*, 2012).

5.2 Ownership of farmland

Land resources had remained in public ownership under China's gradual approach to market-oriented reforms (Walder, 1996). Urban land for construction was owned by government agencies, whereas farmland continued to be owned by socialist collectives. Only land use contracts were extended to individual farm households under the rollout of the two-tier HRS and its subsequent development in legislation (SCNPC, 2002), but the State reserved the right of 'eminent domain' to re-designate land use types and, as such, to requisition the ownership of the collective's land for urban development in the 'public-national interest' (SCNPC, 2004)[12]. The State held public ownership of all non-collective land,

[11] Zhou also noted that industrialization and urbanization were as much a cause of changing food demands and patterns of consumption as they were any threat to basic food production. Industrialization and urbanization meant increasing numbers of city dwellers with better incomes and different lifestyles.

[12] Land might also be approved for conversion from and to agricultural uses where requisition was not involved.

including the land that been requisitioned from collectives. The use rights for the development of requisitioned farmland had to be acquired by developers through long-term lease from local government agencies. It is important to understand that, in the case of both farmers' land use contracts issued by collectives and also developers' urban land use rights leased from local government agencies, the individual has well-established ownership rights to property but not to land (SCNPC, 2007). Legislation had been provided for management and regulation of land use markets through the MLR, once it was established, but importantly, that was for urban land use rights markets only (SCNPC, 1998).

5.3 Protection of farmland through strict control and equilibrium policy for requisition-compensation

New TVEs had promoted the development of locally-based manufacturing and industry alongside increased farm productivity through the two-tier HRS system without any large-scale urbanization. Nonetheless, central government saw TVE development and local entrepreneurship in the countryside as unplanned and uncoordinated (Huang, 2008). In response, by the mid-1980s national land use policy was framed around strict control, including the requirement to protect farmland as stated in the PRC's Land Administration Law (LAL):

> Article 1 The law is formulated … with a view to strengthening the administration of land, safeguarding the socialist public ownership of land, protecting and developing land resources, ensuring a rational use of and giving a real protection to cultivated land to promote sustainable development of the socialist economy…
>
> (SCNPC, 1998 [1986])

A review of land administration legislation and policy documents is provided by Wang and colleagues (2010) starting with the promulgation of the original LAL in 1986. A separate study by an official MLR-led team discusses policy starting from 1996 (Wang *et al.*, 2012). National land use policy did not resolve conflicts of interest that emerged with the shift to regionally-based development of industrial zones and pro-urbanization programs in the mid-1990s. A policy of 'Strict Cultivated Land Protection and Developed Land Control' was proposed in the 'Notice about the Enhancement of Requisition-Compensation of Cultivated Land' in 1997 and a policy of 'Equilibrium of Requisition-Compensation of Cultivated Land' operated from 1999 after the LAL was revised in 1998 [13]. Equilibrium policy required that any loss of cultivated land to other uses must be compensated by the generation of a similar area of cultivated land from other use types. Units taking land were responsible for replacement or for paying local government agencies to generate replacement land (Figure 2). Conflicts between policies for preserving cultivated land while promoting industrial and urban development locally intensified.

National Land Use Planning to run from 1997 had set a target for the total area of 'basic' (higher-quality) cultivated land to be left untouched at 80 per cent in every Province and County, meaning that a maximum of 20 per cent (of lesser-quality) cultivated land could be converted to other land uses, but only if it was replaced. The replacement cultivated land had to be generated through land development, land consolidation and land reclamation schemes to maintain a 'dynamic' balance, where policy allowed no net increase of developed land on cultivated land. There was lack of co-ordination of policy and funding across government agencies with conflicting, competing interests nationally and locally (Zhang, 2000). Local government replacement schemes did not focus on quality. Nor were there incentives to reduce the waste of land already developed through recycling of damaged, abandoned, idle or unused urban land. In practice, an 'equilibrium' between total areas of cultivated and developed land only meant that 'fixes' had to be found by government locally. Agreed planning targets and planning configurations failed. There was a proliferation of illegal land use.

[13] Those policies were re-emphasised in guidance for 'Evaluating Method on the Equilibrium Requisition-Compensation of Cultivated Land' in 2006 and 2007. In response to the global economic slowdown, policy changed to endorse a 'double-maintenance' strategy of 'Maintain Both Economic Development and Land Resources Conservation' or 'Maintain Both Development Rate and Red Line' in 2008.

5.4 Capitalization of farmland

It may have been at odds with protecting farmland, but an integrated mode of land and finance pushed forward industrialization and urbanization in China. Expropriation of collectively-owned farmland by local governments became the main method for increasing the stock of urban developed land, which led to the phenomenon of 'land finance'. To illustrate, according to the MLR the amount of expropriated land in the period from 2003 to 2005 totalled 850 thousand hectares. The average land compensation fee paid to farm collectives was 0.52 million yuan per hectare[14]. That was the nominal cost to local governments for ownership through change of designated land use. However, the amount of urban developed land transferred by local governments on the 'urban-land-market' during the same period was 540 thousand hectares at an average lease income of 3.25 million yuan per hectare. That was the price charged by local governments to developers for urban land use rights of 40 to 50 years[15]. Land requisition financed the fiscal deficits of local governments and supported urbanization. As well as the immediate returns, it was also clear that not all requisitioned land was being released onto the 'market'. Local government was able to monopolise the supply of urban land and use rights: it controlled planning, entered pre-agreements, arranged auctions and timed its release to developers.

Capital accumulation based on rural land resources has played a major role in the Chinese context, showing an increasing rather than decreasing trend up to 2008. The fiscal system delegated power to local governments after 1994 while reinforcing the central government's control of the macro-economy. Conflicts of interest were evident within and between government agencies due to administrative setups and financial systems. Capitalization of rural land resources became a key driver of local government socio-economic development. The returns boosted local officials' performance; for example, the proportion of 'land finance' revenue within total fiscal revenue of local governments had increased to well over 40 per cent by 2009 compared with less than 10 per cent a decade earlier in 1999. Post-2008, increasingly cash-strapped local governments secured loans on land assets in efforts to maintain performance.

5.5 Effects of 'land finance' on farmers

Development through 'land finance' hurt farmers badly because of the practices used by local government agencies to requisition collective land and the means of compensating individual farmers that were managed through officials and cadres representing affected collectives (MLR, 2003; Lu and Ye, 2005). Beyond requisition and compensation practices, there were basic conflicts between the operation of the land allocation system and agricultural land tenure policy (Wang, Tong, Su *et al.*, 2011). The State Council and CPC were just as concerned about the effects on farmers as they were about effects on farming (Dean and Damm-Luhr, 2010). A nationwide survey found that 'land-takings' had significant effects on farmers' production planning and their farm investments because of uncertainty over contracts and land use rights (Zhu, Prosterman, Ye, *et al.*, 2006); but much more than that, the operation of the land requisition system and the methods used to compensate farmers affected by it were a major cause of social discontent.

A case study of the experiences of farmers who were resettled to live on the margins of one provincial city explains reasons for and reactions to social discontent (Hongping, 2011). The land of the farmers' agricultural collective had been expropriated and re-designated for industrial and urban development. Farmers appealed about the illegitimate behaviour of local officials and cadres; they did not object about national policy of the State Council and Party. It was local officials' decisions on compensation that seemed to be against statutory guidelines, made arbitrarily and managed second-hand through the Farm Collective or through the Street Agency that had replaced it. The farmers' complaints were ignored and their petitions about injustices and abuses had to be funnelled through the appeals' system of the State Bureau for Letters and Visits (Wang, 2003; Zhou, 1998). They were not able to use the courts or the media, and any co-ordinated action outside of the institutions of the State was proscribed (Zhou, 1993). Appeals were supposed to be considered by the local offices of the State Bureau for Letters and Visits on an individual, case-by-case basis only. Nonetheless, persistent, collective appeals to higher

[14] That was paid to agricultural collectives and not directly to farm households.
[15] Developers rather than local government would be asked also to meet other costs such as of replacement land.

authorities over a four-year period caused an investigation and review of procedures locally, and compensation policies and payments to farmers were revised on a number of occasions.

Farmers in the case study were able to pressure local officials by appealing to higher authorities, who in turn used the appeals' system to monitor their subordinates' behaviour, while also expecting those same officials to contain the situation locally without hurting economic growth. Imperatives for local officials were to save face and avoid sanctions through internal disciplinary procedures for poor performance and wrongdoing that would harm their careers. In the end, the farmers' recourse to the appeals system of the State Bureau for Letters and Visits led to increasing confrontation between farmers and officials, and ultimately, outright conflict. Farmers were quieted once local officials became belligerent. In the end, the state's mechanisms for managing social discontent among farmers caused by the 'land finance' model of local socio-economic development proved ineffective and dysfunctional.

6. Discussion

The terms 'effective' or 'dysfunctional' might suggest one smooth process with one clear purpose. The present study shows that China's land use policy has changed to respond to reforms already underway, for example, central policy to manage what was seen as increasingly out-of-control entrepreneurial development in the countryside of the 1980s. The establishment of the MLR, national planning and monitoring and the revised LAL can be seen as responding to the effects of the new, regionally-based socio-economic development model of the 1990s. That set land taken for construction at odds with the dictum to protect the nation's farmland. Local governments were able to control land use markets to the detriment of farmland and farmers.

What is now seen as dysfunctional is a gross (and inequitable) expropriation of farmers' land for the sake of financing regionally-based growth, industrialization and urbanization, a form of accumulation that was effective for its purpose at that time. From the viewpoint of local officials, that they 'abused' land requisitioning and also the many farmers affected by it, is not really the case; they had simply used a devolved finance model that enabled them to do what was required of them. They financed local development using the revenue increment of development itself as collateral to secure development loans based on the conversion of farmland for urban construction. From their viewpoint, they had no other budgetary options available despite being required to meet development targets.

Central government reacted with control mechanisms intended to mitigate the effects on farmland and farmers of the regionally-based development model through 'land finance' that they had set in train. Losses of farmland were managed through an 'equilibrium requisition-compensation' policy, but with conflicts of interest within and among local government agencies. The policy was further compromised by the needs of local governments to respond to the economic slowdown after 2008. China's National Audit Office most recently reported debts of 17.7 trillion yuan (2.9 trillion USD), 70 per cent higher from 2009 (BBC, 2013). That gave an estimate of total government debt at about 58 per cent of national economic output in 2013, still less than half the debt burden in Japan, for example, but the pace of China's rising debt burden was alarming. It appeared a 'land finance' model was no longer sustainable.

Post-2008, under the previous leadership team, the State Council and CPC had responded by issuing policy documents said to be a 'breakthrough' in rural reform to increase farmers' incomes and ensure the grain supply. However, in addition to macro-control policies and legislative reform by central government, to be effective national rural land use policy must consider the political economy of agriculture (farm income, farming skills, off-farm work, rural finances and public welfare schemes) as equally important in safeguarding farmland and farm livelihoods.

7. Conclusion

The third Plenary Session of the 18th CPC Central Committee was held 9-12 November 2013. The expectation was that the policy direction of the new leadership team would be made public. The Secretary General, President Xi Jinping, announced its 'Decision on Major Issues Concerning Comprehensive and Far-reaching Reforms'. Proposed reforms were said to include a shift away from local governments' monopoly of development to incorporate more market-based control through the use of financial levers and the redistribution of secondary income from local finances to narrow the gap between urban and rural

households. Adjustments to the 'hukou' system were also mooted to resettle farm households as urban residents, although restricted to small and medium-sized cities only, giving households new access to social benefits within a different but still controlled approach to urbanization. It was said rural land reform would be part of the package, too, including improving farmers' property rights and introducing rural developed land use rights markets for farmers to mortgage and lease. Yet the very first step remains unfinished: to confirm and register farmers' current use rights and contracts. Nationwide surveys suggested fewer than one-half of farmers possess those.

The Politburo of the Party's Central Committee met in December to discuss current and future economic development and the new reform agenda that had been outlined in November. The meeting also heard the research report of the second national land survey from 2008 to 2010[16]. In its concluding statement, it stated that, 'the strictest farmland protection system must be carried out in the country to ensure grain security' (Xinhua, 2013). We can see a new socio-economic development model emerging in China, as the previous development model and devolved fiscal system are no longer sustainable, but with continuing central political control.

8. References

Aubert, C. (2008). Food security and consumption patterns in China: The grain problem. *China Perspectives*, *2*, 5-23.

Bachman, D. (2006). *Bureaucracy, economy, and leadership in China: The Institutional Origins of the Great Leap Forward*. Cambridge University Press, Cambridge.

BBC. (2013). China local government debt surges by 70%. Retrieved January 1, 2014, from http://www.bbc.co.uk/news/business-25553058

Bian, Y. (1991). *The Time is not yet ripe: Contemporary China's best writers and their stories.* Beijing: Foreign Language Press.

Cai, Y. L. (1990). Land use and management in PR China: Problems and strategies. *Land Use Policy*, *7*(4), 337-350.

Chen, H. Y. (2011). *An introduction to the legal system of the PRC* (4th ed.). Hong Kong: LexisNexis.

Chen, J. (2007). Rapid urbanization in China: A real challenge to soil protection and food security. *Catena, 69*, 1–15.

Christiansen, F. (2009). Food security, urbanization and social stability in China. *Journal of Agrarian Change*, *9*(4), 548-575.

China State Land Administration Bureau (CSLAB). (1996). China Land Yearbook (1994-1995). Beijing: People's Publishing House.

China State Statistical Bureau (CSSB). (2000). New China's 50 Years (1949-1999). Beijing: China State Statistical Press.

----------. (2009). China Statistics Yearbooks (2000-2008). Beijing: China State Statistical Press.

Dean, R., & Damm-Luhr, T. (2010). A current review of Chinese land use law and policy: A 'breakthrough' in rural reform? *Journal of Pacific Rim Law and Policy*, *19*, 121-159.

Deng, X., Huang, J., Rozelle, S., & Uchida, E. (2006). Cultivated land conversion and potential agricultural productivity in China. *Land Use Policy*, *23*(4), 372-384.

Ding, C., 2003. Land policy reform in China: assessment and prospects. *Land Use Policy*, *20*(2), 109-120.

Feng, Z. M., Liu, B. Q., & Yang, Y. Z. (2005). A study of changing trend of Chinese cultivated land amount and data re-constructing: 1949-2003. *Journal of Natural Resources*, *20*(1), 35-43.

Han, S. S. & He, C. X. (1999). Diminishing farmland and urban development in China (1993–1996). *Geo Journal*, *49*(3), 257-267.

Han, S. S. & Wong, S. T. (1994). The influence of Chinese reform and pre-reform policies on urban growth in the 1980s. *Urban Geography*, *15*, 537-564.

[16] The results of the survey had not been issued. China's first national survey was in the 1990s (Liu, 2000).

Ho, S. P. S., & Lin, G. C. S. (2004). Converting land to non-agricultural use in China's coastal provinces—evidence from Jiangsu. *Modern China*, *30*(1), 81-112.

Hongping, L. (2011). *The relationship between land-lost farmers and regional government in China: Integration, conflict, and their interplay* (Unpublished doctoral dissertation). University of Aberdeen. Retrieved January 1, 2014, from www.ethos.bl.uk

Huang, Y. (2008). *Capitalism with Chinese characteristics: Entrepreneurship and the state*. NY: Cambridge University Press.

Li, K. (2012). Seminar of Cadres at provincial and ministerial level on promoting urbanization September 7. *Promoting Co-ordinated Urbanization-an Important Strategic Choice for Achieving Modernization, Speech*. Central Organization Department. Chinese Academy of Governance and the National Development and Reform Commission.

Li, P. (2005). China's current grain security in context of food security. *Chinese Rural Economy*, June, 4-10.

Li, W., Feng, T. T., & Hao, J. M. (2009). The evolving concepts of land administration in China: Cultivated land protection perspective. *Land Use Policy*, *26*(2), 262-272.

Lin, G. C. S, & Ho, S. P. S. (2003). China's land resources and land use change: Insights from the 1996 land survey. *Land Use Policy*, *20*(2), 87-107.

Lin, J. Y. (1992). Rural reform and agricultural growth in China. *American Economic Review*, *82*(1), 34-51.

Liu, W. X., & Yang, D. S. (1990). China's land use policy under change. *Land Use Policy*, *7*(3), 198-201.

Liu, Y. (2000). *China's survey of land resources: Results*. Beijing: Office of the National Survey of Land Resources.

Long, H., Li, Y., Lui, Y., Woods, M., & Zou, J. (2012). Accelerated restructuring in rural China fuelled by 'increasing vs. decreasing balance' land-use policy for dealing with hollowed villages. *Land Use Policy*, *29*(1), 11-22.

Lu, Q., & Ye, X. (2005). Reflection on the arrangements and compensation for land-lost farmers. *Journal of South China Agricultural University*, *2*, 9-14.

McGregor, R. (2012). *The Party* (Revised Edition). London: Penguin Books.

Meisner, M. (1999). *Mao's China and after: A History of the People's Republic*. New York: Simon & Schuster.

Miller., A. (2009). The preparation of Li Keqiang. *China Leadership Monitor, 31*, 1-7.

Ministry of Land and Resources of the PRC (MLR). (2003). Report of the MLR's Land Requisition System Reform Research Group. *National Land and Resources Information*, *11*, 48-55.

----------. (2008). Laws – Management and Legal System for Land Resources. Retrieved July 27, 2013, from http://www.mlr.gov.cn/mlrenglish/

Perkins, D. H. (1991). China's economic policy and performance. The Cambridge History of China, Volume 15: The People's Republic. In R. MacFarquhar & J. K. Fairbank (Eds.), *Revolutions within the Chinese Revolution, 1966-1982* (475-539). Cambridge: Cambridge University Press.

Ravallion, M., & Chen, S. (2004). China's (Uneven) Progress Against Poverty. *World Bank Policy Research Working Paper 3408*. Retrieved June 11, 2013, from http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-3408

Ren, W., Zhong, Y., Meligrana, J., Anderson, B., Watt, W. E., Chen, J., & Leung, H. (2003). Urbanization, land use and water quality in Shanghai: 1947-1996. *Environment International, 29*(5), 649–659.

Standing Committee of National People's Congress. (1998). Land Administration Law of the PRC. Retrieved June 11, 2013, from http://www.fdi.gov.cn/1800000121_39_2777_0_7.html

----------. (2002). Law on Land Contract in Rural Areas of the PRC, promulgated 29 August 2002. Retrieved July 27, 2013, from http://www.china.org.cn/china/LegislationsForm2001-2010/2011-02/12/content_21907969.htm

----------. (2004). Constitution of the PRC, promulgated 4 December 1982 (amended 1988, 1993, 1999 and 2004). Retrieved June 11, 2013, from http://www.fdi.gov.cn/1800000121_39_1561_0_7.html

Standing Committee of National People's Congress. (2007). Property Rights Law of the PRC, promulgated 17 March 2007. Retrieved July 27, 2013, from http://www.fdi.gov.cn/1800000121_39_3313_0_7.html

Tan, M., Li, X., Xie, H., & Lu, C. (2005). Urban land expansion and arable land loss in China: Case study of the Beijing–Tianjin–Hebei region. *Land Use Policy*, *22*(3), 187–196.

Tang, Y. B. (1989). Urban land use in China: Policy issues and options. *Land Use Policy*, *6*(1), 53-63.

Walder, A. G. (1996). *China's transitional economy*. Oxford: Oxford University Press.

Wang, F. (2005). Organizing through divisions and exclusion: China's hukou system. Palo Alto, CA: Stanford University Press.

Wang, Y. (2003). An analysis of the eight central issues of people's complaints. *Biweekly Forum*, *21*, 23-26.

Wang, H., Tong, J., Su, F. B., Wei, G.X., & Tao, R. (2011). To reallocate or not: Reconsidering the dilemma in China's agricultural land tenure policy. *Land Use Policy*, *28*(4), 805-814.

Wang, J., Chen, Y. Q., Shao, X. M., Zhang, Y. Y., & Cao, Y. G. (2012). Land use changes and policy dimension driving forces in China: Present, trend and future. *Land Use Policy*, *29*(4), 737-749.

Wang, M. N., Liu, X., & Wanag, B. (2010). Changing and developing trend of the farmland requisition-compensation policy in China. *Asian Agricultural Research*, *2*(10), 18-23, 28.

Xinhua, (2013). China looks for further reform in 2014. Retrieved January, 2014, from http://news.xinhuanet.com/english/china/2013-12/03/c_132938606.htm

Xu, Z. L. (Ed.). (1996). *Food economy history of contemporary China*. Beijing: Chinese Commerce Press.

Yang, D. T. (2008). China's agricultural crisis and famine of 1959–1961: A survey and comparison to Soviet Famines. *Comparative Economic Studies*, *50*, 1–29.

Yang, H., & Li, X. (2000). Cultivated land and food supply in China. *Land Use Policy*, *17*(2): 73-88.

Yeh, A. G., & Wu, F. (1996). The new land development process and urban development in Chinese cities. *International Journal of Urban and Regional Research*, *20*(2), 330-353.

Yin, P., 2014. Feeding the future. Beijing Review 57(1), 1-2. Retrieved January, 2014, from http://www.bjreview.com.cn/print/txt/2013-12/30/content_587744.htm

Zhang, T. (2000). Land market forces and government's role in sprawl: The case of China. Cities,17(2), 123–135.

Zhang, X. Q. (1997). Urban land reform in China. Land Use Policy, 14(3), 187–199.

Zhou, K. X. (1996). *How the farmers changed China: Power of the people*. Boulder: Westview Press.

Zhou, X. (1993). Unorganized interests and collective action in Communist China. *American Sociological Review*, *58*, 54-75.

Zhou, Z. (1998). *A record of people's appeals in China*. Beijing: Chinese Workers Press.

Zhou, Z. Y. (2010). Achieving food security in China: The past three decades and beyond. *China Agricultural Economic Review*, *2*(3), 251-275.

Zhu, K., Prosterman, R., Ye, J., Li, P., Riedinger, J., & Ouyang, Y. (2006).The rural land question in China: Analysis and recommendations based on a seventeen province survey. *Journal International Law and Politics*, *38*, 761-839.

Zhu, N. (2013). Xinhua Insight: Rural reform step by step. Retrieved November, 2013, from http://news.xinhuanet.com/english/china/2013-11/16/c_132893357.htm

RJSH Vol. 1, No. 2, July – December 2014, pp.15-27

Introduction of a Progressive Consumption Tax in Italy in Order to Restore the Pre-crisis Level of Real Disposable Income

Abi Dodbiba[1], Mikaela Gad[2], and Federico Papa[3]

[1]Radboud Univerisity Nijmegen, The Netherlands, Email: abi.dodbiba@gmail.com
[2]Radboud Univerisity Nijmegen, The Netherlands, Email: gmikad@gmail.com
[3]University of Palermo, Italy, Email: federico_papa@hotmail.com

Submitted 12 March 2014; accepted in final form 30 May 2014

Abstract

This paper aims to investigate the decline of disposable income experienced by Italian citizens since the outbreak of the international financial crisis, and to suggest a potential solution for its return to pre-crisis levels. Data shows that from 2000 to 2013, real disposable income has gradually decreased, causing a worsening of living conditions for Italian citizens. This indicates, on the one hand, an increase in the number of people living on a lower living standard compared with the pre-crisis years and, on the other hand, an increase in the budget deficit due to a decrease in tax revenue collected by the Italian government caused by a contraction of consumption. The analysis presented in this paper is based on the System Dynamics (SD) methodology. More specifically, a causal model is initially developed and subsequently transformed into a simulation model that captures the dynamic relationship between the decline in disposable income and the actual taxation system and respective revenue. Therefore, particular attention is devoted to taxation. By definition, when net taxes increase, disposable income decreases. The paper proposes a shift toward a system based mainly on a progressive consumption tax that aims to mitigate the trade-off between the government's need for tax revenue and the citizenry's need for higher disposable income. The result of the SD simulation shows that this reform would promote economic growth and re-launch the country's competitiveness. Explicitly, the SD simulation shows that a radical reform of the taxation system would expand the tax base, relieve low-income families, (potentially) reduce tax evasion, and help in restoring the disposable income of Italian citizens.

Keywords: *disposable income, consumption tax, tax evasion, public debt, savings, System Dynamics*

1. Introduction

Since the explosion of the international financial crisis in 2008, many of the world's economies have been seriously affected, and they have attempted in different ways to overcome the consequences of the crisis. Such attempts were not undertaken only in what are traditionally considered the most fragile economies within the euro zone. For instance, among the strongest economies within the EU hit by the crisis was that of the Netherlands. Since the end of 2008, Dutch private consumption dropped 2.5% (2009); business investment fell 18.2% (2009); and the unemployment rate continued to rise steadily until 2013, when it reached 5.7% (from 3.07% in 2008). To fight the consequences of the crisis, the Dutch government launched several economic stimulus packages that weakened the state's finances. The measures that were intended to promote a sustainable economy included reviving and maintaining employment, supporting businesses, and accelerating investments in infrastructures and housing. About EUR 90 billion (15% of GDP) was spent on trying to revitalize the financial sector. At the end of 2012, public debt totalled about 60% of GDP and, according to recent estimations, will rise further in the coming years. As presented in numerous studies and surveys[1], from 2008 to 2013 Italy has experienced different consequences of the crisis, the most visible of which has been the shrinking of disposable income and, as a result, a decline in living standards. Most recently, public attention has been concentrated not only on Italy, but also on other EU member countries such as Ireland, Portugal, Spain and Greece[2]. The crisis in these countries has followed a similar pattern as in Italy with very important implications, not only for the countries themselves, but also for the common market of the EU. In fact, it has been a mutual concern of other EU member states to find a joint optimal solution (Freedman *et al.*, 2010). However, the discussion has been

[1] See http://www.imf.org/external/pubs/ft/survey/so/2012/car071012a.htm
[2] For more details, check http://ec.europa.eu/economy_finance/publications/publication15887_en.pdf

mainly focused on the macroeconomic level and rarely on an individual (i.e., per capita) level; rarely do such discussions comment on what is happening to the income of Italian citizens.

There are numerous consequences of the current financial crisis in Italy. One of the most visible is the change in the Gross Domestic Product (GDP), which in 2012 fell by 2.40% compared to the level of the previous year. From 2008 to 2013 unemployment rate has almost doubled, rising to the actual rate of 12.9%, while in the same time span youth unemployment, concerning individuals aged between 15 and 24 years, rose to 42.3%. In such a context, it is crucial to try to understand what is happening to the welfare and purchasing power of Italian citizens as measured through changes in real disposable income. Previously, for instance in 2002, GDP per capita was EUR 26,942 and it continued to grow steadily to EUR 31,800 in 2008, when the financial crisis erupted and the Italian economy suffered a serious decline. A partial recovery occurred in 2010 and 2011, but in 2012 the decline in GDP per capita resumed, falling to EUR 30,600[3]. Today, Italy's GDP is well below the level of the other G8 economies[4]. The country is experiencing a serious fiscal crisis; government debt is 134.5% of GDP. Furthermore, the crime rate and the number of homeless people are increasing. Moreover, the rate of Italian citizens (mostly people aged between 24 and 35 years) who leave the country to seek more favourable job markets continues to grow steadily.

The governmental responses to these problems have been numerous in different economies (Di Noia and Micossi, 2009). With regard to Italy, the government cannot use its old techniques of devaluing its currency to increase the competitiveness of its products worldwide; nor can it act on interest rates, i.e., lowering them to stimulate investment and consumption. Rates are now decided by the EU Central Bank, while the value of the currency, the euro, is decided on international foreign exchange markets. Because of this, a tax reform based on the introduction of a consumption tax could be a valid instrument in the hands of the Italian government in order to broaden the tax base, thus allowing the revitalization of the Italian economy through a recovery of consumption.

In this work, by using a computer simulation model, it will be shown how the introduction of a progressive consumption tax[5] will influence the welfare of the average citizen. The OECD[6] defines a consumption tax as a tax paid "in respect of the enjoyment of final goods and services in the country in which they are consumed". Many economists (Frank et al., 2010) agree that a consumption tax system is fairer than an income-based one and easier to administer. Therefore, through tax reform based on the introduction of a consumption tax, the Italian government would be able to rely on extra revenue from a larger base of citizens paying taxes and, as a consequence, be able to reduce income taxes and alleviate the tax burden imposed on households and firms. Therefore, this would allow low-income families to have more revenue to finance their daily consumption, thereby sowing the seeds for a progressive recovery of the Italian economy. In conclusion, the increase in tax revenue with a reduction in tax evasion, which would be easier to control with a system of taxation based on consumption, would in the long term lead to a progressive reduction of the country's enormous debt burden[7].

2. Objectives

In the literature dealing with the consequence of the financial crisis and its effects on the Italian economy, not much has been said about changes in purchasing power. In general, many of the articles focus on how to balance the level of debt, rather than on the decrease in purchasing power of Italian citizens.

[3] See http://mecometer.com/whats/italy/gdp-ppp/

[4] The Group of Eight (G8) was a forum for the governments of the world's eight wealthiest countries (France, Italy, USA, UK, Russia, Japan, Germany and Canada). As of April 2014, Russia was expelled by the original G7 members over its annexation of the Crimea region of the Ukraine

[5] In this paper, a progressive consumption tax is intended as a consumption tax applied in brackets. We distinguish between basic consumption, generic consumption and luxury consumption. Each type will be taxed at a different rate, with basic consumption having the lowest one and luxury consumption having the highest rate.

[6] The Organization for Economic Cooperation and Development (OECD) is an international organization focused on economic and social issues. OECD member nations are developed countries that share a commitment to the principles of democratic government and free market economics.

[7] See http://www.bancaditalia.it/eurosistema/comest/pubBCE/mb/2012/aprile/mb201204/articoli_04_12.pdf

Therefore, the main objective of this paper is to show that the tax reform proposed in this study can be advantageous to the Italian economy, both from national and international perspectives. At the national level, this reform would enlarge the tax base and allow a gradual recovery in consumption that, in the long run, would reduce the level of public debt. In turn, this would produce effects at the international level by increasing the level of confidence among foreign investors in the potential of the Italian economy to come out of the financial crisis and restore the pre-crisis levels of public welfare.

Previously, to restore the country's economy and regain international confidence, EU member states granted Italy a package of austerity measures composed of a bailout allocation and accompanying measures such as privatization of some public assets. However, no clear debt repayment schedule was set. In this regard, the Wall Street investment firm Morgan Stanley noted that "Italy runs the risk of being too big to save" [8]. Italy's debt would diminish if it could drastically reduce spending through austerity programs, but the plan would backfire if it were implemented during periods of weak or negative economic growth. The alternative would be to stimulate growth so that the debt would shrink in relative terms, but unfortunately, Italy has always been a growth laggard[9]. The International Monetary Fund, which is monitoring Italy's debt reduction and economic reform efforts, announced in Country Report No. 12/167[10] that Italy's economy showed one of the worst performances among advanced economies (2012). The option of privatization, although tempting, would require a degree of innovation to make assets with low market value attractive. Therefore, it seems highly likely that different taxation schemes will be used to repay the debt. For all these reasons, the authors believe that only a taxation reform implemented according to the principles of the Social VAT could succeed in the difficult attempt to revive the Italian economy (Langot, Patureau and Sopraseuth, 2011). The base to which consumption taxes can be applied is very large and includes imports, giving the Italian economy some recovery time by making domestic goods more attractive compared with imported goods. This would promote growth and, in due time, relieve the debt burden.

To show the results of such an option, the authors will use a computer simulation model to illustrate some implications of the introduction of a consumption tax. The model is built according to the real structure of the Italian economy, with certain important boundaries: it does not account for inflation, the influence of the private sector on taxes or the relation to the labour market.

3. Methodology

In trying to solve the problem explored through this paper, we made reference to different published works, academic papers and blog entries by experts in the field. Therefore, the main research methods used to answer the research question were literature review, the analysis of publications, as well as System Dynamics modelling and simulation. The data used for this analysis are from the Annual Macro-Economic (Ameco) Database[11]. The Ameco database provides access to the annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs.

As mentioned above, one of the outputs of this research is the development of a quantitative System Dynamics (SD) model that will be used to run simulations on a virtual representation of the Italian economy. It will help in assessing the effects of introducing a consumption tax as a tool to increase real disposable income and to test the sustainability of the suggested policy in the medium to long term.

System Dynamics is a methodology used to verify the effects of the policy suggested in this study and its sustainability in the long run. System Dynamics was invented by Jay W. Forrester in the 1960s at the Massachusetts Institute of Technology as a modelling and simulation methodology for the long-term decision-making analysis of industrial management problems (Kirkwood, 1998). Forrester's System Dynamics methodology provides a foundation for constructing computer models "to do what the human mind cannot do" (Forrester, 1968), i.e., to rationally analyse the structure, the interactions and mode of behaviour of complex technological and environmental systems. The method is capable of dealing with

[8] Read more in http://www.morganstanley.com/views/gef/archive/2011/20111215-Thu.html
[9] For more details, see Economic Crisis in Europe: Causes, Consequences and Responses, Economic and Financial Affairs, European Union, 2009.
[10] Retrived from https://www.imf.org/external/pubs/ft/scr/2012/cr12167.pdf
[11] See EC Ameco Database: http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm

assumptions about system structures in a stringent fashion, and particularly for monitoring the effects of changes in sub-systems and their relationships. System Dynamics "is based on a feedback concept of control theory and shows how the feedback loops simulate dynamic behaviors" (Bala, 1999). Validation of the model "is considered necessary so as to compare the model results with historical data and to check whether a model demonstrates plausible behaviour" (Sterman, 2000).

4. The model

The authors began constructing the model by defining the dynamic hypothesis: a decline in (real) disposable income (i.e. a decline in citizens' purchasing power) has many implications, not only for their welfare in the short run, but also in the long run (for instance, at the moment of retirement), as well as other potential political implications due to the dissatisfaction of the citizens/voters. [12] A fundamental measurement for income is real disposable income, which is defined as the amount of money available to be spent and/or saved by households, adjusted for price changes over time. This amount is calculated by the real income reduced by taxes, adjusted for inflation, and meant to be used partly for consumption and partly for savings. As Figure 1 shows, net disposable income per capita, i.e., the taxed real disposable income expressed in per capita terms, steadily increased from 2000 to 2008, and after a fluctuation 2010 and 2011, it started decreasing. It is easy to understand that this decrease makes average Italian citizens worse off; they now have less to spend and/or save.

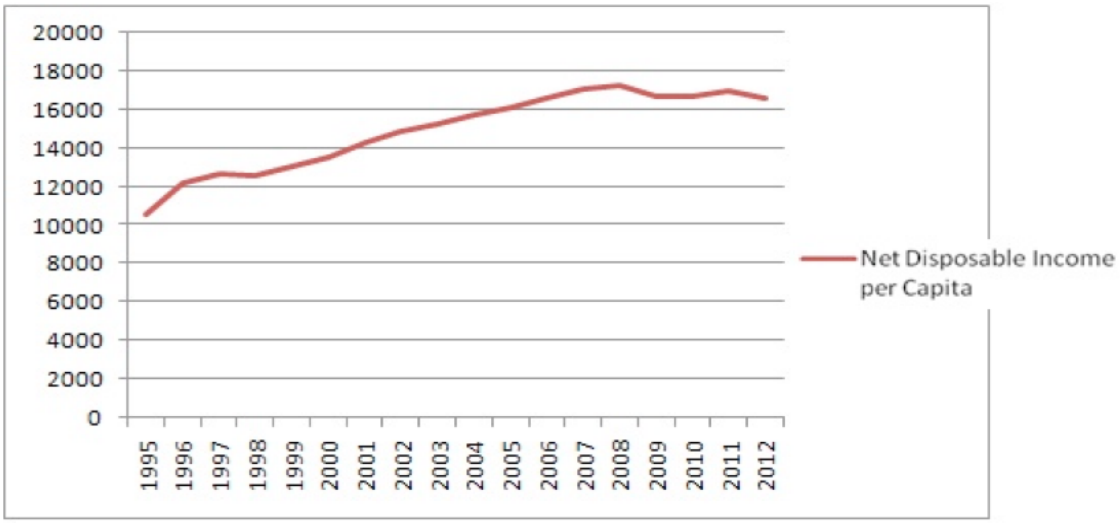

Figure 1 Net Disposable Income per capita. Source: EC Ameco Database (2014)

Lower real income means lower purchasing power, defined as the value of a currency in terms of the amount of goods or services that one unit of money can buy. The consequences of these facts are several. On the one hand, the living standard of people has decreased, creating the fear that the number of people living below the poverty line and lacking the resources to fulfil their basic needs will substantially increase. On the other hand, the Italian government faces an increase in its budget deficit, as inflows generated by the collection of taxes have decreased due to lower consumption. A further loss of confidence by citizens and foreign investors could prove lethal to the Italian economy[13].

The described behaviour of net disposable income per capita is clearly unsatisfactory. It is evident from the above definitions that the goal would be to have increasing net disposable income. We shall attempt to explore if and how one would be able to achieve this goal. Firstly, we need to assess how

[12] For further information, http://www.oecd.org/italy/economicsurveyofitaly2011.htm
[13] Read more in http://www.imf.org/external/pubs/ft/survey/so/2011/CAR071211B.htm

different factors interact in creating a joint effect on net disposable income. The main stock[14] in the model is called Saving (see Figure 2). Three flows affect this stock: the Earning Rate, Income Tax Payments, and Expenses and Consumption. The stock of Saving is consistent with the above-mentioned definition of disposable income: after income has been taxed, part of it is spent and part of it is accumulated in Saving. The Earning Rate comprises all sources that generate income. Ceteris paribus, an increase in earnings clearly increases savings and income: the greater the income, the more available to spend and/or save. The main driver behind the increase in income is salary.

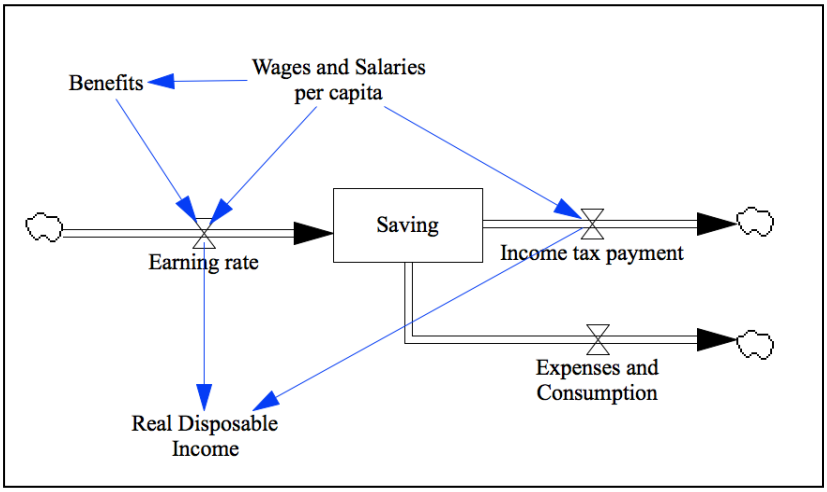

Figure 2 Main stock of the model

Generally speaking, salary is a function of two main components: the minimum salary for which employees will work and the amount employers are willing to pay to keep workers employed. Therefore, parts of the job retribution are also benefits and other forms of compensation. Other components of income are property income and transfers received that, for the sake of simplicity, have all been added under the same variable of Wages and Salaries.

In Table 1, data regarding the yearly Wages and Salaries in Italy between 2000 and 2013 in per capita terms are presented. As we can see, there is a decrease in Wages and Salaries in 2009, a slight increase in 2010-2011, and a decrease thereafter.

Table 1 Wages and salaries (in per capita/year terms)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wages and salaries (in €)	5994	6336	6609	6810	7024	7351	7708	7959	8177	8057	8151	8272	8243	8155

Source: EC Ameco Database (2014)

[14] In System Dynamics methodology, while Causal Loop Diagrams aid in visualizing a system's structure and behavior, and analyzing the system qualitatively, stock and flow models help in studying and analyzing the system in a quantitative way. Stock (also known as levels, accumulations, or state variables) is any entity that accumulates or depletes over time. Flows are the rate of change in a stock, defining how values of stocks change in time and thus define the dynamics of the system.

The second flow changing the main stock considered herein is that of Expenses and Consumption. As shown in Table 2, the per capita yearly consumption increased until 2008, decreased in 2009, increased in 2010-2011, and decreased thereafter.

Table 2 Consumption (in per capita/year terms)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Consumption (in €)	12611	13025	13396	13828	14204	14623	15160	15589	15843	15510	15924	16300	16017	15754

Source: EC Ameco Database (2014)

According to Confcommercio[15], Italian consumers are anxious about their future and are spending less[16]. This new attitude towards consumption can be explained by three factors:

- Italian citizens expect to earn lower salaries,
- They are worried that they or another household member will lose their job, and/or
- They are paying off existing credit lines.

Consumption is being taxed under Indirect Taxation (in the model expressed in per capita terms) through VAT. Italy is among the countries where the tax burden has grown in the last decade, currently at the 44.6% of GDP. According to the Censis Report of 2013 "the payment of taxes makes that the 72% of Italian families live in a state of continuous anxiety"[17]. This increase, combined with lower per capita salaries, has caused consumption to stall, placing a heavy burden on lower-income families. Lastly, savings and disposable income decrease when the total taxes that need to be paid increase. In fact, taxation is the focus of our attention, since it is the factor that could be acted upon more quickly through a corrective policy. Taxes are composed of Direct and Indirect Taxation. The first is calculated as a portion of the Wages and Salaries collected by the government, whereas the latter is calculated as the proceeds of VAT on consumption. Their sum is part of the factors affecting government tax revenue and, in turn, government borrowing and debt.

[15] Confcommercio is an Italian organization representing companies engaged in trade, tourism and services (tertiary sector).

[16] For more details, http://www.confcommercio.it/-/pil-sotto-il-livello-del-2000-debito-record-crollano-i-consumi-delle-famiglie.

[17] The Censis (Centre for social investment studies), is a socio-economic research institute founded in 1964 that conducts study and consultancy activities regarding many aspects of Italian society with particular reference to welfare and labor market policies.

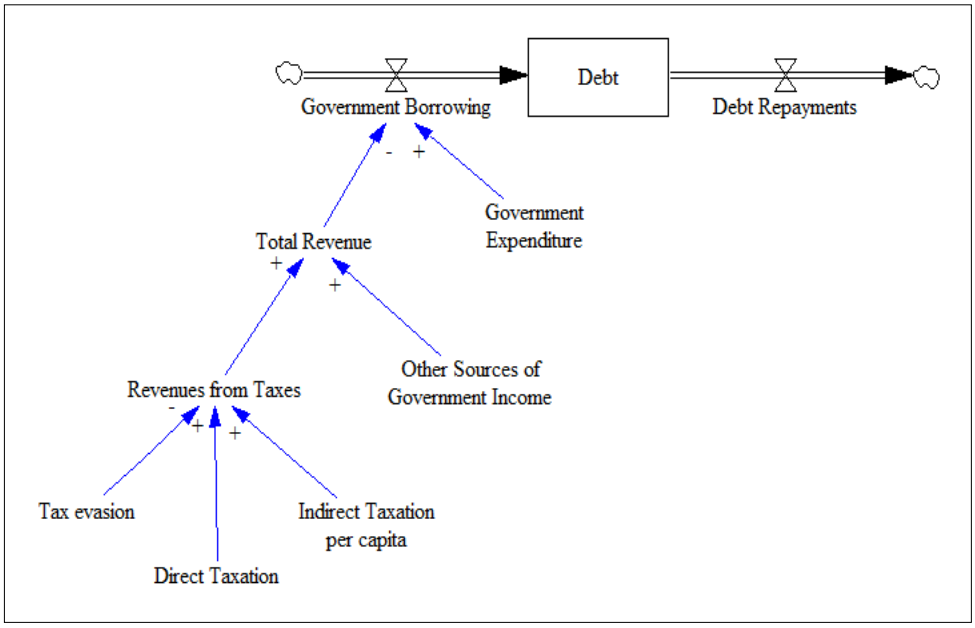

Figure 3 Debt definition

However, government tax revenue is affected by one more factor, namely tax evasion. Zizza (2002) has shown that tax evasion is difficult to quantify with precision. To estimate it for the simulation, we assumed a fixed yearly tax evasion rate. Finally, government tax revenue is given by adding direct and indirect taxes and subtracting tax evasion. Government revenue will be used to cover government expenditures, defining thus the need (or lack thereof) for government borrowing. The higher the government expenditure with respect to total revenue, the higher the government borrowing, thus causing government debt to rise. The debt can be decreased through debt repayments. From 2008 to 2014 the Italian public increased considerably (from 106% to 134.5% of GDP). The government's practice has been to use part of total revenues to repay debt, with the remaining part going toward government expenditures. However, more often than not, the expenditures could be fully satisfied only through additional borrowing, causing the debt to increase continuously.

To prevent the debt from increasing further, additional taxation measures have been introduced. Additional desired revenue is the amount that will be further taxed to decrease the debt (by reducing government borrowing through higher total revenue).

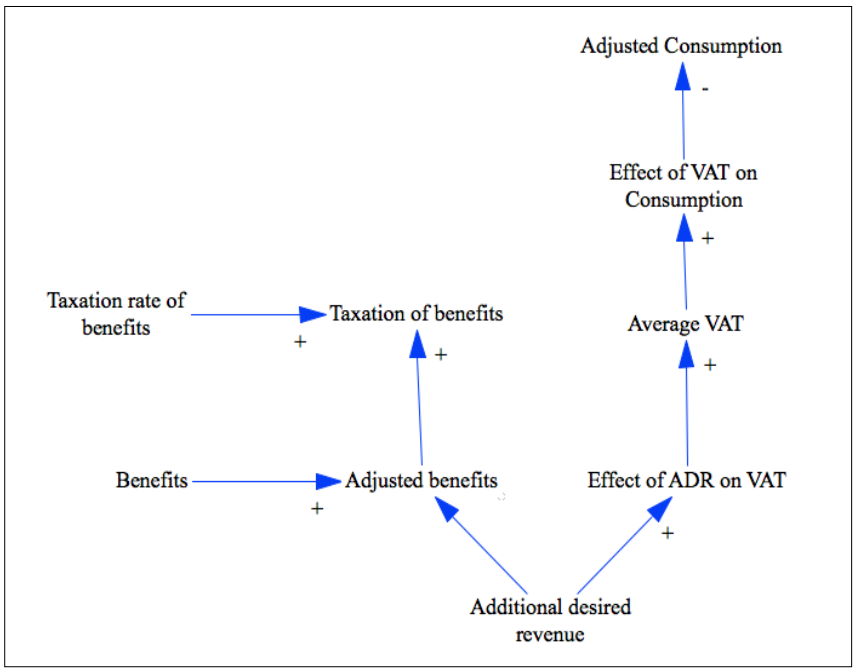

Figure 4 Additional desired revenue

Additional desired revenue affects both direct and indirect taxation: direct taxation through the taxation of benefits as shown on the left side of the diagram in Figure 4, namely by increasing income tax payments through taxation of benefits, and indirect taxation through addition of the VAT rate as shown on the right side of the diagram in Figure 4, namely by increasing the average VAT rate. Thus, an increase in the additional desired revenue causes consumption to decrease, as represented in the model by the adjusted consumption variable.

In Figure 5, a Causal Loop Diagram (CLD) depicts all the important variables and relationships that are captured in the model. Four loops can be identified: two are reinforcing loops and two are balancing loops (the green loops). It is the interaction among them that causes the behaviour of the model. As we can see, an increase in additional desired revenue will have two contradicting effects on government revenue: a tendency to increase from indirect taxation per capita and directly from income tax payments, and a tendency to decrease through benefits. By manipulating the dominance of each loop in the model, we can make each tendency more or less obvious. In any case, what becomes clear from this CLD is that the most important leverage point for policy makers in restoring disposable income is taxation: by reforming taxation, they can improve consumption as well as revenue.

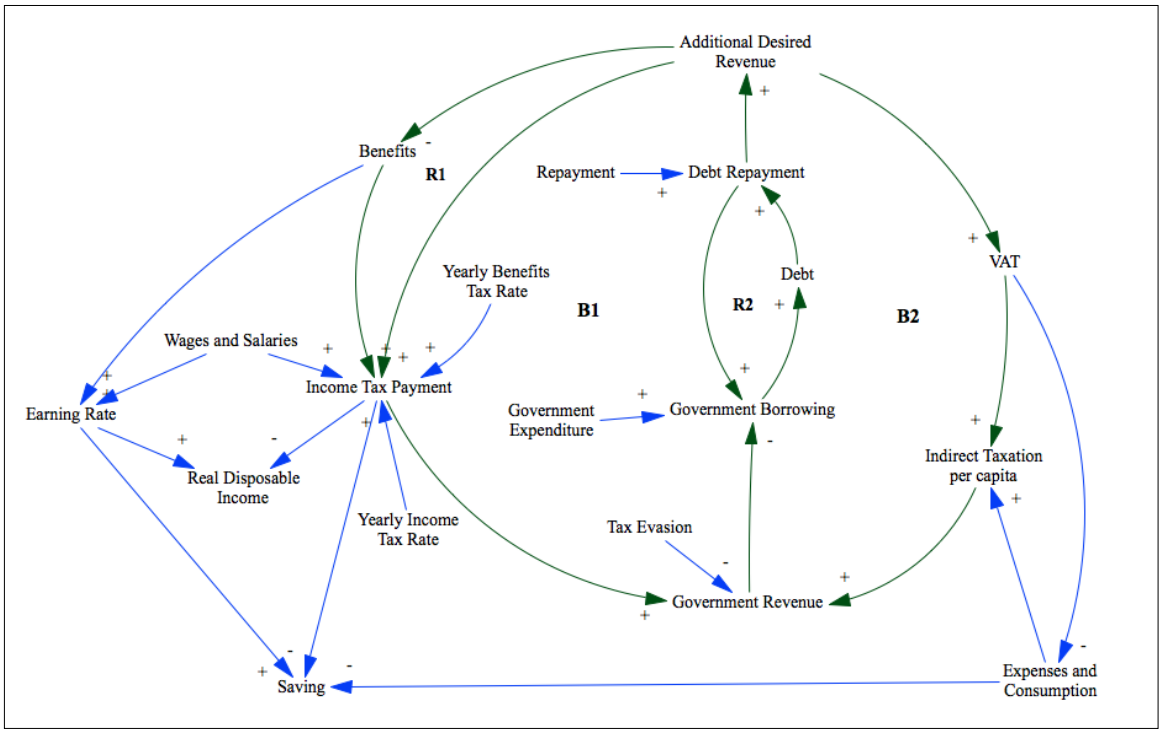

Figure 5 Causal loop diagram

Policy design and implementation

The policy that the authors believe could be appropriate for a gradual resolution of problematic behaviour is the introduction of a hybrid system of taxation that could stimulate consumption. More specifically, the idea is to combine the current taxation system based on income taxation and consumption taxation with a system based mainly on a progressive consumption tax. It is our belief that this reform would promote economic growth. Firstly, with consumption-based taxation, the tax base is substantially increased. Secondly, the increase of the tax base would allow for a gradual reduction of the tax burden among households. Thirdly, the introduction of a progressive consumption tax would allow for a more effective reduction of tax evasion.

Figure 6 shows the result of the SD simulation. The blue line represents the current situation, while the red line shows the reaction of the variable real disposable income once we run the Stock and Flow model with the corrective policy (i.e., the modified taxation). After the introduction of taxation reform, the indirect taxation per capita is calculated by multiplying a weighted average VAT (22%) with total consumption. The introduced policy proposes three VAT categories: VAT basic, VAT general and VAT luxury. VAT basic applies to the basic, most daily-used products that are crucial for the survival and well-being of people. The VAT general, which is proposed to be 23%, applies to general goods considered less crucial, but still at times necessary for daily use. The VAT luxury applies to luxury products at a suggested rate of 40%[18]. As a result, an adjusted average VAT affects consumption, which becomes higher, as long as the consumption of basic products is expected to be higher. At the same time, a dramatic reduction in tax evasion is planned to be implemented from 2012 until 2016. The result of these two policies is expected to increase the indirect taxation per capita without burdening lower income groups, while still gathering higher revenue from taxes.

[18] The proportions of consumption were calculated based on the weight of each category (basic, general, luxury) in the standard basket of consumption of Italian citizens. They served as weights for the average VAT.

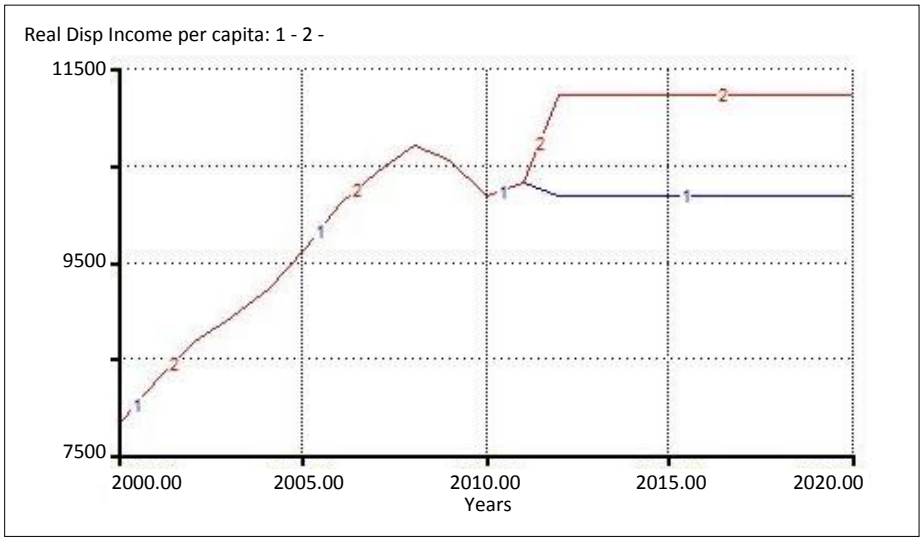

Figure 6 Suggested policy

Simulation shows that the level of the key variable under analysis experiences an immediate shock once the consumption tax is introduced into the simulation. As we can see in the simulation, at the precise moment the consumption tax is introduced, the level of real disposable income grows immediately. Therefore, on the basis of the above-mentioned behaviour of real disposable income, the policy suggested appears to be capable of generating a substantial improvement in the living standards of Italian citizens. In fact, thanks to this intervention of fiscal policy, they will be able to count on more money to finance their consumption or savings. Furthermore, the policy suggested through this study appears to be not only effective, but also sustainable in the long run given that the level of the key variable (real disposable income) of the system, once increased, remains constant over time.

Limitations

Nevertheless, the model presented contains several limitations that must be taken into account if and when one wants to apply its findings to a real-life scenario. Firstly, we have not included inflationary pressures in the model. In fact, we dealt with real variables precisely to avoid including inflation and prices. Secondly, we have not analysed activity in the private sector and how the public-private sector relationship affects wages and employment. Thirdly, variables such as Wages and Salaries and Expenses and Consumption have been defined in per capita/per year terms and population size has been considered constant throughout the period, equal to the average population between 2000 and 2012. As no assessment of the working age part of the population and unemployment rate was carried out, the actual impact of any policy on the labour market and social security and pension schemes is unclear.

5. Discussion and results

Economic well-being is the primary indicator of living standards for most economists and the only one we rely on here. At its broadest, economic well-being refers to the material resources available to households. The concern with these resources is not with consumption per se, but rather with the ability to consume and with the capabilities they give household members to participate in their societies (Sen, 1992).

As discussed above, we believe the implementation of a different and more suitable taxation system will be a key factor in promoting economic growth, while avoiding the creation of disincentives for savings, investing, working and spending. The current system of taxing income, capital gains, payroll, exports and other sources of earnings creates disincentives for individuals and organizations to grow and expand. A fairer system would distribute the burden of taxation more evenly, thus relieving pressure on lower income groups and impoverished households. Our suggestion is to carry out a thorough reform of the

taxation system. At its core, there would be a shift toward a progressive consumption tax system – imposing a tax on goods as a percentage of the value of goods sold – as opposed to a combination of income and consumption tax in similar proportions, which, with a recent increase in tax rates, has become ever more difficult to be sustained by private individuals. More specifically, rather than paying a high tax on earnings, Italian citizens would mainly be required to pay taxes on goods and services that they purchase and consume. With a consumption tax, the number of people paying taxes is broadened substantially, lower-income families are partially relieved of the tax burden, and the actual amount of tax would depend on the amount of money being spent for any purchased item. For instance, lower-income families, who spend a larger percentage of their income on necessities and who may have little to nothing left for consumption of extra, unnecessary or luxury items, would face a lower overall tax burden. Another core assumption of this reform is that of reducing tax evasion, a rather common and highly problematic phenomenon in Italy (Pisani and Polito, 2006). A reform of this range would also be able to reduce the playing field with regard to tax evaders. A reduction in tax evasion could be the result of increased legal deterrence, social policy reforms or, at least, additional pressure from social norms. In this case, the reduction of tax evasion might depend on the combination of several factors. Firstly, it depends on the imposition of more severe administrative sanctions. Secondly, a drastic reduction of the legal threshold of cash payments versus virtual transactions (credit card payments) would ensure greater traceability. Thirdly, improved technology and information systems would help prevent tax evasion (Lacroix and Villeval, 2007). Another perceived advantage of implementing a consumption tax is that such a tax does not affect savings as it applies only to money spent.

A reform of this type has been tested in many countries. Among the numerous examples, Japan is a particularly interesting case (Hatta, 2004). In Japan, a consumption tax was introduced in 1989 at the rate of three per cent and, despite rising to five per cent in 1997, is still the lowest among advanced economies that apply a VAT and well below the European average of 20 per cent. The revenue yield of VAT in Japan is correspondingly low, at about 2.5 per cent of GDP. As discussed by Keen, Pradhan, Kang, and de Mooij in their paper, "*[…] for aging societies like Japan, increasing revenue from raising the VAT is especially appealing for a number of reasons: it provides a stable source of revenue in an aging society; it distributes the tax burden more equitably across current cohorts; and, is less detrimental to growth compared with other taxes[…]",* (2011, p.4). For these reasons, a study is being carried out regarding the possibility of gradually increasing the consumption tax from to 15 per cent over a period of several years, with the final aim of reducing public debt. Other developed countries face a similar issue as Japan faces: they need to lower their public debt ratios over the medium term, address social pressures and foster economic growth. In fact, discussions on the potential introduction of a consumption tax are being held in the United States as well.

Cornell University economist Robert Frank elaborates on this option in an article published in The Economist (Frank, 2010) supporting the introduction of such a tax as fundamental. In his article, he states that *"[…] the most efficient remedy would be to replace the federal income tax with a much more steeply progressive consumption tax. As taxable consumption rises, the tax rate on additional consumption would also rise. With a progressive income tax, marginal tax rates cannot rise beyond a certain threshold without threatening incentives to save and invest. Under a progressive consumption tax, however, higher marginal tax rates actually strengthen those incentives.[…] Should a recession occur, a temporary cut in consumption taxes would provide a much more powerful stimulus than the traditional temporary cut in income taxes[…]".* To conclude, we believe the implementation of a fair and progressive form of consumption taxation would promote growth, help restore the Italian economy to a healthy state and increase the purchasing power of Italian citizens.

6. Conclusion

In summary, we strongly believe that without a radical reform of the taxation system, Italian citizens' purchasing power will constantly decrease, putting them in an increasingly detrimental position. Moreover, the country faces the difficulty of having to repay (or at least retain) debt on the one hand, and that of abiding by EU member states' agreements on the other. Furthermore, the instability of the tax environment represents a major disadvantage in attracting foreign capital and it certainly is the greater

disincentive for domestic investment. Through this paper we have demonstrated that an appropriate policy for a gradual resolution of the problem is the introduction of a hybrid system of taxation that can stimulate consumption. The idea is to combine the current taxation system based on income and consumption taxation with a system based mainly on a progressive consumption tax.

Also, this paper can be used as a starting point for anyone wishing to investigate more in-depth the consequences of the crisis on the private sector, with particular attention to SMEs, as many are expected to close in 2014 and cause a further rise in unemployment. Therefore, integrating the employment module in this model would be an interesting experiment in trying to understand the internal dynamics governing the Italian labour market. It would be interesting to explore which policies could be implemented to reduce unemployment and ensure the long-run sustainability of the welfare system.

7. Areas for future research

The authors believe that, structured in the manner suggested in this paper, a consumption tax would represent an important instrument against tax evasion, a widespread phenomenon in Italy where the tax gap was recently quantified at more than EUR 90 billion. However, this tax reform also has disadvantages. Critics of this type of taxation believe it can produce an excessive increase in administrative and compliance costs. Numerous studies testify that compliance and administrative costs vary from country to country, depending on many factors such as the registration threshold, the number of businesses and the integration with other taxes. Research conducted on five countries[19] revealed that the introduction of a consumption tax requires several enforcement activities, such as audits and record-keeping by businesses that create administrative costs for the government and compliance burdens for businesses. This leads us to believe that even in the case of Italy where, due to the political instability of recent years, the tax authority continuously tries to improve and complete the tax system, thus increasing cost and complexity, it is possible such a reform could produce these negative externalities. This could be an interesting aspect for future research on this topic.

8. References

Allen, F., M. K. F. ,Chui & Maddaloni, A. (2004). Financial Systems in Europe, the US and Asia. *Oxford Review of Economic Policy*, *20*(4), 490-495.

Allen, F., Bartiloro, L., & Kowalewski, O. (2005). Financial Systems of the EU 25in Europe. Retrieved from http://finance.wharton.upenn.edu/~allenf/download/Vita/financial%20system%20of%20the%20eu%20short%20version.pdf

Ameco Database. Retrieved from:http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm

Bala, B. K. (1999). *Principles of System Dynamics*. Agrotech Publishing Academy,1-G-24, Sector-5, (Gayatri Nagar), Hiran Magri, Udaipur – 313 3002, India. ISBN: 81-85680-34-5

Brown, S., Lynch, A., & Petajisto, A. (2011). Solutions to Restore Financial Stability. Retrieved from http://w4.stern.nyu.edu/blogs/regulatingwallstreet/2010/07/hedge-funds-afterdoddfrank.html

Caprio, G., & Klingebiel, D. (2003). Episodes of Systematic and Borderline Financial Crises. *Manuscript of The World Bank*. Retrieved from http://www.adbi.org/workingpaper/2010/04/19/3657.financial.crisis.gfa.trilemma/references/#sthash.Du2NIhvO.dpuf

Ciccarone, G. A. & Saltari, E. (2009). Gli effetti reali della crisi finanziaria: alcuni scenari possibili. Found in: Oltre lo shock: Quale stabilità per i mercati finanziari. Egea: Milan. Retrieved from www.egeaonline.it/PDF/09f234bb-903f-408b-b699-6bf7df447aca.aspx

Di Noia, C. & Micossi, S. (2009). Keep it simple: Policy Responses to the Financial Crisis, CEPS Paperback, CEPS, Brussels, March.

Economic and Financial Affairs office of the European Union. (2009). The Economic Crisis in Europe: Causes, Consequences and Responses. Retrieved from http://ec.europa.eu/economy_finance/publications/publication_summary15885_en.htm

Falkinger, J. (1995). Tax evasion, consumption of public goods and fairness. *Journal of Economic Psychology*, *Volume 16*, Issue 1, 63-72.

[19] For further information, see http://www.gao.gov/new.items/d08566.pdf.

Frank, R. (2010). All hail the progressive consumption tax. Retrieved from http://www.economistcom/blogs/democracyinamerica /2010/11/inequality _and _executive_pay

Freedman, C., Kumhof, M., Laxton, D., Muir, D. & Mursula, S. (2010). Global Volume Effects of Fiscal Stimulus during the Crisis. *Journal of Monetary Economics, Vol. 57*(10), 506-526.

Forrester, J. W. (1961). *Industrial dynamics*. New York: Wiley.

IMF Annual Report. (2012). Retrieved from http://www.imf.org/external/pubs/ft/ar/2012/eng/index.htm

Istat rapporto annuale. (2012). La situazione del Paese. Retrieved from http://www.istat.it/it/archivio/61203

Keen M., Pradhan, M., Kang, K., & de Mooij, R. (2011). Raising the Consumption Tax in Japan: Why, When, How?. IMF Staff Discussion Note. Retrieved from https://www.imf.org/external/pubs/ft/sdn/2011/sdn1113.pdf

Krugman, P. (2009). *The Return of Depression Economics and the crisis of 2008*. New York: W.W Norton & Company.

Langot, F., Patureau, L., & Sopraseuth, T. (2011). Fiscal Policy in an Equilibrium Search Model: The case against Social VAT. Retrieved from http://www.eale.nl/Conference2011/Programme/papers%20sessie%20B/add157890_GxnkS1ZUGV.pdf

Lippert, O. & Walker, M. (1997). The underground economy: Global evidence of its size and impact. The Frazer Institute, Vancouver. Retrieved from http://www.fraserinstitute.org/WorkArea/DownloadAsset.aspx?id=4187

Maani, K. E. & Cavana, R. Y. (2007). *Systems Thinking System Dynamics: Understanding Change and Complexity*. Auckland: Printice Hall.

Masselink, M., & van den Noord, P. (2009). The Global Financial Crisis and its effects on the Netherland. Retrieved from http://ec.europa.eu/economy_finance/publications/publication_summary16337_en.htm

Morecroft, J. D. W. (2007). *Strategic Modeling and Business Dynamics: A Feedback Systems Approach*. Chichester, Wiley.

Morecroft, J. D. W. & Sterman, J. D. (1994). *Modeling for Learning Organizations.* System Dynamics Series. Cambridge, MA: Pegasus Communications.

Radzicki, M. & Saeed, K. (1993). Proceedings of the 1993 International Conference of the System Dynamics Society, Cancún, Mexico: A Post Keynesian Model of Macroeconomic Growth, Instability and Income Distribution. Retrieved from http://www.systemdynamics.org/conferences/1993/proceed/saeed435.pdf

Richardson, G. P. (1996). *Modelling for Management: Simulation in Support of Systems Thinking*. International Library of Management. Aldershot, UK: Dartmouth Publishing Company

Richardson, G. P. & Andersen, D. F. (2010). Systems Thinking, Mapping, and Modeling for Group Decision Negotiation. Dordrecht: Springer. Retrieved from http://www.albany.edu/~gpr/SDinGDN.pdf

Sen, Amartya Kumar. (1992). *Inequality Reexamined*. Cambridge: Harvard University Press.

Sterman, J. D. (2000). *Business dynamics: Systems thinking and modeling for a complex world.* Boston: McGraw-Hill.

Zizza, R. (2002). Metodologie di stima dell'economia sommersa un'applicazione al caso italiano. Banca d'Italia. *Temi di Discussione*, No. 463.

RJSH Vol. 1, No. 2, July – December 2014, pp. 29-38

Target Costing in Manufacturing Firms in Thailand

Kanitsorn Terdpaopong[1], and Nimnual Visedsun[2]

[1,2] Faculty of Accountancy, Rangsit University, Pathumthani 12000, Thailand
[1]Email: kanitsorn@rsu.ac.th
[2]Email: nimnuan@rsu.ac.th

Submitted 14 March 2014; accepted in final form 7 April 2014

Abstract

The long-term financial success of any business depends on whether its prices exceed its costs by enough to finance growth, provide for reinvestment and satisfy shareholders. To achieve a sufficient margin over its costs, target costing has evolved as a standard instrument of cost management. This article presents the potentialities of using target costing strategy in the Thai market. A questionnaire survey is used to identify manufacturing firms in Thailand that have adopted target costing, to explore their approach to implementing it and to identify the success factors behind implementation. It is found that about 50 per cent of respondents practiced target costing as a tool to manage their firms' targeted profits, and the majority of them implemented target costing for their new-launch products and for redeveloping existing production. The success factors in implementing target costing of these firms in Thailand underline the support of top management as the first key factor, followed by an empowered project manager and, thirdly, the proper tools and information systems. Unquestionably the success of implementing target costing needs cross-functional understanding. As a result, the firms that have adopted target costing understand the product concept and see quality improvement and cost reduction in their firms. The result from this research provides us confidence that target costing could be one of the major keys to long-term business survival, growth and prosperity in a competitive and rapidly changing environment in Thailand.

Key words: *target costing, manufacturing firms, cost, price, prices and costs relationship*

1. Introduction

In a severe competitive environment, the traditional pricing principle – as determined by cost of materials, labor and overhead, plus a desired profit – may not be an appropriate approach in pricing products. Target costing discipline was suggested first in Japan and used as an alternative to the traditional principle. As a cost management tool for reducing the overall cost of a product, target costing is a pricing method used by firms, especially manufacturers. As a potentially innovative management accounting tool, target costing is used during the planning stage but before the producing or launching of new products. By determining costs in a proactive and future-oriented manner, the firms can consider altering product designs before they enter the manufacturing process in order to ensure that the company earns reasonable profits on all new products, alternatively dropping a product design if it cannot meet its cost targets. Target costing has been used much in Japan and the Netherlands, but rather loosely outside those countries (Dekker and Smidt, 2003). Their study reveals variations in the use of target costing. Some Japanese companies, such as Toyota, are beginning to reassess their use of just-in-time (JIT) production systems. Problems are beginning to emerge, including environmental effects. Furthermore, while it is recognised that JIT has achieved considerable cost reductions at the production stage, many Japanese companies are looking for cost reduction opportunities in other (earlier) stages of the process of bringing new products to market (Yutaka, 1993). Faced with a volatile business environment due to advancements in technology, changes in customer tastes and an increasing introduction of new products, companies adopting target costing must possess dynamic capabilities to help them stay competitive (Wu, 2010). Merely keeping costs low and to targets may help companies survive, but staying competitive in an ever-increasingly competitive environment while possessing dynamic capabilities and the ability to nurture them are important characteristics of successful companies. There is a lack of conclusiveness on the usefulness and benefits of using target costing (Rattray *et al.,* 2007). Dekker and Smidt (2003) call for more empirical research on its characteristics. Based on research on three European countries, Everaert *et* al., (2006) identified important characteristics of target costing. The adoption rate of target costing by manufacturing firms ranges from less

than seven per cent in New Zealand (Adler et al., 2000) to 59.4 per cent in the Netherlands (Dekker and Smidt, 2003). Chenhall and Langfield-Smith (1998) find 38 per cent of Australia's largest manufacturers use target costing, while Joshi (2001) establishes that 35 per cent of a sample of Indian manufacturers has adopted the practice. Research on the practice of target costing in Asian countries remains relatively unknown.

This study aims to explore the use of target costing, the characteristics of the firms that have adopted it, and the reasons and benefits of using it in Thailand.

1.1 Problem statement

Although research shows that target costing is used worldwide (Adler *et al.*, 2000; Dekker and Smidt, 2003; Guilding *et al.*, 2000; Joshi, 2001; Nicolini *et al.*, 2000), there has been scant literature on target costing (Rattray *et al.*, 2007). Amid this scant research (Rattray *et al.*, 2007), no paper has been found that explains a standard set of characteristics of target costing, although different characteristics have been attributed to it (Cooper and Slagmulder, 1997; Kato, 1993; Kato *et al.*, 1995; Monden and Hamada, 1991). Everaert *et al.*, (2006) identified eight common characteristics of target costing practised by three European companies, but there is hardly any literature on target costing practised by Asian companies.

There is a lack of conclusiveness on the usefulness and benefits of using target costing (Rattray *et al.*, 2007). Target costing is supposed to ensure that only profitable products are introduced to markets (Cooper, 1995; Cooper and Slagmulder, 1997). Yet empirical research shows that Australian manufacturers do not perceive target costing as useful (Chenhall and Langfield-Smith, 1998), while Joshi's (2001) study indicates that Indian manufacturers perceive it as beneficial.

Companies adopting target costing must possess dynamic capabilities to help them stay innovative and competitive (Wu, 2010). Very little study has been conducted on the relationship between dynamic capabilities and target costing, even though both share the same basic underlying principle: target costing and dynamic capabilities comprise a firm's responses to maintain its competitive edge in an intensely competitive environment.

Consideration also has been given to cultural differences in the new product development process (Liker, Sobek, Ward, and Cristiano, 1996, Lynn, 2002, Wasti and Liker, 1999). Certainly, most organisations endeavor to create new products and services that have a high potential profit. Thus, the cost of an organisation's products and services is a fundamental concern of upper management, such as among CEOs (Kearney, 1998 cited in The Future of Purchasing and Supply: A Five- and Ten-Year Forecast).

In Thailand, there is also a lack of study about target costing. The authors are convinced that implementing target costing could be found in the pages of Thai business history, but in different stages and strategies. Such an environment in the Thai market, where agriculture, processed food and other consumer production sectors are mainly emphasised with less emphasis on technology, different approaches may be found when compared with the implementation of target costing in other countries. Therefore, in such circumstances target costing is even more important to enhance profitability so as to meet financial goals.

1.2 Research objectives

This study aims to explore the practice of target costing in Thailand. The objectives are:

1. To explore the characteristics of target costing as practiced by manufacturing firms in Thailand.
2. To explore the approaches to using target costing as practiced by manufacturing firms in Thailand.
3. To identify the success factors for implementing target costing in Thailand.

The expected result of this research will provide a greater understanding of how target costing is being used in Thailand, as well as adding to the scant research on target costing. The findings in the expected differences of applying target costing principles used in other countries would be helpful for firms implementing or using target costing systems. This would not only add knowledge to the target costing literature, but also affect practitioners by creating awareness of the problems of implementation and the importance of possessing and nurturing dynamic capabilities.

1.3 Scope of the research

The research will focus on Thai manufacturers in the nation's industrial areas: Bangkok Metropolitan Region, Central Region, North Region, South Region, East Region, Northeast Region and West Region. The focus on these manufacturers will be on industrial sub-sectors as classified by the Stock Exchange of Thailand (SET).

- Automotive (AUTO)
- Industrial Materials and Machinery (IMM)
- Paper and Printing Materials (PAPER)
- Petrochemicals and Chemicals (PETRO)
- Packaging (PKG)
- Steel (STEEL)

Business size selection for this study is medium to large, both unlisted and listed on the SET, where listed companies normally are required to have capital shares exceeding 500 million baht; the remaining samples were selected based on sector and business size. The questionnaire surveys the practice of target costing from 2007 to 2011.

2. Literature review

Target costing originated in Japan in the 1960s, but became widely recognised as a major factor for the superior competitive position of Japanese companies only since 1980s. The first use of value engineering in Japan – known as 'genka kikaku' – occurred at Toyota in 1963 (Hiromoto, 1988). The genka kikaku begins with the *shusha* who is the manager in charge of the car production process from planning to sales. The whole process normally takes multiple continuous cycles, lasting approximately three years, only completed when the final design matches the lowest possible cost that can be attained (See figure below) (Hiromoto, 1988) and later the phrase 'genka kikaku' was translated into 'target costing' (Feil, Yook, Kim, 2004) as the new term used and generally accepted throughout the world. Even though the basic concept of target costing has existed in Japan for more than 40 years, its application has evolved slowly. In the early of 1990s, three major events occurred in Japan that contributed to significant changes in target costing. The first and most significant event was the bursting of the economic bubble in 1990 and 1991, which caused many companies to struggle to meet customer expectations of lower prices. However, to survive in the marketplace, many Japanese companies shifted from increasing market share to earning profits by reducing manufacturing costs through expanding the use of target costing. The second event was the rise of the Japanese yen against the U.S. dollar, which started in 1993. As a result of the yen rising 50 per cent (from 130-140 yen per dollar to a record 84 yen per dollar in 1992), both exports and profit margins of Japanese companies dropped dramatically. This caused Japanese companies to heavily use target costing to survive. The last event was Japan's long recession caused by a crisis in the financial sector in 1994, when Japanese companies had to reduce costs of their products to meet their profitability requirements. The improvement of target costing focused largely on information processing and information technology. The accuracy of cost information was significant in determining product prices. Computerised, scientific data processing and simulation systems, therefore, are becoming increasingly popular throughout Japanese industry.

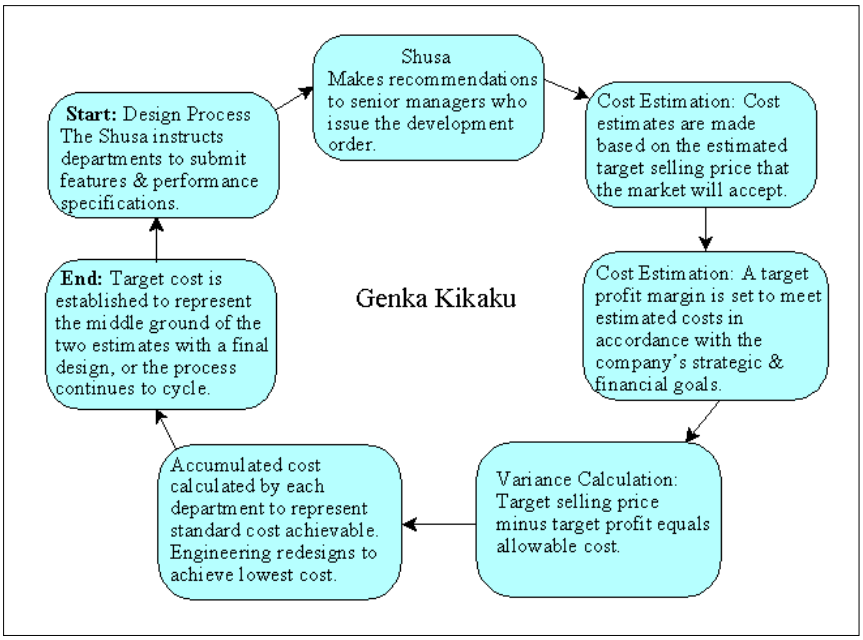

Figure 1 Genka Kikaku
Source: Hiromoto (1998), Another Hidden Edge: Japanese Management Accounting. *Harvard Business Review (*July- August): 22-25

2.1 The definitions of target costing

There is no single, simple definition of target costing. Originating in Japan, target costing has been used by a number of leading Japanese automotive, electronics and other companies and is beginning to be used by some North American companies as they penetrate very competitive markets. Recently Japanese authors such as Monden (1992), Sakurai (1989) and Tanaka (1993) have begun to describe how Japanese companies apply target costing. Some North American companies such as Ford, Chrysler and Cummins Engine are beginning to study Japanese firms and establish target costing initiatives. Due to highly competitive markets that most Japanese companies have been subjected to for a number of years, each company has taken its own unique approach and way of implementing target costing to suit its environment. Therefore, the definition of target costing varies and ranges from relatively narrow to broad.

There are a number of different concepts and definitions of target costing (Bhimani, 1995). For instance, Sakurai (1989) defines target costing "…as a cost management tool for reducing the overall cost of a product over its entire life cycle with the help of production, engineering, RandD, marketing and accounting departments." Monden (1995) states: "Target costing is defined as a company-wide profit management activity during the new product development stage that includes: (1) planning products that have customer-pleasing quality, (2) determining target costs (including target investment costs) for the new product to yield the target profit required over the medium to long term given the current market conditions, and (3) devising ways to make the product design achieve target costs while also satisfying customer needs for quality and prompt delivery." In his definition of target costing, Hiromoto (1988) states that its application goes beyond simple product design that makes better use of technology and work flow; target costing includes meeting the price required for market success, regardless of whether its price is supported by current manufacturing practices. In contrast to Hiromoto's market-oriented approach, Tanaka (1994) views target costing as oriented toward product function. Kato *et al.*, (1995) consider target costing to be an integrating mechanism that combines the various functional units of a company into a coherent system. As various target costing definitions were not developed under a whole, established theory, but rather piecemeal and from several practices in competitive markets, a broad meaning of target costing should be accepted.

2.2 The development of target costing

In general, where there are a limited number of sellers and demand exceeds supply, the sellers can mark up their costs to set their prices. Traditionally, this is called a cost-plus approach to pricing. The equation can be written as follows:

Cost + Profit Margin = Price

As more markets become global and increasingly competitive, historical cost-based pricing may not suit the current market environment. If a company wants to achieve higher market penetration, it may choose to lower prices while increasing quality and/or offering quality and additional services. The target costing equation is then written as follows:

Target cost = Selling price – Desired profit

Target costing applies to new products and product modifications. The foundation of target costing – market-based prices, price-based costs and cross-functional participation – may also be used for existing products. Production costs are more difficult to reduce if a product is already in production.

However, as the concept of target costing spreads throughout the world, the ways of its adoption vary tremendously among nations. Kato (1993) found that 80 per cent of Japanese assembly companies had applied target costing. Chenhall and Langfield-Smith (1998) found that 38 per cent of Australian manufacturing companies used target costing practice, which is similar to New Zealand's 38.71 per cent (Rattray *et al.,* 2007). About 35 per cent of Indian manufacturing companies also adopted target costing (Joshi, 2001). While about 59.4 per cent of Dutch manufacturers adopted target costing (Dekker and Smidt, 2003), 90 per cent of Turkish companies have done so. Cooper and Slagmulder (1999) found that the use of target costing is not widespread among organizations in the U.S. economy. With the differing adoption rate among countries comes different target costing approaches. Japan's approach differs from that of Western nations. For instance, companies in the U.S. tend to put a lot of effort into reducing costs by redesigning and reengineering along with negotiating prices with suppliers; if the cost is still too high, the companies will redo the process until the manufacturing cost meets the target cost. In contrast, the Japanese set the target cost with the aid of an equation (Worthy, 1991): Planned selling price less desired profit equals Target cost.

Figure 2 distinguishes target costing approaches between firms in the U.S., as normally practiced in Western nations, and those in Japan. Both approaches start by conducting market research to understand customer needs. Both approaches require a strong market and customer orientation that defines product requirements by market and customer needs. Both approaches gain the product characteristics in terms of product features, quality and timeliness according to these needs. The U.S. approach will begin to design the product while the Japanese will devise the planned selling price, designed profit and then target cost of the product. It is here that these approaches start to differ. The U.S. approach will begin with design and engineering as well as suppliers to best produce a product that meets customer needs at a price that satisfies the customer. For both approaches, this process is a loop until the company receives a product that satisfies the customer in terms of quality and price. Then production can begin. The Japanese commonly apply a market driven approach of target pricing to a product at the early stages of design. Unlike the Americans, the Japanese lower product costs by implementing adequate product planning and then establishing a target cost before producing the products. Products then are designed and built with clear intentions to meet the correct price that market accepts.

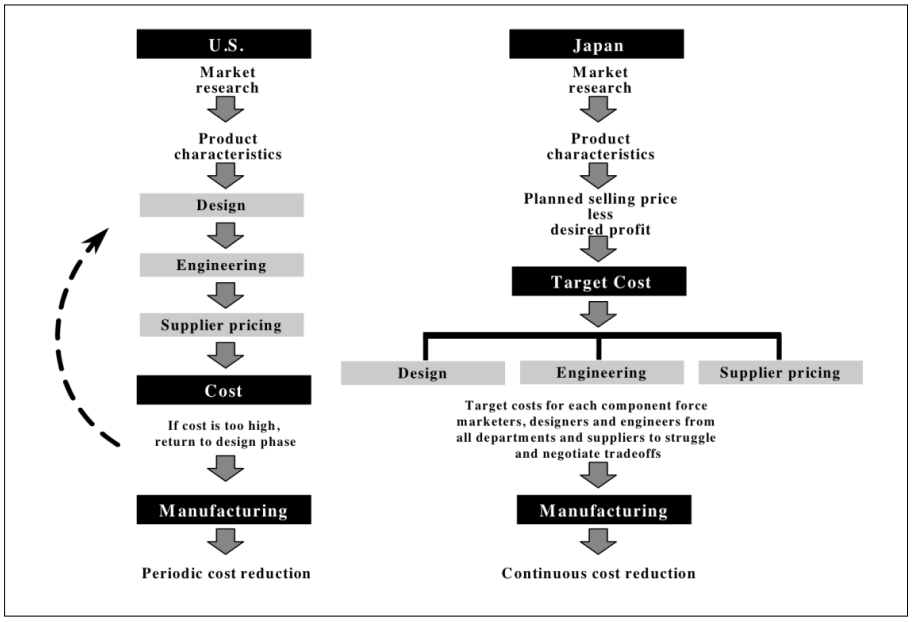

Figure 2 Western and Japanese cost management
Source: Worthy, F. (1991), Japan's smart secret weapon. *Fortune* 124, 1991, 4, 72-75

The study of Moden (1995) states that the target costing process can be divided into five phases: 1) corporate planning for new products; 2) developing the specific new product concept; 3) determining the basic plan for a specific new product; 4) product designing, and 5) production transfer plan (Moden, 1995). In the final process, the new product's estimated cost will be determined and compared with its target cost. The product will then be produced if the estimated cost is less than or equal to the target cost; otherwise, the process of revising will be repeated until the requirement is met.

The methods used in implementing target costing also differ among firms. The study of Ellram (2006) concludes in the case-study research of 11 U.S. organizations engaged in the target costing process that supply management has the most accountability for target costing execution and outcomes, with engineering and R&D as second and third, respectively. Interestingly, in the case studies, accounting and finance were the least involved in target costing accountability. The conclusions also present that supplier negotiations based on factual data, changing specifications and acceptance of higher start-up costs with a firm cost reduction commitment in the later stages are the most popular methods used to achieve target costing.

3. Research methodology

The research was conducted through two approaches: focus group and questionnaire survey to a sample of manufacturing firms in Thailand. The focus group was arranged first to acquire ideas, important information, possible problems and potential solutions. The focus group was organised and held at Rangsit University, Thailand, by inviting academic scholars and relevant managements to address their points of view about target costing. In the second approach, questionnaires were addressed to firms' chief financial officers with a cover letter asking recipients to forward it to the most informed person, as prior studies have indicated that the accounting department may not be largely involved in target costing. The questionnaire's focus includes the critical success factors essential for successful implementation of target costing.

The questionnaire survey was developed and focused on the adoption of target costing and cost management techniques similar to target costing. It is possible that companies may be unfamiliar with the target costing concept, even though they may be using the technique without realising it. Therefore, to assess whether companies use target costing, a broad description of its general idea was provided. The definition of target costing will focus on reverse costing, a crucial feature of target costing.

4. Research results

The research investigated the adoption of target cost of manufacturing firms in Thailand. From the results of the focus group and interview (eight experienced practitioners from four publicly listed companies), one can conclude that most executive managers consider target costing as a tool to manage a firm's profit. Target costing is used as a planning tool in which aspects of the product, cost and otherwise, are considered over its whole life cycle. It may also involve many departments such as engineering, production and accounting, and it is a cross-functional process. Product types that target costing can be used for are not limited or focused specifically on some product line. In the Thai market, many companies that produce consumer products such as electric fans, lamps, modern furniture and processed food have practiced target costing in various ways, such as for new-launch and low-cost products. A participant also argued that target costing is more likely to be used in products whose price is positioned for a lower market to be more competitively advantageous. In product lines whose price and quality of materials are strictly circumscribed by management, target costing application may be limited by manufacturers. Furthermore, for lead products whose price is identified by the manufacturing firms, or whose quality is well-accepted in a market where price is not an issue, implementation of target costing can be less critical.

The mailed-questionnaire survey was distributed to a sample of 880 manufacturing firms, and a preliminary 131 responses were received: a response rate of 14.89 per cent. The 90.8 per cent of respondents consisted of petrochemicals and chemicals (39.7 per cent), paper and printing materials (29.0 per cent), industrial materials and machinery (22.1 per cent) and other sectors such as steel, packaging, and automotive (9.2 per cent)

Table 1 Average income and number of employees of the sampled firms

	Maximum	Minimum	Average
Average annual income in years 2008-2011	USD 6,333 million	USD 17.8 million	USD 132.00 million
Number of employees in 2010	4,600	300	384
Number of employees in 2011	30,000	527	641

Exchange rate: 1 USD: 30 baht

From Table 1, the average income of respondents was USD 132 million, with the average number of employees at 384 and 641 in 2010 and 2011, respectively. The research results also reveal that the respondents had used target costing for more than two years and most of them, 79.1 per cent, had used target costing for 2-10 years; 15.5 per cent had used it for 11-20 years; and 5.5 per cent had used it for more than 20 years. A few expected to implement target costing throughout their business life, with the longest implementation lasting 45 years. It is found that most respondents, about 88.3 per cent, used target costing for developing and planning production (on process-oriented and assembly-oriented manufacturing methods), while 39.5 per cent of respondents also implemented target costing for new-launch products or for redesigning existing products. Objectives of implementing target costing mainly were for targeted profit, targeted selling price and for cost management, respectively. Target costing is implemented on a company-wide level according to 63.8 per cent of respondents, while at an entire plant level among 23.6 per cent of respondents. As most respondents evaluate performance at the department level, the existing target cost for developing and planning for new products or for redeveloping existing products is generally decided upon at the department level.

Furthermore, when we consider behavior that arises from implementing target costing, it is found that company staff who practice target costing may feel a little uneasy or uncomfortable to neutral about the emphasis on cost reduction; this could cause conflict among departments and/or design engineers in firms with strict targets: staff felt pressure to perform and believed that their firms had placed too much emphasis on customer orientation.

The respondents also completed a five-point scale of performance outcome in regard to implementing target costing in the firms as summarised in Table 2.

Table 2 Performance results from implementing target costing

No.	Performance results	Average*	Result
1.	Realization of product concept	4.24	High
2.	Quality improvement	4.06	High
3.	Product cost reduction	3.81	High
4.	Reducing development lead time	3.56	High
5.	Product features based on customer needs	4.22	High
6.	Timely introduction of new product	3.25	Medium
7.	Waste reduction on the factory floor	3.65	High
8.	Active involvement of all departments	3.90	High
9.	Improving design/development technology	3.63	High
10.	Design-to-cost	3.67	High
11.	Strengthening design/development process	3.66	High
12.	Cost reduction efforts by engineers	3.59	High
13.	Reduction of raw materials purchased	3.38	Medium
14.	Reducing design changes after the start of production	3.21	Medium
15.	Upstream cost reduction	3.40	Medium

**Score 5 represents most satisfied and 1 least satisfied*

It is found that majority of the respondents identified that product quality improved in terms of design, technology and development process at a level of four out of five, as well as reductions in product costs, upstream costs, lead time and waste. It can be summarised that firms had achieved high satisfaction in implementing target costing: its application could provide considerable advantages to its practitioners.

In this study, we also attempted to discover the key success factors for implementing target costing. We found that support from top management was the most critical key factor in enabling successful implementation, which registered 4.57 out of five on the scale of importance. Many participants viewed the cross-functional transfer of employees and job rotation as largely irrelevant to the successful implementation of target costing (see Table 3).

Table 3 Success factors for implementing target costing

No.	Success Factors	Average*	Results
1.	Top management support	4.57	Very High
2.	Empowered project manager	4.05	High
3.	Tools and information systems	4.01	High
4.	Cost estimation capability	3.99	High
5.	Cooperation with other departments	3.98	High
6.	Technology in production/quality	3.87	High
7.	Information sharing	3.83	High
8.	Linkage to profit planning	3.83	High
9.	Cross-functional team (org. structure)	3.80	High
10.	Cooperation of suppliers	3.76	High
11.	Autonomy of employees	3.75	High
12.	Knowledge about cost	3.75	High
13.	New technology/materials from RandD	3.73	Medium
14.	Functional knowledge of team members	3.71	Medium
15.	Delegation of power/responsibility	3.69	Medium
16.	Concurrent engineering	3.62	Medium
17.	Cross-functional transfer of employees	3.28	Medium
18.	Job rotation	3.25	Medium

**Score 5 represents most important and 1 least important*

5. Conclusions and suggestions

The fundamental objective of target costing is to enable management to run its business as a profitable enterprise in a very competitive market. Target costing is a different way of considering the relationship between a product's price and its cost. The basic target costing equation of 'Selling Price – Designed Profit = Target costing' means that prices are driven and set either by competitive market forces or by the company as it aggressively lowers its prices to increase market penetration. The designed profits are established such that the company can make money and that allowable costs are derived from price and margin. The result of this research illustrates to us that target costing has been practiced in the Thai market for many years. Industrial sectors that normally implementing target costing are those concerned with gaining a competitive price advantage; therefore, target costing is used as one tool to achieve a targeted profit. Firms that are the leaders in a particular field with outstanding quality or at a top positioning level, where pricing may not be crucial, may see cost reduction and target costing as less important. However, generally the vital benefits of target costing in firms that practice it assist them in making trade-offs between cost and quality. It also assists firms in launching new products with lower, acceptable and competitive prices. In effect, target costing is a proactive cost planning, cost management, and cost reduction practice whereby costs are planned and managed early in the design and development cycle rather than during the latter stages of product development and production when costs are more difficult to reduce once a product is in production.

The most critical success factor in implementing target costing from the study is management support. Target costing cannot be undertaken without the full support of management and the support and involvement of the other areas of the business including marketing, product development, procurement, manufacturing and accounting. This study demonstrates that the top three elements for success in implementing target costing are top management support, an empowered project manager, and tools and information systems that must be supported by the accounting department. Managerial accountants are key persons in gathering, analyzing, measuring and reporting information to top management.

Although the research study is based in Thailand with a limited sample size, the survey findings and hands-on experience of the relevant industrial practitioners may be cross-referenced to similar sectors. We are convinced that the research provides useful insights into assisting key stakeholders in determining important successful ingredients when applying target costing strategy to new products or to the redevelopment of existing products. Such an identification of critical success factors would be valuable in formulating effective practical strategies to improve performance. Many stakeholders also attempt to seek more research evidence to capture levels of success in implementing target costing and in generating best practices for other relevant stakeholders. Implementing target costing takes time. It requires widespread understanding, the support of senior management, and the involvement of all parts of an organisation. However, for the survival of a business in a highly competitive market, it could be concluded that target costing is a vital key to the long-term business survival, growth and prosperity in a competitive and rapidly changing environment.

6. References

Adler, R., Everett, A.M., and Waldron, M. (2000). Advanced management accounting techniques in manufacturing: utilization, benefits, and barriers to implementation. *Accounting Forum, 2*, 131-150.

Chenhall, R., and Langfield-Smith, K. (1998). Adoption and benefits of management accounting practices: an Australian study. *Management Accounting Research*, 9, 1-19.

Cooper, R., and Slagmulder, R. (1997). Target costing and value engineering. Portland, Productivity Press.

Cooper, R. and Slagmulder, R. (2003). Interorganizational costing, Part 2. *Cost Management,* (November/December), 12-24.

Dekker, H. and Smidt, P. (2003). A survey on the adoption and use in Dutch firms of target costing. *International Journal of Production Economics*, *84*(3), 293-305.

Ellram, L. M. (2006). The Implementation of Target Costing in the United States: Theory Versus Practice. *Journal of Supply Chain Management*, *42*(1), 13-26.

Everaert, P., Loosveld, S., Van Acker, T., Schollier, M., and Sarens, G. (2006). Characteristics of target costing: theoretical and field study perspectives. *Qualitative Research in Accounting and Management, 3*(3), 236-263.

Guilding, C., Cravens, K., and Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research,* 11, 35.

Hiromoto, T. (1988). Another Hidden Edge: Japanese Management Accounting. *Harvard Business Review (*July-August), 22-25.

Joshi, P. (2001). The international diffusion of new management accounting practices: the case of India. *Journal of International Accounting, Auditing and Taxation*, *10*, 85-109.

Kato, Y. (1993). Target costing support systems: lessons from leading Japanese companies. *Management Accounting Research, 4*(4), 33-47.

Kato, Y., Bo¨er, G., and Chow, C.W. (1995). Target costing: an integrative management process. *Journal of Cost Management, 9*(1), 39-51.

Kearney, A. T. (1998). *CEO global business study*. Tempe, AZ: Center of Advanced Purchasing Studies.

Liker, J. K., Sobek, D. K., Ward, A. C., and Cristiano, J. J. (1996). Involving Suppliers in Product Development in the United States and Japan: Evidence for Set-Based Concurrent Engineering. *IEEE Transactions on Engineering Management, 43*, 165-178.

Lynn, L. H. (2002). Engineers and Engineering in the US and Japan: A Critical Reveiw of the Literature and Suggestions for a New Research Agenda. *IEEE Transactions on Engineering Management, 49*(2), 95-106.

Monden, Y. and Hamada, K. (1991). Target costing and kaizen costing in Japanese automobile companies. *Journal of Management Accounting Research* (Fall), 16-34.

Monden, Y. (1992). Cost Management in the New Manufacturing Age: Innovations in the Japanese Automobile Industry. Cambridge, MA: Productivity Press.

Monden, Y. (1995). *Cost Reduction Systems: Target Costing and Kaizen Costing*. Productivity Press.

Nicolini, D., Tomkins, C., Holti, R., Oldman, A., and Smalley, M. (2000). Can target costing and whole life costing be applied in the construction industry? Evidence from two case studies. *British Journal of Management*, *11*, 24.

Prieto, I., and Easterby-Smith, M. (2006). Dynamic capabilities and the role of organizational knowledge: An exploration. *European Journal of Information Systems*, *15*(5), 500-510.

Rattray, C. J., Lord, B.R., and Shanahan, Y.P. (2007). Target costing in New Zealand manufacturing firms. *Pacific Accounting Review*, *19*(1), 68-83.

Sakurai, M. 1989. Target costing and how to use it. *Journal of Cost Management* (Summer), 39-50.

Tanaka, T. (1993). Target costing at Toyota. *Journal of Cost Management*. Spring.

Tanaka, T. (1994). Kaizen budgeting: Toyota's cost-control system under TQC. *Journal of Cost Management* (Fall), 56-62.

Tani, T. (1995). Interactive control in target cost management. *Management Accounting Research, 6*, 399-414.

Teece, D. J., Pisano, G., and Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *17*(Winter Special Issue), 509-533.

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise formation. *Strategic Management Journal*, *28*, 1319-1250.

Wang, C. L., and Ahmed, P. K. (2007). Dynamic capabilities: A review and research Agenda. *International Journal of Management Reviews*, *9*(1), 31-51.

Wasti, S. N., and Liker, J. K. (1999). Collaboration with Suppliers in Product Development: A U.S. and Japan Comparative Study. *IEEE Transactions on Engineering Management, 46*, 444-461.

Wijeweardena, H., and De Zoysa, A. (1999). A comparative analysis of management accounting practices in Australia and Japan: an empirical investigation. *The International Journal of Accounting*, *34*(49-70).

Worthy, F. S. (1991). Japan's smart secret weapon. *Fortune* (August 12), 72-75.

Wu, L. Y. (2010). Applicability of the resource-based and dynamic-capability views under environmental volatility. *Journal of Business Research*, *63*, 27-31.

Yutaka, K. (1993). Target costing support systems: Lessons from leading Japanese companies. [doi: 10.1006/mare.1993.1002]. *Management Accounting Research*, *4*(1), 33-47.

RJSH Vol. 1, No. 2, July – December 2014, pp.39-46

The Impact of E-Government on Public Policy

Feedback from the Italian Regulatory Framework

Lidia Noto

Department of International Studies D.E.M.S.,
University of Palermo, via U. A. Amico 24 Palermo, 90134 Italy
Email: lidianoto219@gmail.com

Submitted 25 February 2014; accepted in final form 7 April 2014

Abstract

E-government implementation offers great potential to improve the efficacy of public administration. Digital innovation provides instruments to overcome the simple market orientation suggested by New Public Management and to integrate the approach with a strong social component. An imperative prerequisite is rethinking public policy design by involving citizens in order to devise customised solutions and services. The mere implementation of innovative tools without public support is one of the main causes of failure of e-government projects around the world.

The existence of networks influencing the individual decisional model and the willingness of citizens to participate in policy design were often ignored. Nowadays the second generation of project design is being implemented. A reflection on the new role of managers can be useful in avoiding future false moves. The case study of Italian reform of public administration offers a good example to highlight criticalities in innovating a system of rules.

The approach to these analyses is a multi-method approach. The emerging Network Theory will provide the framework for a System Dynamics model that encloses the phenomena of implementation and adoption of e-government services.

Keywords: *e-government, public policy, Network Theory, System Dynamics*

1. Introduction

The pressing innovation in information and communications technology (ICT) generates many opportunities for creating networks and developing new businesses. Even the field of public administration (PA) sees opportunities in terms of reducing the cost of regulatory compliance for a government's constituents, improving efficiency and tax administration, and avoiding fraud and errors. Moreover, individuals and businesses can improve their problem-solving capacity when interacting with the PA.

Notwithstanding these positive effects, recent literature started recognizing that ICT innovation also implies new challenges and hindrances for each public institution with peculiar features depending on the institution's level within government and the socio-economic environment of the target population.

There are criticalities regarding the delivery of digital services both inside and outside the administration, namely in the implementation and adoption of e-services. This paper focuses on the demand side, i.e., the adoption of e-services. In particular, two adoption hindrances will be discussed. First, to assure effective collaboration and sharing of data among different institutions, each system must be "semantically interoperable". This is particularly relevant when analyzing a system at the national level as in the following case study. As a second point, each institution addresses a diverse audience with diverse education. Some users will be skilled and ready to take advantage of new service and communication channels provided by the PA. Others will be intimidated by such innovation and need additional support.

These issues involve a deeper knowledge of the community and its attitude toward online interaction with the PA, so these factors must be taken into account when designing public policies; this is why the introduction of e-government services has a remarkable impact on performance management and public policy design.

Both the PA and the citizens-users change their roles: not because of the technological innovation *per se*, but because the *model of rational behavior* has changed by evolving toward networks. According to Ormerod (2012), the impact on individuals of incentives, of the assessment of costs and benefits of different actions, has been overtaken by the effect of social interaction across networks, and "network effects require policy makers, whether in the public or corporate spheres, to change radically their view of how the world

operates". As a direct consequence, performance management must evolve and gain flexibility. In fact, governors are now called upon to involve citizens in the policy-making process by balancing performance goals with the specific needs of citizens. To include the community in the process, the system must be ready to easily interact with its citizens.

To foster a progressive cultural innovation in a given territorial community, the first action that each institution tries to implement is a redesign of the system of rules. However, as shown in the case study of Italy (paragraph three above), a simple change in that system is insufficient to ensure a project's success because e-services cannot be imposed on citizens; they must be chosen. The skills of the users are crucial to adoption.

Last but not least, ICT and e-government provide precious instruments to renew the PA and overcome the limitations of New Public Management. In fact, implementing a portal can improve efficiency and effectiveness consistently with a market orientation perspective, but at the same time a social dimension needed in the public sector can be saved. Interacting with the single citizen and achieving cost-effectiveness goals is no longer a trade-off.

This study attempts to answer two main research questions:

1. What are the institutional levers that policy makers can use to introduce e-government services and to foster online interaction with the PA?

2. What are the new challenges of managers in designing public policies?

The approach to these analyses is a *qualitative*, multi-method approach. The emerging Network Theory will provide the framework for a System Dynamics model that encloses the phenomena of implementation and adoption of e-government services.

The research method and the two methodologies adopted (Network Theory and System Dynamics) will be introduced in the next section. They will provide the tools to explain the revolution in the public's decisional behavior. The third section will be dedicated to the evolution of the system of rules and, as a consequence, the need to improve the public policy design approach. Section four contains the case-study of Italian reform of public administration and its peculiar criticalities. The fifth section summarises the conclusions.

2. A multi-method approach: Combining Network Theory and System Dynamics

As mentioned in the introduction, the present study aims to analyse the implementation and adoption of e-government services through the lens of Network Theory. But what is a *network*? And what is the function of a network in determining the decisional process of an individual: in this case, the decision to interact with the PA online and to adopt e-services?

According to Oxford Dictionaries[1], a network is a group or system of interconnected people or things. Referring to Network Theory and to the "social" function of a network, Owen-Smith (2008) defines it as a "concrete pattern of relationships among entities in a social space".

The main functions that networks may assume are:

- To provide and spread information across the community;
- To influence the individual behaviors and actions of the community components.

Accessing information is easier because of the web, but, above all, it is important to underline that people can now easily access many other people's opinions. Since the typical approach of an individual to the web consists of considering other people better informed and their choices reliable, the phenomenon of emulation becomes stronger than the rational trade-off of costs and benefits, and how the individual considers incentives.

These insights must be taken into account by PA policy designers. Intuitively, a good strategic plan cannot ignore the impact of communication to the populace; the need to assure a critical mass of people joining its initiatives is crucial. In line with these reflections, Ormerod (2012) suggests that "the trick for successful policy, for positive linking, is not which interest rate to try to manipulate, nor whether to increase taxes or cut spending. It is the subtle but elusive goal of enabling the right frame of mind to spread across the networks which connect the relevant decision makers."

[1] http://oxforddictionaries.com/definition/english/network

The assumption underlying this study is that the spreading of e-government services through an institutional web-portal is comparable to the spreading of an innovation in technology. Again, and from now on, the focus will be on the factors determining the choice of the targeted population (Internet users from ages 18 to 70) to start interacting with the PA online.

This assumption leads to the use of System Dynamics modeling. System Dynamics (SD) was developed as a method for designing policy solutions based on computer simulation of problematic endogenous feedback structures (Wheat, 2010). The founder of the theory, Jay W. Forrester, an electrical engineer, initially conceived SD as a business management tool, but SD methodology was soon applied to public sector issues (Wheat, 2010). Basically, whereas the human brain does not perceive the process of accumulation (Bianchi, 2009) and tends to recognise problems as a direct series of events, this methodology can help provide a dynamic view of all forces acting in the system concurrently.

This methodology is therefore appropriate for solving problems in complex systems characterised by the following features (Bianchi, 2009): a) a structure characterised by counterintuitive dynamics; b) levers that decision-makers can use to influence the results toward the desired objectives; c) sensitivity of the results to the effect of exogenous variables; d) a frequent opposite behavior of variables in the short term vs. the long run; and e) relevant delays of the system to the deliberated policies.

System Dynamics offers two kinds of representation: causal loop diagrams (CLD) and stock and flow diagrams (SFD). In this work, the representations will be done with the use of SFD, which better suggests the concept of accumulation. The basic elements are stocks that represent availability of resources at a given moment in time, flows (of materials or information over a period of time) and auxiliary variables that help the calculation, mainly comprising indicators, parameters and constants.

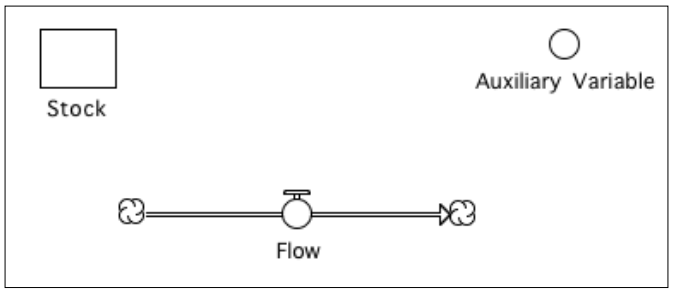

Figure 1 System Dynamics elements

The first step in building the model is reproducing the archetype of the spreading of the innovation of e-services (often organised in portals). This archetype is the Bass Diffusion Model (Bass, 1969).

The focus is on the flow Rate of Adoption of e-services. As it is possible to observe in Figure 2, the targeted population (Internet users from ages 18 to 70) is divided in two groups:

- *Potential Adopters*, a stock of people who, at a given moment *t*, use the Internet but are not interacting with the PA through digital channels; and
- *Adopters*, people who already interact with the PA online.

At the beginning of the implementation, the stock of adopters is empty.

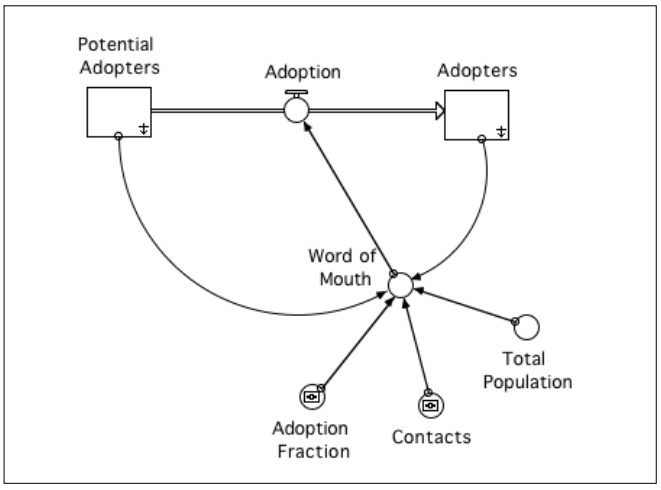

Figure 2 SFD of e-services *Adoption* (adapted from Sterman, 2000, Chapter 9)

The *Adoption*, the flow that transforms *Potential Adopters* in *Adopters*, is given by the so-called *word-of-mouth (WOM)* effect. The simple arrows represent instantaneous effects.

WOM is function of the interaction of people and is the result of the product. The variable *Contacts* expresses the possibility of contact of a *Potential Adopter* with an *Adopter*. The *Adoption Fraction* reveals how persuasive an *Adopter* is in convincing a *Potential Adopter* to interact online with the PA.

Figure 3 and Figure 4 have been elaborated on with simulation software and show two extreme scenarios that may occur when developing a web portal. The difference stands in the value of the *Adoption Fraction* (80% in the first projection, 8% in the second projection).

Assuming *Contacts* to be constant, as explained below, it is possible to observe that a certain level of *Adoption Fraction* is necessary to assure that people start interacting with the PA online, the so-called *tipping point*. But it can also happen (Figure 4) that this level is not achieved and the project fails because most of the populace continues using traditional channels such as visiting or calling offices.

The higher the *Adoption Fraction*, the faster the *Adoption* will be completed.

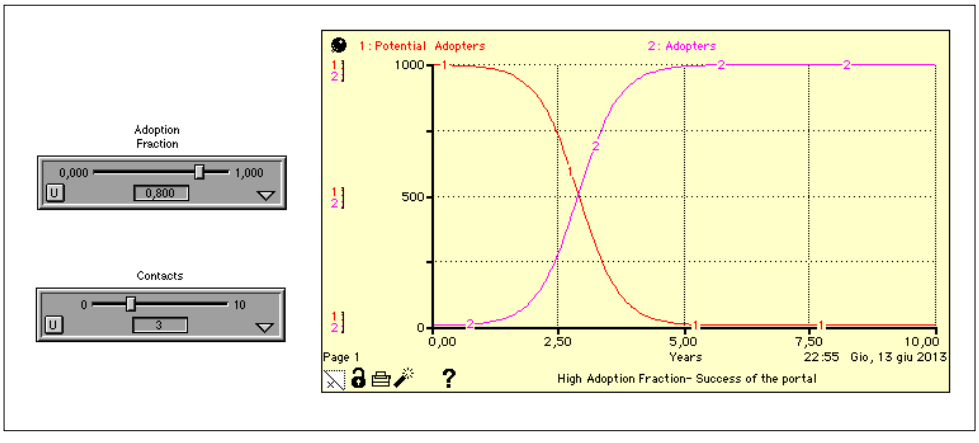

Figure 3 Scenario of success of the e-government project (iThink software)

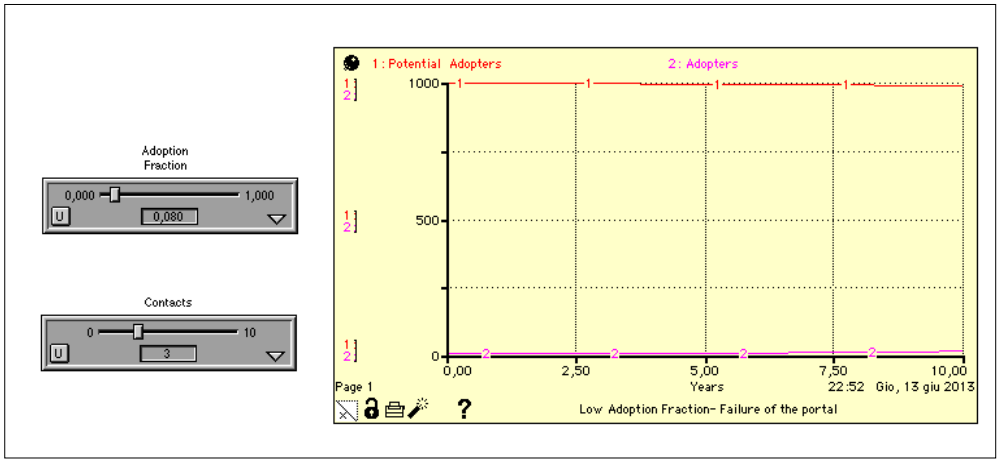

Figure 4 Scenario of failure of the e-government project (iThink software)

Contacts are usually assumed as constant because they are considered to comprise an attitude that is little influenced by the environment but by the capacity of sharing certain kinds of information among trusted individuals. The value of this variable is suggested by experts and is linked to the social opportunity of an individual to share his experience with using e-services. The variable is set considering the average family nucleus in Italy of three individuals.

On the other hand, the *Adoption Fraction* is a variable that may be influenced by institutions.

According to the vast literature on e-government adoption, but with particular reference to Carter and Weerakkody, 2008, the levers of adoption as shown in Figure 5 are:

- *Relative Advantage:* using the Internet to interact with the PA should be convenient in terms of saving time and enhancing comfort by doing it at one's home or office. If people must go to an office because they cannot complete the operation online or because they get wrong or old information, they may decide to abandon the digital channel. An indicator for measuring this value is the average need to complete a procedure at a government office.
- *Trust*: trust is the result of the sum of trust in government and in ICT.
- *Internet Accessibility* expresses the availability of Internet among the population.
- *Internet Skill* expresses the population's average skills. When such skills are low, it is necessary to educate people so they acquire the needed skill set.

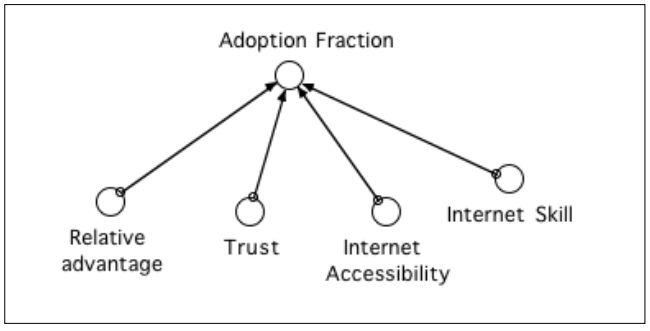

Figure 5 The levers of adoption according to the reviewed literature

To assure the development of a web portal, institutions must guarantee a certain level of these factors through adequate investment and policy. E-government can lead to money savings, but not in the short run. ICT is not self-sustaining magic; it requires investment and accurate planning.

3. Changing the system of rules: The case of Italy

Over the past decade, mainly due to regulations from the EU, the Italian regulatory framework, i.e., its system of rules, has been reviewed and integrated to achieve two main goals:

- to innovate and improve the interaction with citizens, businesses and other stakeholders;
- to increase transparency and accountability.

Although in Italy the issue of information from the PA to its constituents had been raised in the early 1990s, the Lisbon Strategy, devised by the European Council in 2000 as an EU economic development plan for the 2000-2010 period, gave new impulse to the process of improvement and development in this field.

Law n.150/2000 recognised information and communication as key tools for obtaining legitimacy in government actions. The aim of this law was to innovate the means of information and communication through the adoption of new technologies. It mandated the existence of Citizen Relation Offices (URP in Italian) to bring local authorities closer to their constituents; it also required internal Press Agencies to guarantee the constitutional right to information. The birth of URP expressed a clear intention to bring PA closer to the citizenry and to listen to their problems and suggestions.

In 2004, the Parliament enacted law n.4, better known as Stanca's Law, to break down the existing virtual barriers. Stanca's Law introduced the concept of accessibility and increased control over it. But the focus was placed on human equality (and equity) and not on the right to information. In its essence, Stanca's Law provides instructions for the design of PA websites, particularly for application of predefined rules among public managers, thus paying attention to the law's requirements more than to the underlying idea of progress and efficiency.

A complete code regulating the subject, the Code of Digital Administration (CAD in the Italian acronym), was finally issued in 2005. It is a "constitution" of the digital world that states the rights and duties of users. It includes and reorganises the entire discipline and provides the legal basis for actions. CAD was renewed for the first time in 2010 with Decree 150/2009, better known as Brunetta's Decree. It introduced the concept of transparency and performance evaluation, which led to accepting this system as a winning practice for progress in public administration. It also emphasised that transparency should be achieved through total accessibility to public documents. Unfortunately, after two years open data is not yet a reality. Despite the focus on accessibility, few rules were prescribed to ensure broad participation. The orientation to performance management (see in particular art. 3-6 D.L.150/2009) stressed the need for setting goals and cut costs. What is still missing is an effort to balance the achievement of setting objectives with the research of new solutions proposed by the citizenry.

4. Critical issues in designing public policy in a *"web-based era"*

It must be noted that the Italian regulatory framework (together with its executive documents) is the result of a top-down approach, which appears to contradict assumptions involving e-government. The listed laws prescribe a compulsory content for public websites and require implementation of ICT tools to assure the availability of online public service.

No attention is paid to determining adoption, and the rising phenomenon of networks is ignored. The focus is on the service delivered, namely on what each institution should provide. On the other hand, little attention is paid to the citizenry's actual use of that content. Most local initiatives to implement e-services have failed. Various reasons and peculiar criticalities can explain these failures, but above all, the lack of inter-institutional coordination was the primary problem.

The logic of e-government, again with reference to Gil-Garcia and Martinez Moyano (2005), suggests a partial shift of control to citizens whose feedback can contribute to improving the system and completing government actions. This control shift cannot happen unless the citizenry feels comfortable with the provided tools. Therefore we can say that after assuring accessibility, it is compulsory to work on usability. An improvement in usability should be implemented as a result of the interaction with users.

As suggested by the European Commission (2010), users should be "helped to become self-sufficient, to become a part of the solution, or even a provider of it". Moreover, they should perceive an

added value (or relative advantage) in using these tools and contribute to the adoption process by encouraging others to do the same.

Having seen how individuals (the demand side) behave in a "web-based era", the perspective shifts to the institutional side (the supply of the public service). It appears clear that an integration of the two perspectives (demand and supply) is needed.

Politicians and managers face an increase in environmental complexity. Lots of information is available to them and their actions are subject to the immediate control of many people. Citizens expect public managers to have the ability and technical expertise to provide high-level solutions to the problems identified.

As Laffin and Ormston (2012) stated, "The argument here is that the relationship between information and policy change is complex, reflects underlying power relationships and the uncertainties inherent in designing policy changes or interventions. A policy learning perspective is valuable in helping to understand those complexities and uncertainties."

Of course, at the different levels the institutional action must proceed through systems of rules. Gil Garcia and Martinez Moyano (2005) found a correlation between the redesign of the systems of rules ("probabilistic generalization of behaviour" in their definition) and the evolution of e-government with the success of e-government projects. Their "theoretical framework poses a link between how public managers decide on e-government initiatives and how citizens and other stakeholders involved in the policy process internalise those decisions and subsequently influence them over time."

The solution has to be found in a difficult equilibrium between political and managerial goals and claims for accountability by the stakeholders. Using their words, "the ideal scenario would be the one in which public managers are capable of doing exactly what they think they should be doing with respect to one specific problem (high-solution guiding concern), while the citizens they serve evaluate that precise activity as a requirement that the public managers should be fulfilling (high behaviour-constraining concern)." System Dynamics is a good methodology for pursuing this equilibrium. The model will serve to test the combined effect of the policies implemented. Of course, it will be necessary to constantly monitor the perceived level of the levers of adoption among the populace.

5. Conclusions

Changing the system of rules is crucial to foster the development of e-government, but it is not enough. What really must change is the managerial approach of public managers. The levers that they have to keep under control are the relative advantage of citizens in using e-services in place of traditional ones, the average digital competences of the populace and the level of trust in government.

What the PA should aim is for a new managerial approach focused on the achievement of an equilibrium between the set objectives and the solutions proposed by the interactive community in order to customise citizen services. By improving this social dimension, the implementation of a good e-government portal has a big potential to overcome the limitations of New Public Management.

The manager's new role is more flexible and focused on citizen perceptions and interactions. Society's new role is to actively participate and provide feedback on the administration's actions.

The multi-method approach presented in this paper combines Network Theory (as framework for the study) and System Dynamics simulation particularly recommended for designing digital policy thanks to the representation of alternative dynamic scenarios. Managers will use the model to study the combined effect of the implemented policies with regard to the completeness of digital services, the community's digital competence, and the trust in government and ICT.

Further work should investigate the potential evolution of the system of rules both at the national and local levels. Monitoring the experience of these second-generation projects could suggest additional improvements for implementing quantitative dynamic models.

6. References

AA.VV. (2009). A performance management framework for state and local government: From Measurement and Reporting to Management and Improving. *National Performance Management Advisory Commission Public Review Draft*.

Bass, F. (1969). A new product growth model for consumer durables. *Management Science* Vol. 15 (5), 215–227.

Cordella, A. & Bonina, C. M. (2012). A public value perspective for ICT enabled public sector reforms: A theoretical reflection. *Government Information Quarterly*, *29*(4), 512–520.

Carter, L. & Weerakkody, V. (2008). E-government Adoption: A Cultural Comparison. *Inf Syst Front*, *10*, 473-482.

Gil-García, J. R. & Martinez-Moyano, I. J. (2005). Exploring E-Government Evolution: The Influence of Systems of Rules on Organizational Action. *National Center for Digital Government*. Retrieved from http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1016&context=ncdg

Laffin, M. & Ormston, C. (2012). Disconnected Communities? Policy learning in Central-Local Relations. *European Group for Public Administration Conference Proceedings*, September 2012, Bergen, Norway.

Ormerod, P. (2012). *Positive Linking: How Networks Can Revolutionize the World.* London: Faber & Faber Ltd.

Owen-Smith, J. (2008). Network theory: The Basics 10 Big Claims. *Slides for OECD.* Retrieved from www.oecd.org/sti/inno/41858618.pdf

Pardo, T. et al. (2008). Collaborative Governance and Cross-Boundary Information Sharing: Envisioning a Networked and IT-Enabled Public Administration. *Minnowbrook III Conference Proceedings*, September 5-7, Lake Placid, New York.

Sterman J. (2000). *Business Dynamics: Systems thinking and modeling for a complex world.* New York, NY: Irwin/McGraw-Hill. Retrieved from www.mhhe.com/sterman

7. Normative references (chronological order)

Law n.150/2000 "Disciplina delle attività d'informazione e di comunicazione delle pubbliche amministrazioni" published on Gazzetta Ufficiale no. 136/ 2000.

Presidential Decree no.445/2000 "Disposizioni legislative in materia di documentazione amministrativa." published on Gazzetta Ufficiale n. 42/2001.

Law 9 gennaio 2004, no. 4 "Disposizioni per favorire l'accesso deisoggetti disabili agli strumenti informatici" published on Gazzetta Ufficiale n.13/2004.

Belisario E. (edited by), Codice dell'Amministrazione Digitale (Decreeno. 82/2005 renewed by Decree no. 235/2010, Forum PA Edizioni.

Decree no. 150/2009, "Attuazione della legge 4 marzo 2009, n. 15, inmateria di ottimizzazione della produttività del lavoro pubblico e di efficienza etrasparenza delle pubbliche amministrazioni." published on Gazzetta Ufficiale 254/2009 -Supplemento Ordinario n.197.

RJSH Vol. 1, No. 2, July – December 2014, pp.47-51

Embezzlement, Bribery and Protection Money in the Royal Thai Police Force

Jomdet Trimek

College of Government and Public Governance**,** Rangsit University, Pathumthani 12000, Thailand
Email: jomdet@rsu.ac.th

Submitted 11 April 2014; accepted in final form 28 May 2014

Abstract

This article aims to analyse the problem situations, causes and recommendations for ending corruption among Thai police officers. The researcher divides the problem of Thai police corruption among three main aspects: embezzling government funds, coercing bribes from the public, and accepting protection money from illegal business operators. While the Royal Thai Police has a very large structure, its officers receive very low salaries. Moreover, unfair appointments and transfers exist at all levels due to interference and intervention from political officials. Due to the aforementioned problems, some police officers are inclined to buy positions, which in turn induces them to extract bribes and protection money. Most importantly, many police officers state that low salaries compels them to commit dishonest acts. The researcher found that the problem of corruption stems from centralisation of the Royal Thai Police. To solve the problem, there should be structural reform of the Royal Thai Police to create a decentralised system using reform guidelines from New Zealand, the country with the lowest level of corruption in the world, as a model.

Keywords: *corruption, bribery, protection money, Royal Thai Police, centralised system, decentralised system*

1. Problem situation and forms of corruption among Thai police officers

Extensive corruption activities have long been hidden under the khaki uniforms of Thai law enforcement officials. In-depth studies of the causes of such corruption tend to be avoided. This article aims to analyse problem situations, causes and recommendations to solve such problems. Corruption among police can be divided into three main aspects: embezzlement of government funds, coercing bribes from the public, and collection of protection money from illegal business operators. Examples will be given throughout the article to elaborate on each aspect of corruption.

Chorratbangluang is an old Thai word. *Chorrat* means the embezzlement of property that formerly or supposedly belonged to the public, while *Bangluang* means the embezzlement of government funds (Witayakorn Chiangkul, 2007). Recently the word *Bangluang* has often been replaced with the English word 'corruption'. Corruption is considered a type of economic crime in the form of an action against the government or the embezzlement of public funds (Supoj Suroj, 2007). Such action is rampant in Thai state agencies, with varying degrees of practice, bahaviour and method.

One headline-generating corruption case in Thai police occurred in 2009 regarding the purchase of 19,147 Tiger motorcycles at 65,000 baht (2,000 USD) apiece by the Royal Thai Police. Funds for the purchase totaled 12 billion baht (375 million USD). Upon investigation, it was found that the transaction was fraught with corruption both during the purchase itself and the auction. Investigators in the Crime Suppression Division had uncovered a host of individuals, ranging from businessmen, police officers and civil servants in the Bureau of the Budget who jointly and systematically committed such offences. The case also involved several high-level police officers both retired and in service back then (Khaosod, 2009).

The case captured public interest for a short time. Nevertheless, since the offenders and the investigators were in the same agency, certain high-ranking policemen put a stop to the efforts of the investigating officials trying to uncover the evidence. Combined with acquiescent misconduct of other officers, this resulted in the incident slowing fading from public view, much in the same vein as similar cases in Thai society, especially in police circles.

The next form of corruption is coercing bribes from the public. Due to the law-enforcing nature of police officers, it is unavoidable that some of them may be prone to abuse in the form of the aforementioned *chorrat*. There are two main forms of bribe-taking from the public, both of which are problematic. The first

one is extracting bribes from suspects or their relatives, colloquially known as 'hitting' or 'pounding' on them. This is prevalent among investigating officers, or those responsible for arresting suspects, especially in drug-related cases. One interesting case study that attracted considerable public attention was the case of Captain Nut, who committed heinous crimes such as forcing 800 tablets of amphetamine into the hands of an innocent suspect, applying electric shocks to suspects to elicit confessions, and mugging 300,000 baht (9,375 USD) worth of property from a suspect's relatives. (Thairath Online, 2009). The other form of bribery can be found among traffic police who extort money from traffic law violators. The two main forms of traffic police extortion are the setting up of illegal toll stations to extort cash, and the setting up of legitimate toll stations with the aim of achieving a certain level of traffic ticket issuance. The type of extortion can range from low-level officers asking 100-200 baht from each offender for personal consumption to organised offence, with the bribes passed up to high-level officials (Manager, 2012). Arunothai Disbanjong (2012), one bribery victim, said she was asked for bribe by an officer as a result of her running a red light. The officer in question reprimanded her and pretended to issue a traffic ticket, but later made an about face and told her to pay a 200-baht bribe so as not to complicate matters. Cases similar to this occur more or less daily, and it is believed that more than half of drivers in Thailand have encountered such an occurrence at least once.

Another form of police corruption is the collection of protection money from illegal business operators, which involves the largest amount of money out of all three areas of corruption. There are several types of illegal businesses in Thailand, with the two most prevalent forms that involve police officials being casino gambling and prostitution. Chuwit Kamolwisit, leader of the Love Thailand Party, a former illegal business operator once considered an archenemy of the Royal Thai Police, routinely exposes the income of officers at all ranks from both types of illegal enterprises. He often shows video clips of major illegal casinos in action through various media, for example, Southern Ord Casino, a massive casino centred in the heart of Bangkok on Soi Pattanakarn 20 in Klong Tan, and Ms. Pure Casino or King Petch Casino by relatives of Dubai People. Each place is a massive operation with more than 100 million baht (3.1 million USD) in yearly revenue, with local policemen and high-level officers acknowledging their existence. Chuwit has mentioned that each casino pays at least 300,000 baht (9,375 USD) monthly to officers. (Manager Online, 2012)

As for prostitution, Chuwit was known as the first operator of such a business who announced the actual figures of bribes he had to pay police officers after an incident in which he claimed he was kidnapped by a policeman in 2003. Since then, he has regularly exposed shady acts by officers, culminating in the latest exposure of police-assisted human trafficking with more than 200 billion baht in yearly revenue (Daily News, 2012).

2. Causes of corruption in the Royal Thai Police

From the aforementioned types of corruption in the Royal Thai Police, in this section, the researcher shall attempt to determine the causes of corruption and why it persists to this day.

The researcher gathers that the primary problem of the Royal Thai Police lies with its structure, which can explain the causes of corruption itself. The Royal Thai Police is a state agency with a juristic person status under the prime minister's command. The agency is divided into central and regional offices, all of which are under the responsibility of a single commander-in-chief, the Commissioner-General. The chain of command descends downwards to the police station level. The organisational structure is centralised, with a 250,000-strong force nationwide (Police Work System Development Committee, 2007).

This organisation structure brings with it several problems, some of which contribute to corruption. The first, oft-mentioned problem is the salary scale for police officers, which is very low compared with that of their foreign counterparts and even with the salaries paid to officials in similar Thai organisations such as the Department of Special Investigation, court prosecutors, or other officials involved in the criminal justice process. To illustrate, we shall assume that the salary of entry-level police officers worldwide is at 1. The salary of such officers in the United Kingdom is at 1.6, in Japan at 1.18 and in Singapore at 1.4, while the figure in Thailand is a paltry 0.64. At a commissioned level, the salary of Thai officers is at 1, Singapore at 1.19, Japan at 1.04, and the United Kingdom at 3.22. Domestic comparison paints a similar picture, with police officers holding a bachelor's degree or better receiving an initial salary

of only 8,340 baht (260 USD), compared with 17,560 baht (548 USD) earned by justice officials. Moreover, the entry-level salary of police officers with a sub-bachelor education is a mere 6,800 baht (212 USD) (Justice and Police Committee, Senate, 2012). Part of the reason why the average salary of Thai policemen is so low is the sheer size of personnel at 250,000, making it difficult to initiate a wholesale pay rise to ensure all earn enough to meet rising living expenses. For example, if all policemen in the agency were to receive a 5,000 baht (156 USD) increase in monthly salary, the government would have to pay an additional 15 billion baht (468 million USD) annually. In other words, it is very unlikely such a pay rise will occur in the foreseeable future. Therefore, it is only logical that this low level of pay will induce officers to be corrupt. Another unfortunate consequence of the low salary level is the so-called 'Harsh organisational value' of Royal Thai Police, i.e., the tacit attitude among police officers toward misconduct, fraud and collection of protection money. Not only do officers see this behaviour as normal, they admire those who amass fortunes from illegal conduct. This harsh value also culminates in unfair appointments, which in turn can be linked to the centralised structure of the police force. Thanks to this structure, high-level officials in the central office can appoint officers at the regional level. Moreover, since there are more officers at the commissioned level than at lower levels, with the former being granted power to hire or fire the latter, the reasons for promotions or demotions are unrelated to work performance, but rather to the personal relationships of officers with higher-ranking officials. In addition, since the Royal Thai Police changed its name from the Police Department and came under the Prime Minister's Office in 2004 (Article 6, Royal Thai Police Act 2004), politicians have become much more involved in the appointment process of policemen. Worst of all, 'harsh value' has led to the conspicuous purchase of positions within the agency, with the asking price for each position being revealed openly. Once those who bought their way up start working in their new positions, they will undergo a 'payback' period during which they tend to take bribes from illegal business operators to make up for the money 'invested' in buying their higher positions. This is why one can see illegal businesses such as casino or brothel-running on the high streets at the centre of cities such as Bangkok, Pattaya and Phuket. In other words, Thai society has been thrown into a state of complete 'anomie'(Durkheim 1933).

3. Structural reform of the Royal Thai Police

The solution proposed by the researcher to tackle the aforementioned problems is structural reform of the Royal Thai Police. Before getting to the possibility of the solution itself, the researcher shall mention the structures of police agencies overseas.

The following are the three police agency structures seen abroad:

1. Centralisation, or a National Police System, consists of a central police agency controlled by a central headquarters with a vertical chain of command. The central agency therefore has power that presides over an entire country. Examples of countries using this system are Chile, Indonesia, Malaysia and Thailand.

2. Semi-Centralisation is a system governed by two or more agencies. Countries using this system have constitutions which stipulate that law enforcement responsibilities lie with the central government, whereas the governance of a police force within a region lies with the local government of that region, which in turn is subservient to the federal government. Japan and Brazil are examples of countries that have adopted this system.

3. A Decentralised Police System is used in countries organised under a union or federation, or ones that have a constitution similar to that of countries employing a semi-centralised police system. In a decentralised system, law enforcement responsibilities lie solely with local governments, be they state or provincial depending on the country's governance system. Examples of countries using this system are India, the United Kingdom and United States (Police Work System Development Committee, 2007).

Given the variegated police administration systems, the researcher singles out the structural reform carried out by New Zealand, a country with the world's lowest corruption rate (CPI, 2011), since its police system is similar to that of Thailand's with paramilitary honours and centralisation of power. However in the 1950s, New Zealand has moved from centralisation toward a decentralised system.

New Zealand has one of the most trusted police systems in the world, judging by the country's citizen safety index. Most New Zealand policemen do not carry guns, only batons, except certain officers within special forces who are allowed to carry guns on a case-by-case basis. The New Zealand Police Force was established in 1842, with officers being decorated with the same honours as soldiers and power concentrated in the headquarters in the capital Wellington in accordance with the New Zealand Police Act 1886. The New Zealand police underwent a major reform in 1955 after Prime Minister Sidney Holland stipulated that police officers become full-on civil officers, with the appointment of a civilian to command the National Police Force instead of Commissioner Eric Compton. The name of the agency was shortened to New Zealand Police, with all officers' titles becoming 'civil servant'. All positions at the commissioned level were abolished, with all officers taking common titles, i.e., Mr, Mrs and Miss, just like ordinary citizens.

This reform directly affected the old system, with the separation of the police force into 12 precincts and each precinct given powers to employ and promote officers up to Inspector level. At a district level, the police are governed by a Superintendent, an equivalent of police colonel under the old system. This structural reform has resulted in a dramatic drop in the number of officers at the commissioned level, with current breakdown of 5 percent commissioned officers, 20 percent sergeant majors, and 75 percent sergeants or lower. This resulted in the police rapidly being transformed into civil servants (Dunstall, 1999)

This decentralisation of power also resulted in a very low level of corruption among New Zealand police. The employment of local officers within each precinct also led to more effective crime prevention due to better understanding of the problems within each respective area.

4. Suggestions on Thai police reform and corruption eradication

Since 2006, there have been studies in Thailand that aim to offer concrete suggestions on how to reform the structure of the police force, with the establishment of the Police Work System Development Committee chaired by Police-General Wasit Dejkunchorn. Wasit (2007) stated that the 'Royal Thai Police has a rather clumsy structure, with long chains of command and command overlaps, intervention from headquarters in operation and promotion'. He suggested that 'The structure of Royal Thai police is obsolete, with power concentrated in central headquarters and not distributed to other regions. I am in favour of reform toward a more decentralised system.' It can be seen that ideas to make the police force more decentralised have existed for more than half a decade; however, the current structure remains immutable because the powers-that-be, who have the means to reform, are not in favour of decentralisation as their powers would be subsequently reduced. Even though such reform would change Royal Thai Police for the better, the agency still lacks commanders willing to sacrifice their personal benefits for the greater good.

Not only is suggested structural reform yet to be carried out, the researcher is also of the opinion that the suggested reform fails to take into account the link between corruption among police and structural reform toward a more decentralised system. The researcher maintains that such reform will be able to alleviate corruption problems since they are inextricably linked to a centralised police system that results in high-level officers having too much power. The unfortunate consequences of this are embezzlement of government funds, since the funds are allocated to a single agency; bribery from citizens at a high frequency and amounts, since the bribes are passed up to higher-ranked officials along the chain of command; and collection of protection money, which is also passed up the chain of command, from illegal business operators.

The distribution or separation of police power would be effective in partially severing the chain of command that in turn can discourage the passing of bribes. It would also reduce the power of high-level officials, making them unable to intervene in the appointment process of lower-ranked policemen, which in turn can prevent the purchases of positions that are one of the causes of bribery and protection money collection. Most importantly, the decentralisation of police power or the downsizing of the agency would result in a general increase in police salaries, weakening the oft-mentioned reason for corruption.

Structural reform of the Royal Thai Police toward a more decentralised system can not only cut the line of command and reduce widespread corruption among officers, but a more separate system would

allow for comparative examinations to identify areas of concern. For example, if police corruption is rampant in a particular province but rarely seen in another, it would be easier for the government to pinpoint the problem and effect of a streamlined solution such as cutting police funds to that particular province or sacking the guilty officers. In addition, if a democratic system is applied to the administration of police in each province, for example, a police chief for each province elected from the populace, the researcher is of the view that this system would make officers work harder for the citizens, and thus change the current 'harsh value' whereby officers only work for their bosses or politicians.

5. References

Arunothai Disbanjong. (2012). Highway police asked for illegal money: Shame on protector of law and order. Retrieved August 19, 2013, from http://www.l3nr.org/posts/520951

Chakrit Thiebtheanrat. (2007). Police system in New Zealand. Manager Magazine. Retrieved September, 2013, from http://www.positioningmag.com

CPI. (2011). Corruption perception index 2011. Retrieved August, 2013, from http://cpi.transparency.org/cpi2011/

Daily News. (2012). Police-assisted human trafficking. Retrieved August, 2013, from http://www.dailynews.co.th/Content/crime/61975/

Dunstall, G. (1999). *A policeman's paradise? Policing a stable society 1918-1945*. The history of policing in New Zealand. Vol.4. Palmerston North: Dunmore Press.

Durkheim, E. (1933). *The division of labor in society.* New York: Macmillan.

Justice and Police Committee, Senate. (2011). Police salary: Research to overhaul salary structure. Retrieved August, 2013, from www.senate.go.th

Khaosod (2009). "Pol. Maj. Gen", leader of police corruption gang, to be culled. Retrieved August, 2013, from http://www.khaosod.co.th

Manager Online. (2012). Chuwit has mentioned that each casino pays at least 300,000 baht. Retrieved August, 2013, from http://www2.manager.co.th/CyberBiz/ViewNews.aspx?NewsID=9550000009435

Pol.Gen. Wasit Dejkunchorn. (2007). "Wasit Dejkunchorn", to develop the police, Structure to be changed, power to be distributed. Retrieved August, 2013, from www.isranews.org

Police Work System Development Committee. (2007). *Basic knowledge on foreign police*.

Supoj Suroj. (2007). *Extent and definition of financial crime*. Bangkok: Dharmaniti Accounting and Tax Company Ltd.

Thairath Online. (2009). Five-year Jail for Captain Nut, Patrol Police Gang, who Forced Drugs and Extorted. Retrieved August 2013, from http://www.thairath.co.th

Witayakorn Chiangkul. (2010). Conflict of interest on business matters: Chorratbangluang and Forms of Corruption. Retrieved August 19, from http://witayakornclub.wordpress.com

RJSH Vol. 1, No. 2, July – December 2014, pp.53-65

Green Architecture Movement in AEC: The Rethink

Nadahorn Dhamabutra[1*], Veerachat Phromsorn[2], and Korlakod Pansakul[3]

[1]Faculty of Architecture, Rangsit University, Pathumthani, Thailand 12000
[1]E-mail: Nadadhorn.dhamabutra@gmail.com
[1,2,3] Aesthetics Architects Co.,Ltd., Bangkok, Thailand 10400
[2]E-mail: jobbby@yahoo.com, [3]E-mail: k_kodoll17@hotmail.com

[*]Corresponding Author

Submitted 15 April 2014; accepted in final form 28 May 2014

Abstract

This article seeks to raise awareness of issues relating to 'green' (sustainable) architecture in ASEAN countries. The pending establishment of the ASEAN Economic Community in 2015 is likely to stimulate increased economic activity, causing population movements and increases in the population of major cities with associated increases in energy consumption. The built environment will need to respond to these changes to enable a sustainable future. This article presents an overview of the current state of green architecture and sustainable design within ASEAN.

Keywords**:** *green architecture, sustainable, ASEAN*

1. Introduction

Thailand and other ASEAN countries have been trying to work together to increase economic growth, cultural bonding and development, and social cooperation. ASEAN countries are preparing for the establishment of the ASEAN Economic Community (AEC) in 2015, and this economic agreement is expected to create opportunities at all socio-economic levels, as well as strengthen regional relationships along the lines of the European Union. A consequence of the growth will be increased regional energy consumption. There is likely to be an increase in inter-regional travel, and increased construction to handle denser population in big cities, creating urban development challenges, especially given that most construction will be residential and commercial office buildings. More energy will be wasted as a sacrifice to this international collaboration. This raises concerns relating to increasing city sizes, including the need for more awareness of environmental impacts, the imperative of reducing pollution, the need for more open spaces for leisure and the need to reduce urban heat island effects.

These issues are activating a more sustainable trend into building new infrastructure in the ASEAN region to cope with the emerging problems and to increase efficiency and sufficiency. This response is not new to the world. The innovative work of architects Frank Lloyd Wright and groundbreaking designs of R. Buckminster Fuller pioneered sustainable architecture a few decades ago although at the time their creations were viewed more as art than harbingers of a movement toward sustainability. Green or sustainable architecture is described as an architectural idea or structure that is environmentally responsible and resource-efficient. Green buildings aim to reduce waste, minimize energy use and provide a healthy environment for their inhabitants. This requires synergy through the design, construction, operation and maintenance of buildings. Though such buildings commonly have higher construction costs, these should be recouped through energy savings in years to come.

With the need to go green at every level of society, citizens need to be more environmentally conscious and more knowledgeable about the issues. Being eco-friendly encompasses using resources efficiently and understanding the need to conserve the finite resources of our planet. Despite the challenges facing us, green architecture is still not widely embraced in the region, notwithstanding its attractions and benefits. This article will review the progress toward greener architecture in major ASEAN countries and the AEC.

Figure 1 Carbon emissions tons per capita 2007

2. Singapore

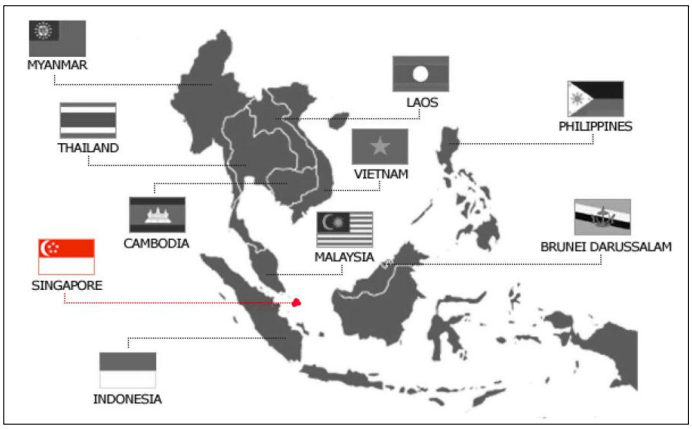

Figure 2 Singapore in ASEAN

Singapore, a small country on the equator, is the regional master of sustainable land and structure development. Of all the ASEAN countries, Singapore leads the green movement. As a starting point, the island doesn't provide much to its people. Its resources are limited, starting with its small land area and insufficient quantity of potable water. Because it lacks the more abundant resources of other countries in the region, Singapore had to be more concerned about natural resource management. The competitive edge that Singapore has compared with other countries is born of the fact that it is a wealthy and developed country with limited land, so its people have a better sense of conservation and the need to optimize their resources. In other words, they tend to be more environmentally conscious out of necessity. As a consequence of the country's circumstances and assistance given under the British government, the design industry in Singapore works seriously toward sustainability and conservation for future development, making the green movement more high profile and successful there in both public and private sectors. It is supported by the government's implementation of a strong regulatory framework and financial incentives.

Figure 3 Sentosa island, Singapore

Singapore started by optimizing its land use and implementing extensive land reclamation to build major infrastructure projects such as Sentosa Island with sand bought from Malaysia. The land reclamation is said to help conserve the area habitat However, excessive land reclamation might have more negative effects on the natural environment than anticipated. It reduces an overpopulation problem, but may have caused other problems. Nevertheless, Singapore has thorough and intricate urban planning management, making it systematic and much more advanced than in neighboring countries.

By using easily manageable urban designs that do not harm the environment, the city-state is moving in a well-researched and predictable direction. Singapore is the hub of green architecture in South East Asia and one of the leaders in Asia. The country lacks vernacular architecture, so it is comparatively easy for it to move to a modern style of design and architecture. It doesn't have to preserve traditional buildings and infrastructure; architects there have freedom to be creative. The modern, green architecture movement is in sync with local values and in line with world trends.

Figure 4 The Singapore Green Building Council's (SGBC's) logo

The Singaporean government has taken an active role in instigating academic research and development of green technology. The Singapore Green Building Council (SGBC), founded in October 2009 as a non-profit organisation, was established to help Singapore achieve greater sustainability in the architectural industry. The government Building and Construction Authority Green Mark Scheme, started in 2005, awards certificates to buildings that meet the Green Mark criteria and has been mandatory for new developments since 2008. Some well-known examples of such eco-friendly buildings are the National Library, Fusionopolis and the Solaris Building by Ken Yeang, who has been the mastermind behind the success of Singapore's green architecture movement. Many other buildings in Singapore are green enough

to pass the Green Mark criteria. Common features, for example, are reduction of interior heat from outside solar exposure while optimizing use of daylight because Singapore is hot and humid year round. Some buildings use recyclable concrete or other materials to save energy. Realtor CB Richard Ellis once said that, 'Singapore impresses not just by the pace of green building adoption, or the sheer numbers of green buildings it now boasts, but also by the industry-leading technologies and practices being employed in the market.'

Figure 5 Solaris Building, Singapore

Figure 6 Fusionopolis, Singapore

Figure 7 National Library, Singapore

The SGBC is a key factor in making Singapore a leader in this field. It is very pro-active in promoting sustainability in building and organizes events such as the annual Singapore International Green Building Conference (IGBC), Singapore Green Building Week (SGBW), and BEX Asia. These events are especially effective as they are open to the public, creating a free education platform encouraging greener communities and lifestyles. They showcase innovation in the industry, inspiring other companies and increasing the opportunities for collaboration. The council also holds "Project Green Insights" with Singapore's Ministry of Education (MOE) to increase awareness about environmental issues in school. This is a good method of making citizens familiar with the issues at a young age, and promotes a greener outlook as they grow older. Basically, the organisation helps enhance professionalism and knowledge in sustainable development, a factor that is crucial in building a new generation who will be more supportive of such innovation and ideas in architecture.

3. Malaysia

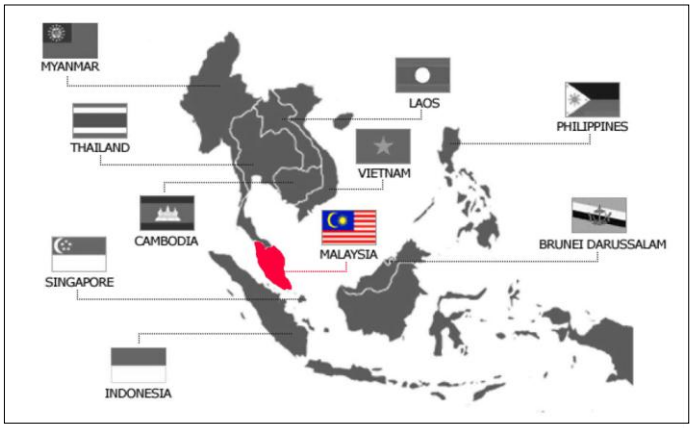

Figure 8 Malaysia in ASEAN

Figure 9 Mr. Ken Yeang

Malaysia has very different circumstances but is second to Singapore in the region with regard to progress toward greener architecture. Malaysia includes areas that receive a lot of rainfall with a more overtly tropical climate than Singapore. To build more sustainably, reduce energy use and simultaneously create comfortable living spaces suited to Malaysia's climate, local architects have been led to blend vernacular architecture with contemporary styles. In the capital city, Kuala Lumpur, new high-rise building projects have sprung up as a consequence of recent economic growth. Ken Yeang, a Malaysian, is a prominent advocate of green architecture in the country while also being well respected in Singapore.

Figure 10 Green Building Index's (GBI's) logo

Similarly to Singapore, Malaysia has developed standards in evaluating and promoting green building techniques. The Green Building Index (GBI) is a profession-driven initiative to lead the industry to become more eco-friendly and is well supported by the construction sector. GBI is the only rating tool for the tropical zones other than the Singapore Green Mark scheme. The difference lies in that the Malaysian standard focuses more on water supply management and energy use, reflecting different national resources and thus priorities. The initiative also helps raises awareness amongst involved parties, such as architects, engineers, designers and contractors.

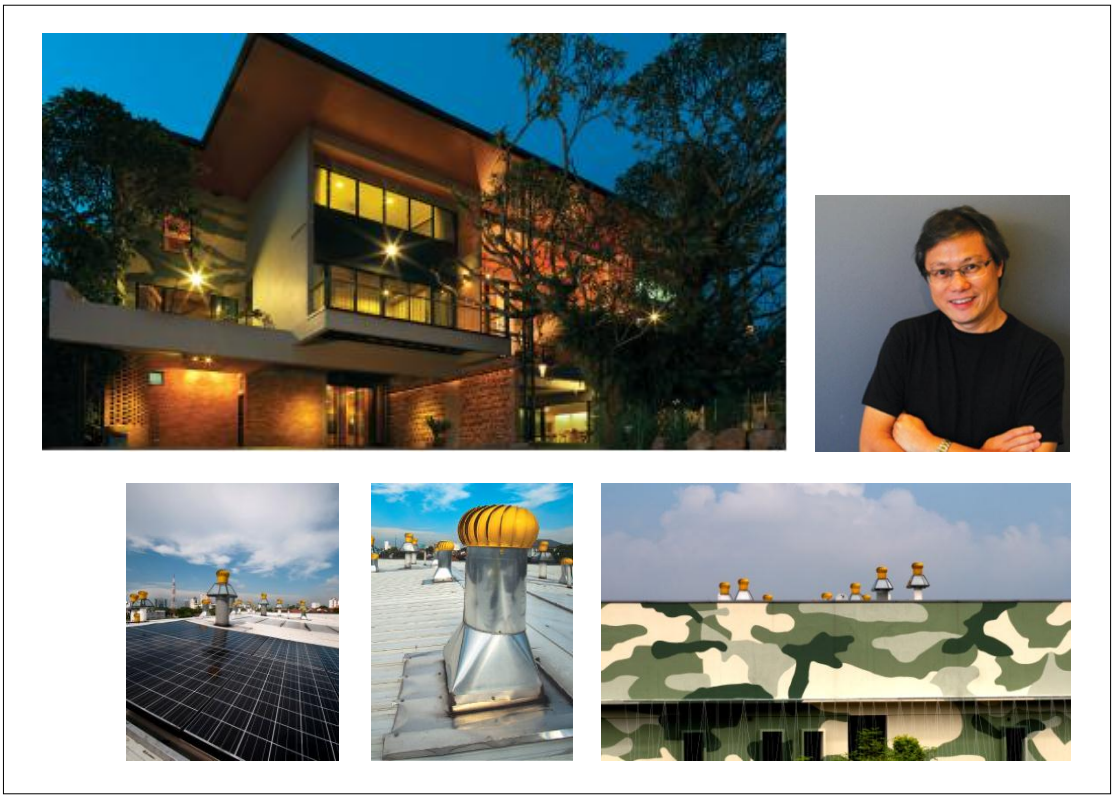

Figure 11 S11 House: Malaysia's first GBI Platinum residential home – comprised with a specially designed wind turbine for ventilation system and solar cells to generate electricity, designed by Dr.Tan Loke Mun.

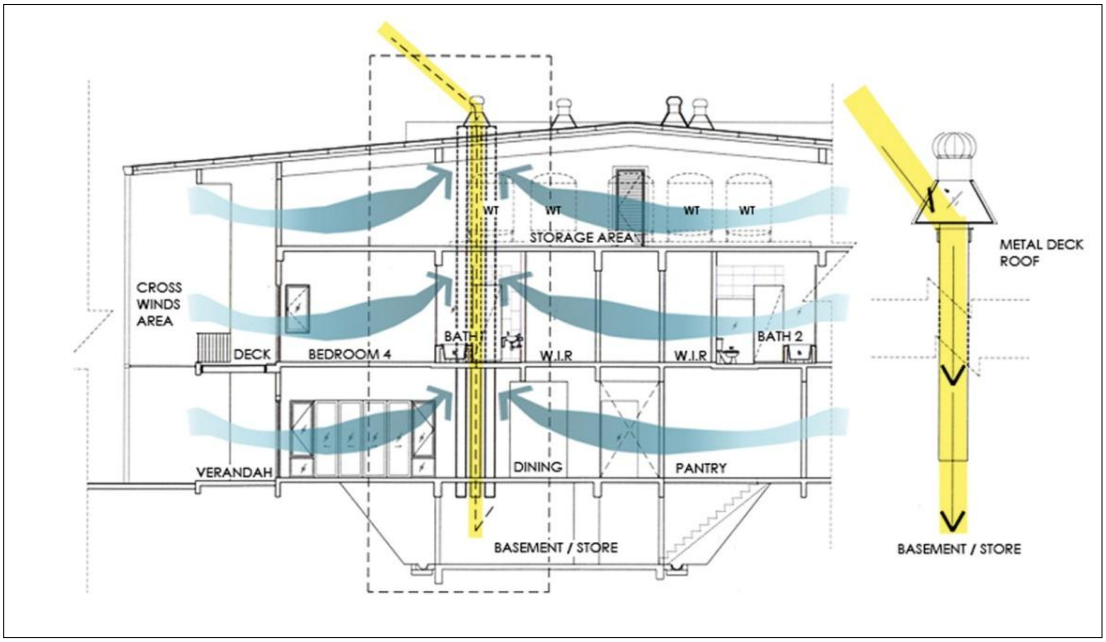

Figure 12 S11 House: Architectural drawings

Figure 13- S11 House: Architectural drawings

Malaysia would arguably make faster progress if it developed a self-regulation framework alongside the government one, as the green initiative needs strong support from all sectors. Furthermore, awareness campaigns should be strengthened toward all levels of society. Campaigns to date have tended to focus on those at the top of the industry, paying less attention to the site workers who construct the buildings; the primary influence is directed at management. This limits the progress that can be achieved. Citizens should also be part of the education process to create a new generation of sustainability-prone minds. A comprehensive and integrated approach would lead to better future outcomes. As noted earlier, this kind of industrial movement needs support at all levels. Strong support for sustainable architecture has to be collective and mutual, and requires commitment from all sectors of industry and society.

As more money is invested into developing greener technology, it leads to developments that are more energy and water efficient: one of the green building eco-trends of this year. These include motion detector lighting for hallways and toilets, as well as waterless toilets. Many of these technological improvements are controlled by intelligent building management systems, which are getting more popular and optimise energy savings.

A number of notable green buildings in Malaysia and several green projects are at the planning and development stage. One is a megaproject that involves creating a green metropolis, Iskandar, in the south of Malaysia with an area three times that of Singapore. This is planned to be the core of Malaysia's sustainable development plan as a super green and socially integrated city initiated by Malaysia's Global Science and Innovative Advisory Council (GSIAC).

Figure 14 Iskandar project, Malaysia

The city will run on green energy to minimize pollution and enhance the lives of the people. The city plan includes renewable energy production and waste recycling. The grand ambition of the scheme may seem unachievable, but the project is underway. It is easier to create a new city than to recreate or renovate an existing one. Adopting sustainability at the infrastructure level and in urban development planning can encourage other stakeholders to follow suit. This eco-city will not be just a center of green technology. It aims to achieve social equality and stability, too. The plan is a great model for modern urban planning that will both heighten the quality of life and conserve energy. If it is successfully realized, this city of the future may set an example for urban developments around the world to imitate.

All this is easier said than done. It is one thing to create a city with a structurally green environment, but another to ensure that the population living and working there is correspondingly green.

This has to be achieved gradually through education and regulation. The people must believe in the need to go green: results can be measured through their actions. Unless the citizens feel involved, the city would just be a technological showcase that did not deliver on its promise.

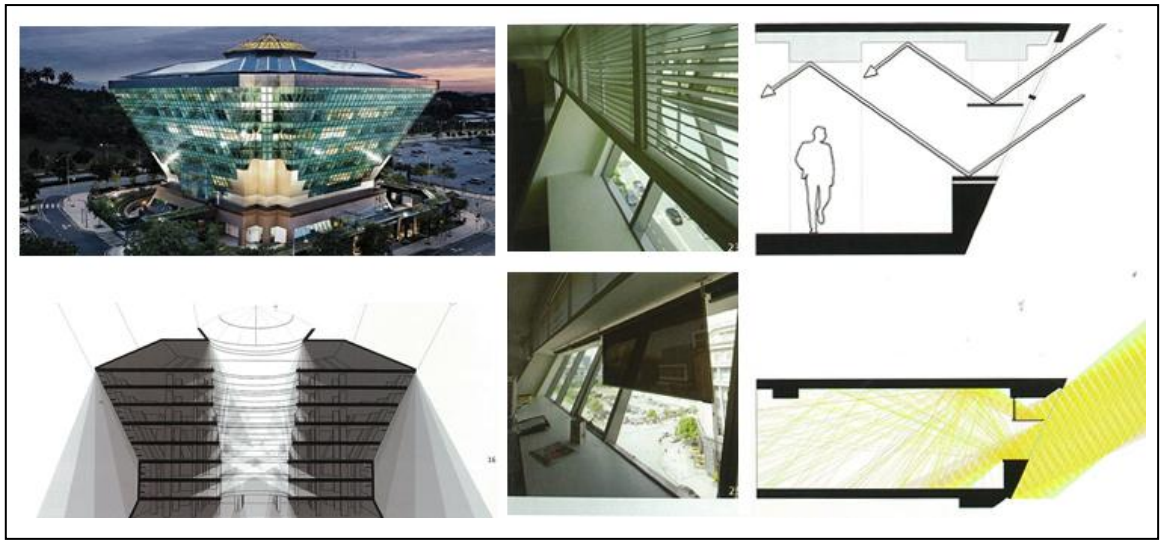

Figure 15 Diamond Building, Malaysia

A specific structure worthy of note is the Diamond Building in Putrajaya, which was praised as the most energy-efficient building at the ASEAN Energy Awards (AEA) 2012. This building uses only one-third of the amount of energy used by a normal building, but its roof incorporates solar panels and recycles rainwater. It optimises the use of natural sunlight with a large central atrium, and uses coils embedded in the concrete floor slabs to keep the building cool. Interestingly, this award-winning building was designed by NR Architect with Thai architect Dr. Soontorn Boonyatikam. Solar panels have become a given in the design of all green buildings in the region.

4. Thailand

Thailand is an ideal hub for the AEC. It has plenty of land still available for development. However, such development needs to be carefully coordinated and regulated if it is to help guide Thailand toward a more sustainable future. With many diverse influences and a range of assessment tools in use, there is no commonly accepted understanding of what ‘green’ means. There is little in-depth appreciation of the pressing need to move toward a more environmentally friendly built-environment and lifestyle: more a vague feeling that ‘because it’s popular elsewhere, we should follow suit.’ Truly green buildings are not a high priority for most, in line with a widespread lack of interest in conservation and environmental friendliness. ‘Green’ is widely treated in a superficial way, as a marketing trick to add a surface gloss to a fundamentally conventional design.

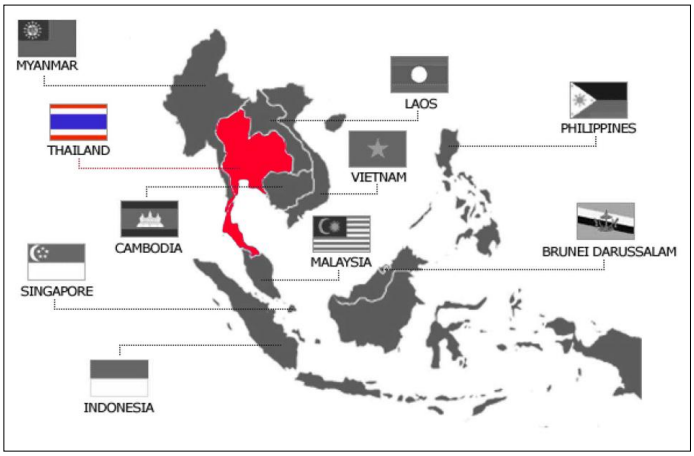

Figure 16 Thailand in ASEAN

However, Thailand does have its own sustainability measurement rating for buildings, called TREES (Thailand's Rating of Energy and Environmental Sustainability). This in time should encourage Thai architects to create designs driven from conception by a fundamental focus on sustainability, rather than a perceived need to pay lip service to a trend. In developing the TREES standard, Thai architects drew strongly on the well-known LEED (Leadership in Energy and Environmental Design) standard developed in the USA. Creating a Thai variation of the LEED concept makes good sense, as it can be adapted to suit the different climatic conditions, available locally resources and infrastructure conditions. TREES will provide a framework for structural consulting and will grant awards. TREES acknowledges that a green building doesn't necessarily need state-of-the-art materials or the most advanced technology. The key requirement is an appropriate design and a well-planned building management system. The initial cost for a 'green' building is usually higher than for a conventional one, but the payback over the life of the building generally makes it a sound financial investment. Research carried out in California indicates that a 2% investment to achieve LEED certification would save 10 times that amount over a building's lifecycle.

Some of the criteria TREES uses to evaluate deserving buildings include building management, site and landscape, water conservation, energy and atmosphere, materials and resources, indoor environmental quality, environmental protection and green innovation. Three levels of 'greenness' can be certified by the organisation: Platinum, Gold and Certified. TREES also published the Green Guide to inform present and future architects about building green. Workshops and seminars are held to highlight the importance of these issues and to educate people in the industry. The organisation aims to spread the idea of green building and encourage people to become more involved in the movement.

Figure 17 Park Ventures, Thailand

Noteworthy green buildings in Thailand are mostly in Bangkok. Park Ventures, an office building in one of Bangkok's most commercial districts of, is certified Platinum by LEED. A key element of the building design is the use of triple-gazed low-E glass, which reduces the heating effect of sunlight on the building, making it more comfortable and greatly reducing the demand for air conditioning and the energy to provide it. Intelligent lighting automatically dims in response to ambient light levels and switches off when unneeded. A grey water system enables wastewater to be used for watering plants, which in turn improves the building's environment. All sanitary fixtures are water efficient, including sensor-activated taps and water-saving lavatories. The building is an excellent example of a green building to hold up to the new generation of Thai architects: innovative, aesthetic and eco-friendly. It has also managed to achieve a higher rental rate, demonstrating that eco-design can bring financial benefits.

Figure 18 Thanya Park, Thailand

Another good example of a green building in Thailand is the new outdoor shopping complex in Bangkok, Thanya Park, which claims to be the first and (so far) only Eco shopping park in Thailand. The building incorporates many trees, plants and open spaces that aid ventilation.

Green architecture is just starting to make an impact in Thailand, or at least in Bangkok. The key is to design green buildings that justify their additional costs by the lifecycle savings they will achieve and by the increased desirability that their eco-features generate (as in the case of Park Ventures). When the objectives of the eco-conscious architect and the commercial developer are brought into alignment in this way, then real progress toward a sustainably built environment can be made.

5. Other ASEAN countries

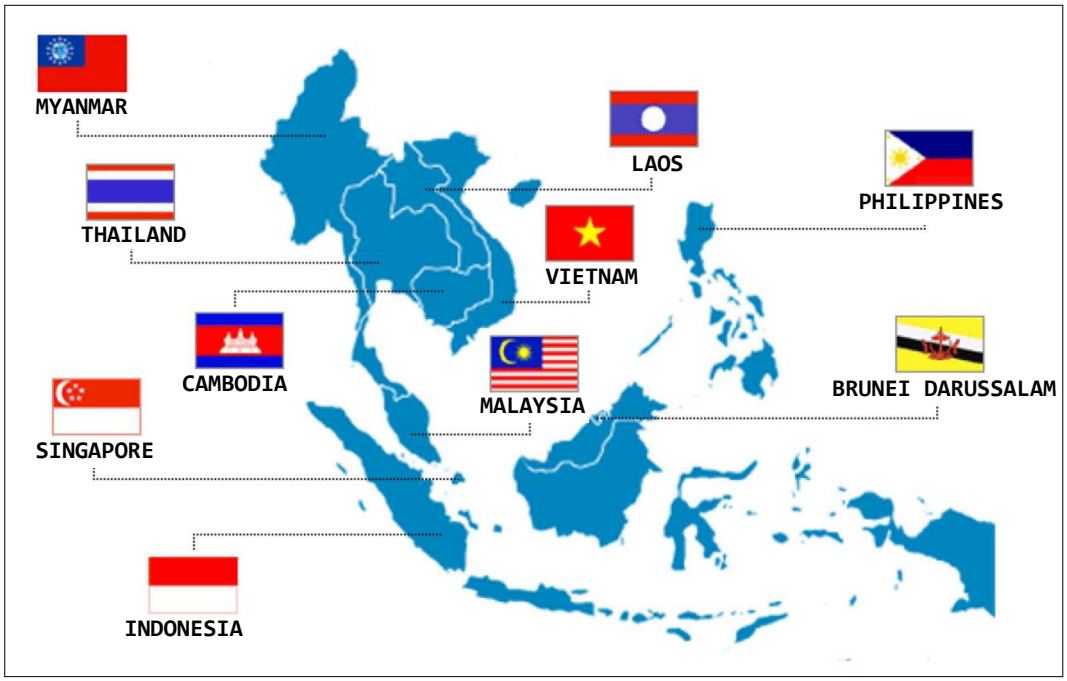

Figure 19 ASEAN member countries

Unlike Malaysia or Singapore, which has adopted the British urban management system, the other ASEAN countries are far behind in embracing green concepts. They have just started their own national green standards after years of unstandardized methods that failed to capture any widespread support. They now mostly have plans and projects that are ready to be developed, but it will take time for environmental awareness to grow. Political instability, natural disasters and economic constraints may also limit progress toward eco goals.

In the Philippines, the first certified 'green' project began in 2011, the Net Metropolis. This is the flagship development of Philippine Green Building Council (PHILGBC) — a national not-for-profit organisation to answer to local environmental needs. The Net Metropolis will become an iconic landmark in the country's main business district, which represents the country's future. The chairman of the Net Group Jacques Dupasquier said, 'As the Philippines is answering the call to go "green" in Southeast Asia, we needed a visionary who could solidify our spot at the front of the movement.' The tower will feature passive external shading and high-tech glass to minimize solar heating, while the design optimises use of natural light. There will even be vertical-axis wind turbines on the roof.

The Philippines' rating system, Building for Ecologically Responsive Design Excellence (BERDE), responds to the country's environmental needs: another variant strongly influenced by the United States' LEED system. BERDE has evolved from an internationally accepted green building system into a standard better suited to the region. As Christopher De la Cruz, Chairman of the PHILGBC observed, 'As the rating systems from other countries didn't apply to our tropical weather, laws, best practices, or realities, local industry clamored for its own green building system. The PHILGBC responded by facilitating a consultative and consensus driven process to create the Philippine Green Building Rating System [BERDE]. This was the best way to transform the market.'

Interestingly, even though the Philippines doesn't have many completed green buildings, many people are enthusiastic about the green movement and have established a civic organization, Green Architecture Advocacy Philippines (Green AP), that is concerned about the environment and takes action by promoting sustainable development in the construction industry. The group generates positive responses via Facebook and through organising events and gatherings.

Brunei launched its Green Building Council (GBC) in May 2013 and is developing a new green policy. It is creating a rating tool, the Green Building Index, to provide a benchmark for future building developments in the country. Indonesia is similarly developing a green construction policy and established the Green Building Council Indonesia in 2009.

6. Conclusion

ASEAN countries still lag far behind the West in implementing green thinking in architecture and construction, but awareness is growing, especially and initially in Singapore and Malaysia. The environmental imperatives are different in tropical countries in the USA, where the leading international standard LEED was developed, and this has led to the creation of localised variants of green building standards. The key to future progress toward more widespread adoption of sustainable and eco-friendly buildings is the cost/benefit equation. If green buildings can be shown to provide an enhanced long-term return on investment, then they will become more attractive to developers. At the same time, if eco-awareness can be encouraged among the public, then public pressure for more environmentally friendly designs will provide an additional driver.

7. References

Inspiring a Greener Singapore as a Green Beacon of Asia. Retrieved June13, 2013, from http://www.sgbc.sg/about-us/about-sgbc/introduction/

Ar, Z. M. D., & Nor, A. H. (2012). Sustainable Building in Malaysia: The Development of Sustainable Building Rating System, Sustainable Development, 114-135. Retrieved June 13, 2013, from http://cdn.intechopen.com/pdfs/29275/InTechSustainable_building_in_malaysia_the_development_of_sustainable_building_rating_system.pdf

Suhaida, M. S., Chua. K. H., & Leong, Y. P. (2011). Sustainable Development in the Building Sector: Green BuildingFramework in Malaysia. Retrieved June 15, 2013, from http://www.academia.edu/3144227/Sustainable_Development_in_the_Building_Sector_Green_Building_Framework_in_Malaysia

Taz, L. (2012). Iskandar Malaysia to be a model sustainable and socially equitable city of the future. Retrieved June 15, 2013, from http://inhabitat.com/iskandar-malaysia-to-be-a-model-sustainable-and-socially-equitable-city-of-the-future/

Al, B. (2012). Malaysia's Stunning Green Diamond Building Wins Southeast Asia Energy Prize. Retrieved June 16, 2013, from http://inhabitat.com/malaysias-green-diamond-building-wins-southeast-asia-energy-prize/

OverView of Park Ventures. Retrived June 19, 2013, from http://www.park-ventures.com/overview/index.php

Green and Eco Design for Sustainable Future and LEED Preparation 2012. Retrieved June 20, 2013, from http://thaipublica.org/2012/03/green-architecture-not-fashion/

Xaroj, P. (2012). Park Venture Green architecture in the urban city. Retrieved June 29, 2013, from http://www.creativemove.com/architecture/park-ventures/

Atch, S. (2012). Green Architecture: The Sustainability Challenge. Retrieved June 29 2013, from http://www.asa.or.th/sites/default/files/file/public/A_03.1%20tata.pdf

Thaipost (2009). The most outstanding 9 Green architectures. Retrieved July 1, 2013, from http://www.thaipost.net/node/4442

Nopphorn, C. (2009) Green architecture. Retrieved July 3, 2013, from http://info.gotomanager.com/news/details.aspx?id=78819

ASTV. (2010). Green building in Thailand . Retrieved July 5, 2013, from http://www.manager.co.th/Weekly54/ViewNews.aspx?NewsID=9550000102829

Furuto, A. (2011). First certified Green Project in the Philippines / Oppenheim Architecture +

Design. Retrieved July 5, 2013, from http://www.archdaily.com/113884/first-certified-green-project-in-the-philippines-oppenheim-architecture-design/

Rachel, T., & Thien, B. S. B. (2013). Brunei to launch Green Building Council tomorrow. Retrieved July 5 2013, from http://www.bt.com.bn/news-national/2013/05/10/brunei-launch-green-building-council-tomorrow

Greg, K., Leon, A., Adam, B. E. M., & Jeff, P. (2003). The costs and financial benefits of Green Buildings: A report to California's Sustainable Building Task Force. PDF

Singapore Government. (2010). Legislation on environmental sustainability for building. Retrieved January 1, 2014, from http://www.bca.gov.sg/Envsuslegislation/Environmental_sustainability_legislation.html

APPENDIX A

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

ACKNOWLEDGEMENTS

The launch issue of the RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH) would have been difficult without the assistance and efforts of many competent people who graciously lent their support. The Editor would like to thank all the reviewers who have given so generously of their time to assess manuscripts submitted to the Journal in the period July to December 2014. The Editor is grateful for their advice and for their promptness in dealing with the manuscripts. The following is a list of acknowledgements of those who offered expert counsel and guidance on a voluntary basis, reviewed manuscripts, contributed manuscripts, or provided other means of assistance.

The editorial staff are indebted for their kindness and commitment to the Journal and the academic profession. We gratefully appreciated their contributions.

Andrew-Peter Lian, *Suranaree University of Technology, Thailand*
Anek Laothamatas, *Rangsit University, Thailand*
Anuchat Poungsomlee, *Mahidol University, Thailand*
Anusorn Tamajai, *Rangsit University, Thailand*
Arthit Ourairat, *Rangsit University, Thailand*
Brian Gibson, *TOP Education Institute, Austraila*
Newcastle Business School, Austraila
Carmine Bianchi, *University of Palermo, Italy*
Chaiyosh Isavorapant, *Silpakorn University, Thailand*
Chartchai Trakulrungsi, *Rangsit University, Thailand*
Chavanut Janekarn, *Ministry of Justice, Thailand*
Chitriya Pinthong, *Rangsit University, Thailand*
Chutisant Kerdvibulvech, *Rangsit University, Thailand*
Eakachart Joneurairatana, *Silpakorn University, Thailand*
Estelle Alma Maré, *University of the Free State, South Africa*
Fumi Masuda, *Tokyo Zokei University, Japan*
Jan Golembiewski, *The University of Sydney, Australia*
Jirakorn Gajaseni, *Asian Disaster Preparedness Center, Thailand*
Jomdet Trimek, *Rangsit University, Thailand*
Jun Jiang, *Mahidol University, Thailand*
Kanitsorn Terdpaopong, *Rangsit University, Thailand*
Krisanaphong Poothakool, *Rangsit University, Thailand*
Lam Yan Yan, *Hong Kong Design Institute, Hong Kong, China*
Nam Hoang, *University of New England, Thailand*
Nares Pantaratorn, *Rangsit University, Thailand*
Narumit Sotsuk, *Rangsit University, Thailand*
Noppadol Soonthornon, *Rangsit University, Thailand*
Normah Omar, *Universiti Teknologi MARA, Malaysia*
Nuchjaree Pichetkun, *Rajamangala University of Technology Thanyaburi, Thailand*
Omar Al Farooque, *University of New England, Australia*
Orlando Dela Cruz Canonoy, *Rangsit University, Thailand*
Paul Joseph Bradley, *University of Thai Chamber of Commerce, Thailand*
Peeradorn Kaewlai, *Thammasat University, Thailand*
Peter Duff, *University of Aberdeen, UK*

APPENDIX B

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

NOTE FOR AUTHORS

1. Aims and Scope

Rangsit Journal of Social Sciences and Humanities (RJSH) is an international scholarly journal officially published biannually, in print and on-line. The months of publication are January and July. It is a multidisciplinary journal that aims to provide a high profile vehicle for publication of various new issues in different academic areas. The scope of the *Journal* encompasses, but is not limited to, social sciences, and humanities.

2. Submission Deadline

Submissions are to be permanently open. A manuscript submitted between July 1st and December 31st will be considered for publication in the January-June Issue of the subsequent year whereas a manuscript submitted between January 1st and June 30th will be considered for publication in the July-December Issue.

3. Categories of Articles

The *Journal* accepts the following types of articles:

1. **Research Articles:** A research article is a regular quantitative or qualitative article which aims to present new findings or interpretations.
2. **Notes or Address:** A brief record of something or speech written down that presents important issues.
3. **Review Articles:** There are two types of review articles: non-systematic (or journalistic) reviews and systematic reviews. Non-systematic or journalistic reviews provide a summary of evidence derived from primary studies that have been selected and synthesized according to the author's personal and professional perspective. Non-systematic reviews can cover a wide range of subject matter at various levels of totality and comprehensiveness. Systematic reviews, on the other hand, provide summaries of related primary studies that have been searched for, evaluated, and selected and reported according to a rigorous methodology.
4. **Innovations:** An innovation is an article which aims to present creative arts and designs, procedures or devices.
5. **Comments or Critiques:** A comment or critique is a short article that makes comments or replies to a comment on another article already published by this Journal.
6. **Book Reviews**: A book review is a short article that is written by a specialist and read by the general community. The aim of a book review is to give a brief summary of the book's strengths and weaknesses and to evaluate the book's overall usefulness to the audience it is intended for.

Research articles, review articles, and innovations should not exceed 15 pages of standard A4 paper using *RJSH* format. Notes, comments or critiques, and book review should not exceed 5 pages. Template for research articles is available at www.rsu.ac.th/rjsh. All categories of articles must coincide with manuscript preparation instruction (see Manuscript Preparation Section).

4. Editorial Policies

RJSH accepts only the work that has not been published; that is not under consideration for publication, elsewhere; and that its publication has been approved by all co-authors and the relevant authorities responsible at the institute where the work was conducted. Submission also implies that the authors have already obtained all necessary permissions for the inclusion of copyrighted materials, such as figures and tables from other publications. Previously published work will not be considered for publication. Submitting a copied piece of writing as one's own original work is considered plagiarism. The *Journal* is published by Rangsit University Press, Thailand. Contributions are in English. Copyright is by the publisher and the authors.

***Authorship*:** *RJSH* expects that all of the authors listed on a manuscript have contributed substantially to the submitted paper. By submission of the manuscript, cover letter, and Copyright Transfer Agreement (CTA), the corresponding author affirms that all named authors have agreed to be listed as authors of the paper. Furthermore, by their signatures on the CTA, all authors affirm that they have both read and approved the manuscript, and that they take full responsibility for the content of the article.

***Review Process*:** *RJSH* assumes responsibility for insuring that submitted manuscripts receive expert and unbiased reviews. *RJSH* strives to complete a peer review of all submitted papers and the publication of accepted manuscripts in a timely manner and to keep the authors informed of any problems with their manuscript. All submitted manuscripts are initially evaluated by the Editor-in-Chief in consultation with members of the Editorial Board before being sent for double-blind review. *RJSH* is under no obligation to submit every manuscript to formal peer review. Manuscripts that are judged by the editors to be inferior or inappropriate for publication in the *Journal* may, at the discretion of the Editor-in-Chief, be rejected without formal written reviews by referees. *RJSH* attempts to obtain at least two written reviews for each manuscript that is entered into the peer review process, although the Editor-in-Chief has the discretion to make final decisions about the disposition of a manuscript with fewer than two reviews. The reviewers' evaluations will be used by the editors to decide whether the paper should be accepted, revised or rejected. A copy of the referees' comments will be sent to the corresponding authors whose paper needs revision. All reviewers serve anonymously and their identities are protected by the confidentiality policy of *RJSH*.

***Confidentiality*:** As is customary for the peer review process, *RJSH* holds the identity of authors and the contents of all submitted manuscripts in confidence until such time as the papers are published. This confidentiality extends to the comments of editors and reviewers that have evaluated the paper; these comments and reviews are released only to the corresponding author. Co-authors may have access to these documents either by obtaining them directly from the corresponding author or by submitting to *RJSH* a letter of request that has been signed by the corresponding author. Similarly, *RJSH* expects that editors and reviewers will maintain strict confidentiality of the authors' identities and the contents of manuscripts that they examine during the review process, and furthermore, will never disclose the contents (either orally or in writing) of documents related to the peer review of a manuscript. A violation of this policy is considered a serious breach of trust.

***Research Involving Animals or Humans*:** Authors must state in the manuscript that the work was approved by, at least, their institutional ethical review board for any research involving human and animal subjects. These approvals are required for publication in *RJSH*.

5. Manuscript Preparation

***General Instruction*:** Submit your manuscript in both PDF and MS word formats. Manuscripts are acceptable in both US and UK English, but the use of either must be consistent throughout the manuscript. Please note that the editors reserve the right to adjust style to certain standards of uniformity.

***Format*:** Unless specified, type text with 10-point Times New Roman font on 12-point line spacing, with a 1.25 inch left margin, 1 inch bottom and right margin, 2 inch top margin, 1.2 inch header, and 0.6 inch footer. Main text is set in single column. First lines of paragraphs are indented 0.5 inch. For hard copy, use standard A4 paper, one side only. Use ordinary upper- and lower-case letters throughout, except where italics are required. For titles, section headings and subheadings, tables, figure captions, and authors' names in the text and reference list: use ordinary upper- and lower-case letters throughout. Start headings at the left margin. If you wish, you may indicate ranking of complicated section headings and subheadings with numerals (1, 1.1, 1.1.1). Try not to exceed three ranks. All pages must be numbered in the top right-hand corner.

***Title*:** Use 11-point bold font on 12-point line spacing. The length of the title of the article must not exceed 2 lines. A title should be concise and informative. The alignment of the title is centered.

***Author Names*:** Use 10-point font on 11-point line spacing. Centered alignment and leave one line space below the title of the article. Begin with the first name of the author followed by the last name. For more

than one author, separate each name by a comma (,), and identify each author's affiliation by superscript numbers at the end of the author's last name.

***Author Affiliations*:** Use 9-point font on 10-point line spacing. Centered alignment and leave one line space below the author names. Include institutional and e-mail addresses for all authors. Place superscript numbers at the beginning of each affiliation accordingly.

***Abstract*:** Use 10-point font on 11-point line spacing for heading and 9-point font on 11-point line spacing for abstract content. An abstract of up to 250 words must be included as and when appropriate. For research papers; the purpose and setting of the research, the principal findings and major conclusions, and the paper's contribution to knowledge should be briefly stated. For empirical papers the locations of the study should be clearly stated, as should the methods and nature of the sample, and a summary of the findings and conclusion. Please note that excessive statistical details should be avoided, abbreviations/acronyms used only if essential or firmly established.

***Keywords*:** List up to 6 keywords and separate each keyword by a comma (,). The keywords should accurately reflect the content of the article. The keywords will be used for indexing purposes.

***Main Text*:** Use 10-point font on 12-point line spacing. In the main body of the submitted manuscript the following order should be adhered to: introduction, methodology, results (if any), discussion (if any), conclusion, acknowledgements, and references. Please note that some article categories may not contain all components above. Tables or figures must be included in the text for the reviewing process. In addition, tables and figures must also be submitted individually in separate files. Refer in the text to each table or illustration included, and cite them in numerical order, checking before submission that all are cited and in correct sequence.

***References in the Text*:** To insert a citation in the text use the author-year system, i.e., the author's last name and year of publication. Examples are as follows: "Since Johnson (2008) has shown that..." or "This is in agreement with results obtained later (Benjamin, 2010)". For 2-3 authors; all authors are to be listed, with "and" separating the last two authors, for more than three authors, list the first author followed by et al. The list of references should be arranged alphabetically by authors' names. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. Responsibility for the accuracy of bibliographic citations lies entirely with the author(s). Citation of a reference as "in press" implies that the item has been accepted for publication. Authors are responsible for the accuracy of the content of the references.

***List of References*:** *RJSH* uses the American Psychological Association (APA) referencing style, details of which can be found at http://www.apastyle.org/. References should be listed at the end of article, arranged alphabetically according to the last names of the authors and then chronologically. The following are examples of the APA referencing style:

Abstracts

Author./ (Year of publication)./Title of Abstract (abstract)./*Journal Title*,/*Volume*(Issue),/Page number.

Example:

Clark, D.V., Hausen, P.H., & Mammen, M.P. (2002).Impact of dengue in Thailand at the family and population levels (abstract). *Am J Trop Med Hyg*, *67*(2 Suppl), 239.

Books

Author./(Year of publication)./*Book Title*./Edition (if any)./Place of publication:/Publisher.

Example:

Goodwin, C.J. (1995). *Research in psychology: Methods and design*. New York: John Wiley & Sons, Inc.

Book Articles

Author./(Year of publication)./Article Title./*Book Title* (Page Numbers)./Edition (if any)./Place of publication:/Publisher.

Example:
Holland, J.L. (1973). Making vocational choice.*A theory of career* (pp. 43-49). New Jersey: Prentice-Hall.

Conference and Seminar Proceedings
To cite proceedings that are published regularly, use the same format as for a journal article. To cite proceedings that are published in book form, use the same format as for an article in a book.

Dissertation or Thesis

Author./(Year of publication)./Title of dissertation or thesis./Type of Thesis./Awarding Institution.
Example:
Norasingha, A. (2009). Expression and distribution of mucorinic receptors in hepatic composite of the cirrhotic rats.A thesis for the degree of Master of Science in Biomedical Sciences.Rangsit University.

Editorials
Author./(Year of publication)./Title of Editorial (editorial)./*Journal Title*,/ *Volume*(Issue),/Page numbers.
Example:
Fisher, R.I. (2003). Immunotherapy in Non-Hodgkin's lymphoma: Treatment advances (editorial). *SeminOncol*, *30*(2Suppl 4), 1-2.

Journal Articles
Author./(Year of publication)./Article Title./*Journal Title*,/ *Volume*(Issue),/Page numbers.
Example:
Leelawat, S., Leelawat, K., Narong, S., &Matangkasombut, O. (2010). The dual effects of delta 9-tetrahydrocannabinol on cholangiocarcinoma cells: Anti-invasion activity at low concentration and apoptosis induction at high concentration. *Cancer Investigation*, *28*(4), 357-363.
Polk, A., Amsden, B., Scarrtt, D., Gonzal, A., Oknamefe, O., &Goosen, M. (1994).Oral delivery in aquaculture. *Aquacult. Eng*, *13*, 311-323.
Seals, D.R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *AdvPhysiolEduc*, *22*, 52-58.
Srichandum, S. & Rujirayanyong, T. (2010).Production scheduling for dispatching ready mixed concrete trucks using bee colony optimization. *American J. of Engineering and Applied Sciences*, *3*(1), 823-830.

Letters
Author./(Year of publication)./Title of Letter./*Journal Title*./ *Volume*(Issue),/Page number.
Example:
Enzensberger, W., & Fisher, P.A. (1996). Metronome in Parkinson's disease (letter). *Lancet*, *347*, 1337.

Notes
Author./(Year of publication)./Title of Note./*Journal Title*./ *Volume*(Issue),/Page number.
Example:
Haier, R.J., Schroeder, D.H., Tang, C., Head, K., & Colom, R. (2010). Gray matter correlates of cognitive ability tests used for vocational guidance. *Biomed Central*, *3*, 206.

Unpublished/In Press Articles
Author./(In press Year)./Article Title./*Journal Title*./(in press).
Example:
Veena, B. (2004). Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol.* (in press).

Internet periodicals
Author./(Year of publication)./Article Title./*Journal Title*,/*Volume*(issue),/ page numbers./Retrieved mm dd, year, from the full URL of the web page

Example:
Adams, P.J. (2000). Australian economic history. *Journal of Australian Economics, 5*(2), 117-132. Retrieved June 12, 2001, from http://jae.org/articles.html

Internet non-periodicals
Author./(Year of publication)./Article Title./Retrieved mm dd, year, from the full URL of the web page
Example:
Lemire, D. (n.d.). Write good papers. Retrieved July 1, 2010, from http//www.daniel-lemire.com/blog/rules-to-write-a-good-research-paper

***Illustrations and Figures*:** All illustrations should be provided in a file format and resolution suitable for reproduction, e.g., EPS, JPEG or TIFF formats, without retouching. Photographs, charts and diagrams should be referred to as "Figure(s)" and should be numbered consecutively in the order to which they are referred. In addition to placing figures with figure captions into the main text, **submit each figure individually as a separate file.**

***Line Drawings*:** All lettering, graph lines and points on graphs should be sufficiently large and bold to permit reproduction when the diagram has been reduced to a size suitable for inclusion in the journal. Do not use any type of shading on computer-generated illustrations.

Figure Captions*:** Type figure captions using 9-point font on 10-point line spacing. Insert figures with figure captions into the main text (see ***Illustrations and figures Section). Type as follows: Figure 1 Caption

***Color*:** Where printed color figures are required, the author will be charged at the current color printing costs. All color illustrations will appear in color online, at no cost. Please note that because of technical complications which can arise when converting color figures to grayscale, for the printed version should authors not opt for color in print, please submit in addition usable black and white versions of all the color illustrations.

***Tables*:** Tables must be cell-based without vertical lines. They should be produced in a spreadsheet program such as Microsoft Excel or in Microsoft Word. Type all text in tables using 9-point font or less. Type the caption above the table to the same width as the table. Insert tables and table captions into the main text. Tables should be numbered consecutively. Footnotes to tables should be typed below the table and should be referred to by superscript numbers. Submit separate files of tables in their original file format and not as graphic files in addition to incorporating in the main text. Tables should not duplicate results presented elsewhere in the manuscript (e.g., in graphs).

***Proofs*:** Proofs will be sent to the corresponding author by PDF wherever possible and should be returned within 1 week of receipt, preferably by e-mail. Corrections must be restricted to typesetting errors. It is important to ensure that all of your corrections are returned to us in one all-inclusive e-mail or fax. Proofreading is solely the responsibility of the author(s). Note that *RJSH* may proceed with the publication of your article if no response is received in time.

***Reprints*:** During the first year of publication (year 2011), authors will receive 25 free reprints of their papers and one free copy of the journal in which their work appears. From the second year (2012) onward, reprints will be available on demand at 25 USD per copy.

***English Language Editing before Submission*:** Authors for whom English is a second language may choose to have their manuscript professionally edited before submission.

6. Manuscript Submission

Manuscripts should be submitted electronically to the Editor-in-Chief as an attachment to an e-mail (RJSH@rsu.ac.th), in word processing format. The *RJSH* submission form must be completed. Included in the submission form are: (a) the title and authors, (b) complete contact information for the corresponding author (mailing address, e-mail address, and telephone and fax numbers), (c) confirmation of the originality of the reported work, (d) approval of the submitted version of the manuscript by all authors, and (e) the authors' consent for publication in *RJSH*, if accepted. The submission form is available at http://www.rsu.ac.th/RJSH/.

7. Manuscript Revision and Re-submission

There are four editorial decisions: Accept, Accept with Minor Revision, Resubmit with Major Revision, and Reject. A Reject decision is definitive and authors may not submit a new version of the manuscript to the *RJSH*. A Resubmit with Major Revision requires a major re-write of the manuscript and/or inclusion of significant new data, and thus the creation of a new manuscript, which will thus be assigned a new submission date. An Accept with Minor Revision decision implies that the paper can, in principle, attain the required standard of the *Journal* without major change. Editors may or may not have a revised manuscript reviewed (generally, by the original reviewers), in order to ascertain whether changes to the original manuscript adequately responded to the criticisms. If changes made do not result in a paper of the required standard, the revised manuscript will be definitively rejected. If a revised manuscript of "Accept with Minor Revision" is accepted, the original submission date will be retained.

8. Copyright Agreement

Once a manuscript is accepted for publication, authors will be required to sign a Copyright Transfer Agreement form (CTA). CTA is available at http://www. rsu.ac.th/RJSH/CTA/. Signature of the CTA is a condition of publication and papers will not be passed for production unless a signed form has been received. Please note that signature of the Copyright Transfer Agreement does not affect ownership of copyright in the material. Please submit the completed form with the final version of the manuscript back to the Editor-in-Chief.

9. Further Reading

The following resources will provide valuable guidelines for the preparation of manuscripts.

Anonymous. (n.d.). How to write abstract. Retrieved January 17, 2011, from http://www.journal.au.edu/au_techno/2006/jan06/vol9num3_howto.pdf

Anonymous. (n.d.). How to write an abstract: Links and tips. Retrieved January 17, 2011, from http://research.berkeley.edu/ucday/abstract.html

Koopman, P. (n.d.). How to write an abstract. Retrieved January 17, 2011, from http://www.ece.cmu.edu/~koopman/essays/abstract.html

Lemire, D. (n.d.). Write good papers. Retrieved January 17, 2011, from http://lemire.me/blog/rules-to-write-a-good-research-paper/

Plonsky, M. (n.d.). Psychology with style: A hypertext writing guide. Retrieved January 17, 2011, from http://www.uwsp.edu/psych/apa4b.htm

Seals, D.R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Adv. Physiol. Educ,22*, 52-58.

Jones, A., & Pham, H. (n.d.). Basic Referencing using the APA System, Teaching and learning unit, Faculty of Economics and Commerce, The University of Melbourne. Retrieved February 15, 2011, from http://www.scribd.com/doc/57603066/A-Pa-Style

APPENDIX C

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

Research Article Single-Column Template

Please note that the paper size is standard A4 size (approx 8.27 x 11.69 in)

Type your title here using 11-point Times New Roman bold font on 12-point line spacing.
The length of the title of the article must not exceed 2 lines.

Author Names (Use 10-point Times New Roman font on 11-point line spacing.
Begin with the first name of the author followed by the last name. For more than one author, type 'and' before the last author's name. For more than two authors, also separate each name by a comma (,). Identify each author's affiliation by superscript numbers at the end of the author's last name.)

Author Affiliations (Use 9-point Times New Roman font on 10-point line spacing.
Include institutional and e-mail addresses for all authors. Place superscript number in front of author's affiliation corresponding to author's name.)

Submitted date month, year; accepted in final form date month, year (To be completed by RJSH)

Abstract (10-point bold font on 11-point line spacing)

For abstract content, use 9-point Times New Roman font on 11-point line spacing. First line is indented 0.5 inch. An abstract of up to 250 words must be included. Include your major findings in a useful and concise manner. Include a problem statement, objectives, brief methods, results, and the significance of your findings.

Keywords**:** *List up to 6 keywords and separate each keyword by a comma (,). The keywords should accurately reflect the content of the article. The keywords will be used for indexing purposes.*

---

1. Introduction

The actual manuscript will be published in a double-column style in the RJSH journal. This single column template is adopted as a user friendly format. Thus, with this template, the main text is set in a single column. Type text with 10 point Times New Roman font on 12 point line spacing, with a 1.25 inch left margin, 1 inch bottom and right margin, 2 inch top margin, 1.2 inch header, and 0.6 inch footer. First lines of paragraphs are indented 0.5 inch. Please note that the paper size is standard A4 size (approx 8.27 x 11.69 in). In MS Word, select "Page Layout" from the menu bar, and under Paper Size select A4 Size.

The introduction should put the focus of the manuscript into a broader context. As you compose the introduction, think of readers who are not experts in this field. Include a brief review of the key literature. If there are relevant controversies or disagreements in the field, they should be mentioned so that a non-expert reader can find out about these issues further. The introduction should conclude with a brief statement of the overall aim of the experiments.

To insert a citation in the text use the author-year system, i.e., the author's last name and year of publication. Examples are as follows: "Since Johnson (2008) has shown that..." or "This is in agreement with results obtained later (Benjamin, 2010)". For 2-3 authors; all authors are to be listed, with "and" separating the last two authors, for more than three authors, list the first author followed by et al. The list of references should be arranged alphabetically by authors' names. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. Responsibility for the accuracy of bibliographic citations lies entirely with the author(s). Citation of a reference as "in press" implies that the item has been accepted for publication. Authors are responsible for the accuracy of the content of the references.

2. Objectives

The objectives of the study should be specified explicitly.

3. Materials and methods

This section should provide enough detail to allow full replication of the study by suitably skilled investigators. Protocols for new methods should be included, but well-established protocols may simply be referenced.

4. Results

The results section should provide details of all of the experiments that are required to support the conclusions of the paper. There is no specific word limit for this section. The section may be divided into subsections, each with a concise subheading. The results section should be written in past tense.

Tables must be cell-based without vertical lines. They should be produced in a spreadsheet program such as Microsoft Excel or in Microsoft Word. Type all text in tables using 9-point font on 10-points line spacing. Type the caption above the table to the same width as the table.

Tables should be numbered consecutively. Footnotes to tables should be typed below the table and should bereferred to by superscript numbers. Submit separate files of tables in their original file format and not as graphic files in addition to incorporating in the main text. Tables should not duplicate results presented elsewhere in the manuscript (e.g., in graphs).

Table 1 Table caption

C1	C2	C3	C4
R1			
R2			
R3			
R4			
R5			
R6			

If figures are inserted into the main text, type figure captions below the figure. In addition, submit each figure individually as a separate file. Figures should be provided in a file format and resolution suitable for reproduction, e.g., EPS, JPEG or TIFF formats, without retouching. Photographs, charts and diagrams should be referred to as "Figure(s)" and should be numbered consecutively in the order to which they are referred

Figure 1 Figure caption

Table 2 Table caption

C1	C2	C3	C4	C5	C6	C7
R1						
R2						
R3						
R4						
R5						
R6						
R7						
R8						
R9						
R10						

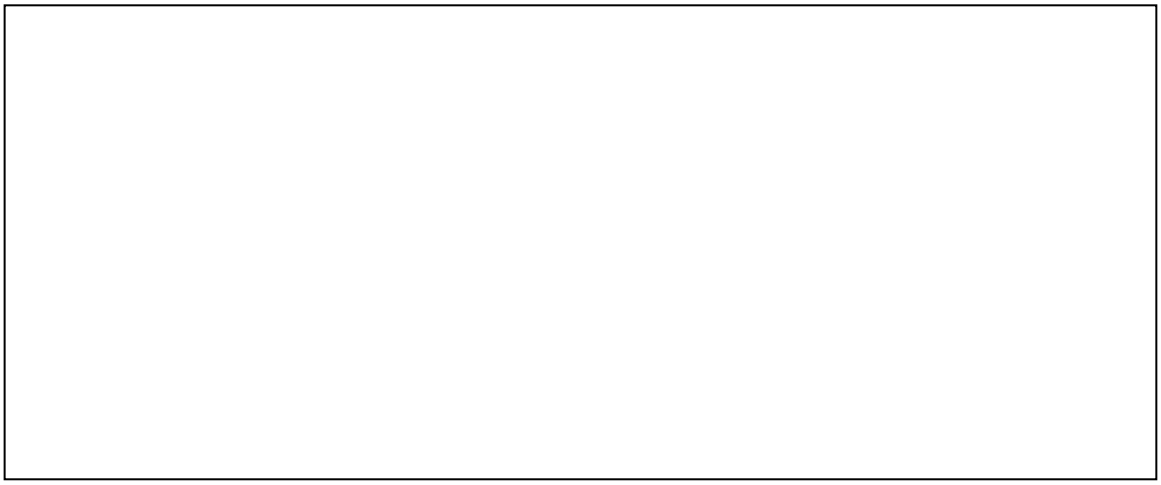

Figure 2 Figure caption

5. Discussion

The discussion should spell out the major conclusions of the work along with some explanation or speculation on the significance of these conclusions. How do the conclusions affect the existing assumptions and models in the field? How can future research build on these observations? What are the key experiments that must be done? The discussion should be concise and tightly argued. Conclusions firmly established by the presented data, hypotheses supported by the presented data, and speculations suggested by the presented data should be clearly identified as such. The results and discussion may be combined into one section, if desired.

6. Conclusion

The Conclusion section restates the major findings and suggests further research.

7. Acknowledgements

People who contributed to the work but do not fit criteria for authorship should be listed in the Acknowledgments, along with their contributions. It is the authors' responsibility to ensure that anyone named in the acknowledgments agrees to being so named. The funding sources that have supported the work should be included in the acknowledgments.

8. References

RJSH uses the American Psychological Association (APA) referencing style, details of which can be found at http://www.apastyle.org/. References are arranged alphabetically according to the last names of the authors and then chronologically. The first line of each reference is aligned left. Use hanging style of 0.5 inch after the first line of each reference. The following are examples of the APA referencing style:

Abstracts

Author./ (Year of publication)./Title of Abstract (abstract)./*Journal Title*,/*Volume*(Issue),/Page number.

Example:

Clark, D.V., Hausen, P.H., &Mammen, M.P. (2002). Impact of dengue in Thailand at the family and population levels (abstract).*Am J Trop Med Hyg*, *67*(2 Suppl), 239.

Books

Author./(Year of publication)./*Book Title*./Edition (if any)./Place of publication:/Publisher.

Example:

Goodwin, C.J. (1995). *Research in psychology: Methods and design*. New York: John Wiley & Sons, Inc.

Book Articles

Author./(Year of publication)./Article Title./*Book Title* (Page Numbers)./Edition (if any)./Place of publication:/Publisher.

Example:

Holland, J.L. (1973). Making vocational choice. *A theory of career* (pp. 43-49). New Jersey: Prentice-Hall.

Conference and Seminar Proceedings

To cite proceedings that are published regularly, use the same format as for a journal article. To cite proceedings that are published in book form, use the same format as for an article in a book.

Dissertation or Thesis

Author./(Year of publication)./Title of dissertation or thesis./Type of Thesis./Awarding Institution.

Example:

Norasingha, A. (2009). Expression and distribution of mucorinic receptors in hepatic composite of the cirrhotic rats. A thesis for the degree of Master of Science in Biomedical Sciences. Rangsit University.

Editorials

Author./(Year of publication)./Title of Editorial (editorial)./*Journal Title*,/ *Volume*(Issue),/Page numbers.

Example:

Fisher, R.I. (2003). Immunotherapy in Non-Hodgkin's lymphoma: Treatment advances (editorial). *SeminOncol*, *30*(2Suppl 4), 1-2.

Journal Articles

Author./(Year of publication)./Article Title./*Journal Title*,/ *Volume*(Issue),/Page numbers.

Example:

Leelawat, S., Leelawat, K., Narong, S., & Matangkasombut, O. (2010). The dual effects of delta 9-tetrahydrocannabinol on cholangiocarcinoma cells: Anti-invasion activity at low concentration and apoptosis induction at high concentration. *Cancer Investigation*, *28*(4), 357-363.

Polk, A., Amsden, B., Scarrtt, D., Gonzal, A., Oknamefe, O., &Goosen, M. (1994).Oral delivery in aquaculture. *Aquacult.Eng*, *13*, 311-323.

Seals, D.R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *AdvPhysiolEduc*, *22*, 52-58.

Srichandum, S. & Rujirayanyong, T. (2010). Production scheduling for dispatching ready mixed concrete trucks using bee colony optimization. *American J. of Engineering and Applied Sciences*, *3*(1), 823-830.

Letters

Author./(Year of publication)./Title of Letter./*Journal Title*./ *Volume*(Issue),/Page number.

Example:

Enzensberger, W., & Fisher, P.A. (1996). Metronome in Parkinson's disease (letter). *Lancet, 347*, 1337.

Notes

Author./(Year of publication)./Title of Note./*Journal Title*./ *Volume*(Issue),/Page number.

Example:

Haier, R.J., Schroeder, D.H., Tang, C., Head, K., & Colom, R. (2010). Gray matter correlates of cognitive ability tests used for vocational guidance. *Biomed Central*, *3*, 206.

Unpublished/In Press Articles

Author./(In press Year)./Article Title./*Journal Title*./(in press).

Example:

Veena, B. (2004). Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol*. (in press).

Internet periodicals

Author./(Year of publication)./Article Title./*Journal Title*,/*Volume*(issue),/ page numbers./Retrieved mm dd, year, from the full URL of the web page

Example:

Adams, P.J. (2000). Australian economic history. *Journal of Australian Economics, 5*(2), 117-132. Retrieved June 12, 2001, from http://jae.org/articles.html

Internet non-periodicals

Author./(Year of publication)./Article Title./Retrieved mm dd, year, from the full URL of the web page

Example:

Lemire, D. (n.d.). Write good papers. Retrieved July 1, 2010, from http//www.daniel-lemire.com/blog/rules-to-write-a-good-research-paper

APPENDIX D

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)
MANUSCRIPT SUBMISSION FORM

Type of submitted article: [Mark (✓) the appropriate choice]

☐ **Research article**	☐ **Note**	☐ **Comment/Critique**
☐ **Review article**	☐ **Innovation**	☐ **Book Review**

Section 1: Instructions. A copy of this form, with signatures included from ALL authors on the manuscript, must accompany every new manuscript submission before it will be considered for publication. Please fully complete to eliminate delays in submission. Use an additional form if there are more than 10 authors. Please scan this completed form and attach it electronically during the submission process. If you are unable to do so, fax the completed form to the Editorial Office at 02-997-2222 ext.3630.

Section 2: Manuscript Information.

Manuscript Code: (To be assigned by *RJSH*) _____

Manuscript Title: _____

All author names (in order of appearance on the manuscript title page):

_____

_____

Corresponding author name & contact information: _____

_____

_____

Section 3: Acknowledgments. By signing below, I acknowledge my acceptance to and/or certification of the following information:

▪***Approval of the Submitted Work and Acknowledgment of Role of Corresponding Author:*** I have personally reviewed and given final approval of the version submitted, and with the exception of previously published work or data which is clearly acknowledged in the manuscript and for which appropriate written permission is included as part of the submission, to my knowledge, neither the manuscript nor its data have been previously published (except in abstract) or are currently under consideration for publication by any other publication. I agree that the corresponding author (named above) shall be the sole correspondent with the Editorial Office on all matters related to this submission. In the event of acceptance, I designate the corresponding author as the responsible party for all communications with the journal's publisher related to this work, including review and correction of the typeset proof. I understand that once a manuscript is submitted, no substantial changes to the content will be allowed.

▪***Authorship Contribution*:** I have participated sufficiently in the work to take public responsibility for all or part of the content, and have made substantive intellectual contributions to the submitted work in the form of: 1) conception and design, and/or acquisition of data, and/or analysis of data; and 2) drafting the article, and/or revising it critically for important intellectual content. I have identified all persons, and their employer(s), that have contributed or have substantively edited the submitted work.

▪***Conflict of Interest, Disclosures, Financial, and Material Support:*** To my knowledge, all of my possible conflicts of interest and those of my co-authors, financial or otherwise, including direct or indirect financial or personal relationships, interests, and affiliations, whether or not directly related to the subject of the paper, are listed in the appropriate sections of this manuscript. Disclosure includes, but is not limited to, grants or research funding, employment, affiliations, patents (in preparation, filed, or granted), inventions, speakers' bureaus, honoraria, consultancies, royalties, stock options/ownership, or expert testimony. If an author has no conflicts of interest to declare, this must be explicitly stated.

▪***Transfer of Copyright:*** I agree to transfer copyright to *RJSH* upon acceptance of this submission for publication in the *Journal*. I authorize the corresponding author to sign the Journal Publishing Agreement on my behalf.

	Author Name (Printed)	Author Signature	Date
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

APPENDIX E

RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)
Copyright Transfer Agreement (CTA)

In order to protect the work against unauthorized use and to authorize dissemination of the work by means of offprints, reprints, legitimate photocopies, microform editions, translation, document delivery, and secondary information sources such as abstracting and indexing services including data bases, it is necessary for the author(s) to transfer the copyright in a formal written manner.

The **Consent** ensures that the Publisher has the author's permission to publish the work.

Title of Article

_____

_____

Author(s)

_____

_____

Corresponding Author

_____

1. The Author hereby assigns to the Publisher the copyright to the work named above whereby the Publisher shall have the exclusive right to publish the said article in print and in electronic form.
2. The Author guarantees that the work is original, has not been published previously, is not under consideration for publication elsewhere, that it contains nothing libelous, that all statements therein purporting to be facts are true and that any formula or instruction contained therein will not, if followed accurately, cause any injury, illness or damage to the user, that the work is in no way whatever a violation or infringement of any existing copyright or license, or duty of confidentiality, or duty to respect to privacy, or any other right of any person or party whatsoever and that any necessary permission to quote from another source has been obtained.
3. The Author declares that any person named as co-author of the work is aware of the fact and has agreed to being so named.
4. The Author declares that, if the CTA form has been downloaded from the Publisher's website or sent by e-mail, the form has not been changed in any way without the knowledge of the Publisher.

To be signed by the corresponding author on behalf of all co-authors.

Signature _____

Name (Print) _____

Date _____

Please submit this signed form promptly to *RJSH* Editorial Office. Thank you.

RJSH Editorial Office
Rangsit University, 52/347 Paholyotin Road, Pathumthani 12000, Thailand
Phone + 66 2 997-2222 ext. 1067, Fax + 66 2 997-2222 ext. 1027, E-mail: rjsh@rsu.ac.th

www.rsu.ac.th/rjsh