European Journal of Sustainable Development (2019), **8**, 2, 191-200 ISSN: 2239-5938
Doi: 10.14207/ejsd.2019.v8n2p191

Thailand's Sufficiency Economy Philosophy as an Alternative Path to Sustainable Development†

Somchai Jitsuchon[1]

Abstract:
The recent history of economic and social development has shown that while contemporary development models succeed in increasing the wealth and wellbeing of mankind around the world, they also suffer from a number of shortcomings: they emphasize too much on financial success (like GDP) at the expense of other important dimensions of development, they bring in occasional but more frequent crises of various sort, they entail numerous social, such as disparity, and environmental illnesses. In short, the current development models are not sustainable. While Sustainable Development Goals (SDGs) is an attempt to achieve sustainable development by setting up goals that would steer the development in right direction, it lacks description of how those goals should be achieved. Rather, SDGs recognize that countries may have their own ways to achieve the goals. In this paper, we argue that Sufficiency Economy Philosophy (SEP), invented by the late King Bhumibol Adulyadej of Thailand, offers an alternative path to sustainable development. Key differences of SEP from other development models are that (a) it is a more holistic way of development, with physical and spiritual betterment simultaneously being sought, (b) it regards development as a multi-dimensional endeavor from the outset and, (c) it recognizes the role of communities and voluntary participation in development as important components on the path to sustainable development. We use a simple model that links SEP to sustainable development outcomes and test it with a newly-constructed system of indicators that captures SEP principles held by Thai people and a number of ultimate development outcomes. Our results find positive contributions of SEP to sustainable development outcomes. The indicators can thus be used to monitor both SEP and sustainable development.

Keywords: Path to sustainable development, Development Indicators, King Bhumibol Adulyadej, Sufficiency economy philosophy

1. Introduction

The recent history of economic and social development has shown that while contemporary development models succeed in increasing the wealth and wellbeing of mankind around the world, they also suffer from a number of shortcomings: they emphasize too much on financial success (like GDP) at the expense of other important dimensions of development, they bring in occasional but more frequent crises of various sort, they entail numerous social, such as disparity, and environmental illnesses. In short, the current development models are not sustainable. While the Sustainable Development Goals (SDGs) is an attempt to achieve sustainable development by setting up goals that would steer development in right direction, it lacks a description of how those goals should be achieved. Rather, SDGs recognize that countries may have their own way to achieve the goals. In this paper, we argue that Sufficiency Economy Philosophy (SEP),

[1]Head Thailand Development Research Institute, Bangkok, 10310, Thailand, Tel: 662-7185460 ext. 221.
† Presented at the Sixth Annual International Conference on Sustainable Development. The author is grateful to financial support from the Thailand Sustainable Development Foundation.

invented by the late King Bhumibol Adulyadej of Thailand, offers an alternative path to sustainable development. Key differences of SEP from other development models are that (a) it is a more holistic way of development, with physical and spiritual betterment simultaneously being sought, (b) it regards development as a multi-dimensional endeavor from the outset, and (c) it recognizes the role of communities and voluntary participation in development as an important component on the path to sustainable development.

We have developed a simple model that links SEP to sustainable development outcomes and test it with a newly-constructed system of indicators that captures the SEP principle held by Thai people as well as a number of ultimate development outcomes. The indicators are constructed using a well-designed, nation-wide household survey, and can be used to monitor how closely Thai people are practicing the SEP principles.

2. The Sufficiency Economy Philosophy and Sustainable Development

Throughout his entire reign, the late King Bhumibol Adulyadej devoted himself to numerous development programmes that seek a better approach and solution to improve the lives of people in every corner of Thailand. Once a science student, he applied scientific methods in his work. He often experimented with new agricultural techniques on his own land in the palace and disseminated them only when the experiments yielded satisfactory results. He also observed and learned roles of social factors in development and gradually incorporated those into his own thinking of how development should be. As a Buddhist, the King recognized the importance of virtue and morality in contributing to happiness and applied them to his thinking of development. The result of this holistic approach is called the 'King's Philosophy', with the most well-known aspect being the Sufficiency Economy Philosophy (SEP). SEP suggests value systems and behaviors that individuals, organizations and countries should follow and was first mentioned by the King in 1974. When Thailand faced the Asian financial crisis of 1997-2001, some observers believe that the crisis could have been prevented, or less damaging, if the business sector and policymakers had followed SEP. Avery and Bergsteiner [1](p.xvii) describe SEP as "*a virtues- and science-based decision making framework or foundation that can be applied to all spheres of life*."

The concept of SEP is often depicted by '3 loops, 2 conditions', as shown in Figure 1. The three loops are moderation, reasonableness and resilience. They describe behaviors that SEP deems instrumental to sustainability. When practicing these behaviors, actions should be based on two conditions: knowing how to do it (knowledge) and acting with high moral standards (virtue).

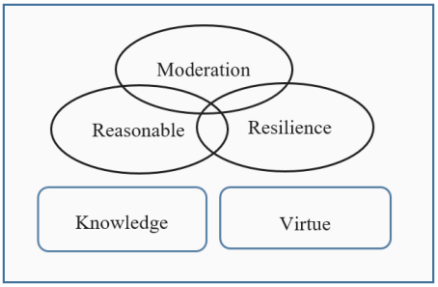

Figure 1 Sufficiency Economy Philosophy '3 loops, 2 conditions' Diagram

Rooted in Buddhism's 'middle way' principle, moderation is about setting ones' needs to an appropriate level, not too greedy or too constricted. Excessive consumption or production are deemed to violate the moderation principle and thus can lead to unsustainable outcomes, often witnessed in reality. Reasonableness has obvious consequences to sustainability: unreasonable behavior or policies would lead to damages either at the individual or societal level. Resilience is increasingly becoming emphasized as a necessary property to sustainability since it primarily involves proper risk management. Knowledge, the first condition, must be constantly sought and applied to individuals when living lives, or adapted to local contexts when implementing development projects. The King always stressed that applying new knowledge must consider local geographic, social and cultural contexts. Virtue is a basis for almost everything and may include, among others, honesty, perseverance, sharing, loving, self-reliance, and public mindedness. Although not as often mentioned by the King, economic and social equality and the natural environment are indirectly parts of SEP. When the King put his efforts into helping the poorest Thais he helped reduce inequality. And when he suggested that we should live in harmony with nature, he showed his high regard to environmental wellbeing.

We argue, and will try to prove, that SEP leads to sustainable development. Figure 2 presents our hypothesis. Beginning with shaping people's minds or intrinsic values, the SEP principle will lead to 'sufficiency behaviors' and finally to sustainable outcomes. This path to sustainable development is an alternative one as it is different from mainstream development models in many aspects, most notably in the shaping of people's minds and behaviors.

Figure 2 Postulated SEP Path to Sustainable Development

3. Methodology

There are two steps in testing whether SEP leads to sustainable development. The first step is to prove that SEP does bring about better development outcomes. Then in the second step we need to prove that those outcomes are sustainable as a result of practicing SEP, meaning that they maintain their course of good outcomes, or even

improve, over time. Because of a data limitation that will be discussed later, this paper is confined to the first step.

We use a simple regression analysis of the following relationship:

$Development\ Outcomes_{it} = f(practicing\ SEP_{it}, other\ control\ variables_{it})$,

where subscript i represents entity and t represents time. The regression can be cross-sectional, time-series, or panel analysis. As a sustainability concept involves time dimension, the appropriate analysis is either time-series or panel. Figure 3.1 and 3.2 are development outcomes and SEP elements that we have chosen to study.

1. *happiness*
2. *sufficient consumption*
3. *sufficient income*
4. *Poverty-free*
5. *education*
6. *health*
7. *employment*
8. *decent house*
9. *asset*
10. *community equality*
11. *social capital*
12. *natural environment*

Figure 3.1Development Outcomes

8. *moderation*
9. *resilience*
10. *prudence*
11. *knowledge*
12. *perseverance*
13. *honesty*
14. *sharing*
15. *reasonableness*

1. *self-reliance*
2. *public minded*
3. *innovation*
4. *social coherence*
5. *explosion-from-within*
6. *community leadership*
7. *environmental protection*

Figure 3.2Sufficiency Economy Philosophy Elements

Development outcomes are chosen such that they represent the 'ultimate outcomes' that societies regard as a final achievement. For example, happiness is life's ultimate goal while good health and education are universally accepted as final goals. For society-level ultimate outcomes, we chose equality, social capital and environment status. The 15 SEP elements are mostly from the original Sufficiency Economy Philosophy, but we added other elements of King's philosophy such as explosion-from-within (meaning that development projects are best when initiated by local people not injected from outsiders), leadership, and social coherence.

4. Data[1]

The data we used is quite unique. We constructed a set of indicators of development outcomes and SEP elements using data from a household survey conducted by the National Statistical Office of Thailand. There are two survey rounds, one 'pilot' survey done in 2017 in non-municipal areas of the Northeast region of Thailand (1,800 households in total), and the 'full scale' round in 2018 covering the whole country, both municipal and non-municipal areas (more than 80,000 households). The questionnaire consists of 6 sections: household rosters (demographics, education and health), housing and asset ownership, income/consumption/saving/debt, SEP behavior at household level, SEP behavior at community level, inequality/environmental status and protection. The first three sections are used to construct indicators on development outcomes and we label these SCI-OC, while the last three sections are for constructing SEP element indicators, which we label SCI-SEP. All questions in the questionnaire are related to day-to-day behaviors, normal life decisions or situations most Thais are familiar with, using simple wording in Thai language. No keywords of the Sufficiency Economy Philosophy are used, in order to avoid possible bias that respondents might have toward the SEP concept.

We scored responses to relevant questions a value from 0 to 100. For SCI-SEP elements, 100 would mean the respondents practiced SEP to the fullest. For SCI-OC elements, 100 would mean the best possible development outcomes. Scores from relevant questions are then averaged to get a score of SCI-SEP and SCI-OC elements, which are further averaged to obtain composite values of SCI-SEP and SCI-OC. Table 1 reports these scores using data from the pilot survey of 2017.

Table 1 SCI-SEP and SCI-OC and their element scores, Non-municipal Northeast 2017

SEP Behavior	Mean	Standard Deviation
SCI-SEP	**64.1**	**9.8**
moderation	61.7	15.7
resilience	52.4	19.2
prudence	61.4	22.5
knowledge seeking	42.2	19.4
perseverance	70.5	28.5
honesty	53.6	20.1
sharing	63.1	23.0
reasonableness	77.0	21.7
self-reliance	70.0	16.6
public minded	85.6	17.8
innovation	64.6	42.0
social coherence	70.0	25.0
explosion-within	78.6	15.4
leadership	56.7	17.4
environment protection	54.4	24.7

Outcomes	Mean	Standard Deviation
SCI-OC	**60.6**	**8.3**
happiness	70.0	14.2
sufficient consumption	11.3	19.2
sufficient Income	33.4	30.3
not_poor	70.0	19.4
education	74.0	11.1
health	87.9	7.4
employ	58.2	25.9
decent_house	77.9	5.6
asset	64.3	16.0
inequality	62.4	16.8
social capital	36.2	23.4
enviroment status	81.9	12.4

SCI-SEP, SCI-OC and their elements can be disaggregated into regional and provincial level, but the provincial scores of SCI from

[1] See Jitsuchon [3] and Thailand Development Research Institute [4] for details on how SCI is constructed

the pilot survey have high statistical errors due to its small sample size. The 2018 survey does not have this limitation.

5. Linkages from SEP to Development Outcomes

Two investigations are used to explore the linkages between SEP and development outcomes: simple correlation analysis and regression analysis.

5.1 Correlation between SCI-SEP and SCI-OC

We use data from the pilot survey of 2017 to calculate correlation coefficients (a) between composite values of SCI-SEP and SCI-OC, (b) between elements of SCI-SEP and SCI-OC, (c) between SCI-SEP and elements of SCI-OC, and (d) between elements of SCI-SEP and elements of SCI-OC. The composite correlation coefficient is 0.345, with a significance level of less than 1%. The composite SCI-SEP is significantly and positively correlated with all SCI-OC elements except environmental status, and the composite SCI-OC is significantly and positively correlated with all SCI-SEP elements except moderation. Table 2 is out results on elements-to-elements correlation. We found significantly positive correlations in 149 pairs (out of 180 possible pairs), 30 negative correlating pairs and 1 no-correlation pair. All SEP elements, except social coherence, have a positive correlation with at least 8 out of 12 SCI-OC development outcomes and three of them (resilience, perseverance and explosion-from-within) are correlated positively with all development outcomes. Conversely, 4 development outcomes (happiness, sufficient income, health, and a decent house) are positively correlated with all 15 SEP elements, suggesting that practicing SEP 'wholly' is likely leading to these outcomes.

Table 2 Numbers of positive, insignificant and negative correlation pairs of SCI-OC elements with each SCI-SEP element and of SCI-SEP elements with each SCI-OC element

SCI-SEP elements	positive	insignicant	negative
moderation	8		4
resilience	12		
prudence	9		3
knowledge	10		2
perseverance	12		
honesty	9		3
sharing	9		3
reasonableness	11		1
self reliance	10		2
public minded	10		2
innovation	10		2
social coherence	8		4
explosion-from-within	12		
community leadership	9	1	2
environment protection	10		2

SCI-OC elements	positive	insignicant	negative
happiness	15	0	0
sufficient consumption	9	0	6
sufficient Income	15	0	0
poverty-free	15	0	0
education	14	0	1
health	15	0	0
employment	11	1	3
decent_house	15	0	0
asset	11	0	4
community inequality	9	0	6
social capital	13	0	2
enviroment status	7	0	8

5.2 Regression Analysis

Correlation coefficients only tell how two variables move against each other, ignoring influences of other variables. Therefore we performed cross-sectional regression analysis, again using data from the pilot survey of 2017, to obtain more rigorous results.

Dependent variables are SCI-OC and its 12 elements and independent variables are SCI-SEP, its 15 elements and other control variables. We use provincial level data for control variables, as listed in Table 3.

Table 3. Provincial Level Data as Control Variables

Variables	Variable names
average provincial household income	c_hhinc
average provincial household expenditure	c_hhexp
average provincial per capita HH income	c_pinc
average provincial per capita HH expenditure	c_pexp
average provincial household size	c_hhsize
average provincial HH head's year of education	c_hdedu
average provincial ratio of male HH head	c_hdmale
provincial area size	c_area
provincial forest area size	c_forest
provincial percentate of forest area	c_forpct
provincial per capita forest area	c_pfor
provincial gross domestic product 2016	c_gpp
provincial population	c_pop
provincial GDP per capita	c_gppcap

Table 4 shows that SCI-SEP can explain SCI-OC with or without other control variables, with a significantly level below 1%. This confirms the earlier correlation coefficient between the two composite indicators.

Table 4 Control Variables at Provincial Level

	(1)	(2)
VARIABLES	SCI-OC	SCI-OC
SCI-SEP	0.295***	0.245***
c_pinc		-0.000914**
c_hdedu		-2.542***
c_forpct		-0.0955***
c_pop		-0.00556***
c_gppcap		8.90e-05***
Constant	41.67***	68.95***
Observations	1,687	1,687
R-squared	0.119	0.168

*** p<0.01, ** p<0.05, * p<0.1

Regression results in Table 5 are a counterpart to element-to-element correlation coefficient results in Table 2. The results are in general confirmative to the correlation coefficients analysis, and that practicing SEP likely leads to better development outcomes. They are however less pronounced, as expected, as there are a number of SCI-SEP elements become insignificant explanators of development outcomes. This is normal in multiple regression analysis when compared to correlation between pairs, as

now many explanatory variables compete to explain the development outcomes. Despite the less pronounced results, important findings remain similar qualitatively, namely,

1. Resilience remains contributory to 11 outcomes, only one less from the correlation coefficient analysis.
2. Although positive contribution of perseverance and explosion-from-within are lower from all 12 outcomes to 7 and 5 outcomes respectively, they do not contribute negatively in any outcomes except the contribution of perseverance to social capital.
3. Environment protection remains a positive contributory factor to 7 development outcomes and a negative contributory factor to 2 outcomes.
4. More happiness can be expected from practicing SEP; moderation, resilience, perseverance, reasonableness, self-reliance and environmental protection. No SCI-SEP elements lead to less happiness.

The only exception result to the general conformation between correlation coefficient analysis and regression analysis is the role of innovation. This SCI-SEP element correlates positively with 10 and negatively with 2 development outcomes. In regression analysis its coefficients are all negative to 6 development outcomes. One possible explanation is that the questions asked about innovation ('in the last 12 months in this community, have there been any new products invented or new methods in earning a living?) may not best capture the innovative activities in the community.

The above results of the construction of SCI, the correlation coefficient and the regression analysis are all based on a limited dataset of the pilot survey of 2017. We intend to repeat the analysis on the full survey of 2018 when it is completed in the third quarter of 2018. A proper robustness test will also be performed at that time.

6. Conclusion and Applications of SCI Indicators

This paper is based on an on-going research funded by the Thailand Sustainable Development Foundation, with the objectives of constructing a system of indicators that represent the SEP practiced by Thai people and an examination of the relation between practicing SEP and selected ultimate development outcomes. The preliminary results based on the pilot survey of 2017 is that the majority of SEP elements are indeed conducive to better development outcomes. To prove the SEP contribution as an alternative path to sustainable development, the same household survey must be conducted repeatedly in the future, which will allow for a panel analysis. For the SCI developed in this research, there are three other possible applications. It can be used to (a) monitor SEP practices among Thai people, (b) advise policymakers on interventions regarding the SEP principle, especially those elements that contribute to better outcomes, and (c) SCI can be augmented with more 'SEP procedure indicators' (similar to explosion-from-within) that can be used to assess development projects, possibly using the double-difference method.

Table 5 Coefficients from Regression Analysis

	SCI-OC	happiness	sufficient consumption	sufficient income	poverty-free	education	health	employment	decent house	asset	community equality	social capital	environment status
Sufficiency Elements													
moderation	-0.0633***	0.0536***						-0.279***		-0.106***		-0.486***	
resilience	0.155***	0.139***	0.122***	0.384***	0.196***	0.0327**	0.0760***	0.319***	0.0446***	0.224***	0.0894***	0.241***	
prudence											-0.0687***	0.0493**	-0.0508***
knowledge	0.0469***		0.0900***	0.135***		0.0617***	0.0271***	0.130***		0.125***		0.0958***	-0.0737***
persevelance	0.0328***	0.0793***		0.0887***	0.0659***			0.0753***	0.0142***		0.0473***	-0.0577***	0.0461***
honesty								-0.0612**		-0.0453**	0.122***	0.0420*	
sharing	0.0201***						0.0227***		0.0194***	0.0478***		0.0555**	0.0250*
reasonableness		0.0722***							0.0130**			0.0628**	
self reliance	0.0254**	0.0397**						0.0888**	-0.0182**		0.0569**	0.145***	-0.0410**
public mind										-0.0643**		0.116***	
innovation	-0.0204***			-0.0525***						-0.0234**	-0.0404***	-0.0506***	-0.0167**
social coherence			-0.0580***				0.0318***			-0.0525***	0.0752***		0.0404***
explsion-from-within	0.0268**					0.0416**	0.0472***			0.0676**	0.0853***		0.0379*
community leadership						-0.0329**	-0.0263***	-0.0747**		0.0427**	-0.104***		
environment protection	0.0298***	0.102***		-0.0570*		0.0226**		0.0841***	0.0117**	0.0320**		0.190***	-0.0388***
Control Variables													
c_hdedu	-2.009***	-4.962***			-2.107***	-4.654***	-1.149**			-1.933***		-8.876***	-6.268***
c_forpct	-0.0691***	0.576***		-0.876**		1.533***				-1.197***		-1.115***	-0.503***
c_pop	-0.00460***	-0.0110***	-0.0145***	-0.0422***	-0.0199***	-0.00611***	0.00470**				0.0304***		
c_gppcap	6.51e-05***	0.000119***		-0.000423**			9.13e-05***		3.51e-05**	4.99e-05**	0.000588***		0.000146***
c_dens			-98,213***	144,674***		-23,784**	12,822**		6,899*				-79,826***
c_pfor		-0.00460***	-0.00450***	0.0113***		-0.0206***				0.0126***		0.0124***	
c_gpp			0.000104***	0.000423***	0.000121***		-7.30e-05***		-2.27e-05***		-0.000375***	-7.41e-05***	-6.51e-05***
c_pinc		-0.00453***		0.00563***		-0.00777***	-0.00193***			0.00243***		-0.00676***	-0.00450***
c_pexp		0.00381***		-0.00378**		0.00389***	0.00243***				-0.00272***	0.00392***	0.00418***
c_hhsize				13.16***				-8.846***			-9.451***		
c_hdmale				-52.98***						-16.07**	69.04***	-56.58***	25.40***
Constant	61.93***	83.03***	34.82***		81.78***	135.0***	76.96***	73.31***	71.42***	64.71***		142.6***	133.6***
Observations	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,685	1,687	1,687	1,687	1,687	1,687
R-squared	0.322	0.278	0.064	0.625	0.106	0.289	0.151	0.144	0.113	0.223	0.945	0.332	0.182

*** p<0.01, ** p<0.05, * p<0.1

Note: highlighted coefficients are those with negative signs

References

Avery, Gayle C.; & Bergsteiner, Harald. (2016). Editors' Preface. In *Sufficiency Thinking: Thailand's gift to an unsustainable world*, Gayle C. Avery and Harald Bergsteiner, (Eds).; Allen & Unwin: New South Wales, Australia, 2016; pp. xiv-xviii.

Jitsuchon, Somchai. (2018). *Monitoring Development Sustainability through Sustainable Community Indicators*. A report presented at a conference 'Economy, Sustainable Development, and Engineering International Conference', Edinburgh Scotland, 2018.

Ministry of Foreign Affair, Thailand. (2018). Sufficiency Economy Philosophy: Thailand's Path towards Sustainable Development Goals. Available online: http://www.mfa.go.th/SEPforSDGs/SEPThailandsPathtowardsSDGS/SEP_Thailands_Path_towards_SDGs.pdf (accessed on 9 May 2018).

Thailand Development Research Institute. (2018). *A Construction of Sustainable Community Indicators*. (in Thai). Unpublished report submitted to the Thailand Sustainable Development Foundation, 2018.