

SOCIAL AND ECONOMIC RETURN OF INVESTMENT OF THAI PUBLIC POLICY: A CASE STUDY OF RICE PLEDGING SCHEME FOR THE SEASONS OF 2011-2012 & 2012-2013

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Abstract— The purposes of this study is to conduct a study on social return on investment (SRIO) project, namely Rice Pledging Scheme, To study on multiplier of social spending on Rice Pledging Scheme also o gauge satisfaction level of direct beneficiaries of Rice Pledging Scheme for the Season of 2011-2012 & 2012-2013 and To understand impact of satisfaction to expectation of direct beneficiaries of the stated project.

This research conducts by using mixed methodology of qualitative and quantitative. There are 32 farmer samples of with clear characteristic selected for qualitative analysis and 354 completed questionnaires selected in central provinces of Thailand. For qualitative analysis was conducted by various methods ranging from content analysis and quantitative analysis is conducted based on Inferential Statistics of stepwise multiple regression methods.

The result of this study show that SROI of rice pledging project for season of 2011-2012 is 10.81 and for season of 2012-2013 is 14.91. Multiplier effect of government spending is 2.34. Satisfaction on the rice pledging scheme as a whole is high, at 79.80 % and Satisfaction of the Seasons of 2011-2012 & 2012-2013 influence on expectation.

Index Terms— *Social Return On Investment (SRIO), Multiplier effect, Satisfaction, Expectation, Public Policy and Rice Pledging Scheme*

I. INTRODUCTION

It is widely debated among public policy academia regarding return of investment (ROI) of public project yet no conclusion or characteristics of positive return on investment identified. While ROI of public project has been utilized as an indicator for developed to assess public policy effectiveness i.e. economic and social return of investment and satisfaction of recipients (Bardash, 1980; Chatrasorn, 1998). Hence, this aims understand return of investment on public projects on economic and social return on investment (SROI) exclusively.

Despite being implemented more than 30 years in Thailand, there is no concrete evidence regarding return of investment for the rice pledging scheme. The Office of National Economic and Social Development Bureau (NESDB) stated that rice pledging scheme for the seasons of 2011-2012 & 2012-2013 impacted on Thai economy as a whole for the aspects of growth of income for farmers or growth of Gross Domestic Product (GDP) (Issara News, 2013). This conclusion still yet to be further studied. While public policy or project is widely understood not for profit-driven but such projects should serve public interest (Royal Decree of Good Governance B.E., 2003). From the statement, it poses expectation on practitioner, government, to emphasize mainly on public interest or economic and social interest over fiscal.

This research, hence, focuses on social and economic return of investments in the aspects of social return on investment (SROI), multiplier effect of government spending, and satisfaction & expectancy of direct beneficiaries of the rice pledging project for the Seasons of 2011-2012 & 2012-2013. The study result shall be served as a new baseline for future public initiatives in the direction benefiting to society as a whole but not for profit-driven goal.

II. PURPOSES

1. To conduct a study on social return on investment projects namely Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013
2. To study on multiplier of social spending on Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013
3. To gauge satisfaction level of direct beneficiaries of Rice Pledging Scheme for the Season of 2011-2012 & 2012-2013
4. To understand impact of satisfaction to expectation of direct beneficiaries of the stated project.

III. SCOPES

1. The data taken for the study of social return of investment of the Rice Pledging scheme for seasons of 2011-2012 & 2012-2013 is secondary data which originally prepared by various Thai government agencies namely the Bank of Agriculture and Cooperatives (BAAC), Office of Agricultural Economics, Office of National Economic and Social Development Board (NESDB), Bank of Thailand (BOT), Ministry of Finance (MOF), National Statistics Office (NSO), Fiscal Bureau and other relevant state agencies.

2. The study on satisfaction of the direct beneficiaries of the rice pledging scheme for seasons of 2011-2012 & 2012-2013 is conducted with farmers in Central Thailand from Suphanburi, Lopburi, Saraburi, and Chainat Provinces. The study was conducted during January to May 2015 while the survey was conducted during March-April 2015.

IV. HYPOTHESIS

1. Value of SROI of the Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 is higher than 1

2. Value of multiplier effect of government spending on the Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 is higher than 1

3. Satisfaction of the Seasons of 2011-2012 & 2012-2013 influence on their expectation.

V. EXPECTED RESULTS

1. To provide governmental or public agencies scientific-based data support on social and economic return of investment for future public policy projects;

2. To inform government agencies and public regarding social and economic impact from the Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 with scientific data;

3. To give a foundation or reference to other academia and researchers for their future research on public policy.

VI. CONCEPTUAL FRAMEWORK, THEORIES AND RESEARCH REFERENCES

The study of social return on investment the Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 aims to study on public policy concepts, non-profits organization (NPOs), Social return on investment, multiplier effect of government, satisfaction and expectation.

VII. PUBLIC POLICY

Thai Rajabandit Dictionary B.E. (1999) defines "Public Policy" plainly as public principles and practice which provide guideline on public work. Koenig (1986) further defines public policy that such is the activity a state decide to do or otherwise such as social welfare policy. Hence, its description and application create impact on likelihood and

future of citizen. Alhaus, Bridgman and Davis (2007) defines public policy as an administration tool for public resource allocation and implementation. After brainstorming which may involve contest, the successful policy should be drawn as a result of collective interest and ideology in political system.

Bardach (1980) explains policy application as a politically decision-making process regarding making reasonable alternative for policy implementation or activity. It also implies continuity of activities in insuring social policy application.

In conclusion public policy is a decision making guideline originates to activities, projects, or work plans in meeting specific objectives or goals of promoting better livelihood or solving social issues which requires long-term implementation.

VIII. NON-PROFIT ORGANIZATION (NPO)

Frumkin and Keating (2001) stated that institution of non-profit organization (NPO) play significant roles in ensuring equality, justice, and freedom which is the role the government agencies oblige to. In terms of implementation stated obligation Neely et al. (1995) defines obligation in two different dimensions regarding practice: effectiveness or efficiency. The initial dimension shows expectation of beneficiaries and stakeholder whereas the latter explains level of satisfaction of stakeholders. There is an observation Bouma et al. (2001) made on using financial factor to support decision making that this is a short-term view, based on past performance and unsuitable to current situation, or may lead to economic crisis.

On the other hand, Clifford, Markey and Malpani (2013) pointed out some factors highlighting a need for social implication evaluation, for example in Britain. There are increasing needs of social needs, cost effectiveness/worthiness, cultural growth, and evaluation on return of investment of public projects. This corresponds to current investment direction (Kingston and Bolton, 2004) which focuses more on income and cost conversion to social investment. Mair and Mati (2006) specified that project evaluation or social impact remains one of the most challenging issue for academic even though numerous academician able to quantify social impacts, despite that Emerson (2003) the evaluation is only an additional measures to quantification.

In summary the concept of not-for-profit organization aims to promote equality, justice, and freedom which lay foundation to public project. Despite that non-profit organization (NPO) drives by social investment, yet return on investment for public project, which mainly focuses on social value, still unable to particularly quantifiable social return or impact.

IX. SOCIAL RETURN ON INVESTMENT (SROI)

During the 1990 social return on investment (SROI) was first introduced in Los Angeles by Robert Small Business Promotion Fund. The Fund aimed to invent a method to display

social values and serve as a quantification tool for increasing social value among beneficiaries in different sectors particularly impacts on livelihood, awareness, behavioral change, or environment. This also extended to unquantifiable environment, enterprises or not-for-profit projects. For example, the governments of Britain and Scotland applied SROI to projects receiving government grants to understand and verify possible impacts. Additionally public or NPO projects require competing with other social investment projects for grant to fund their projects. Therefore, stated concept framework provides a value-added to social and economic aspects of projects as well as gauges success of social projects. The tool enables to explain how investment impact on individual and society as a whole. (Sumethprasit, 2015)

Core steps in Analysis of Social Return on Investment (SROI) are as following.

1. Parameter. This aims to identify details of investment, spatial coverage, timelines, description on expense and income to be used for identification of social and economic factors;
2. Beneficiaries. Beneficiaries in different sectors are identified along with goal and expectation of stated investment. Additionally the beneficiaries shall be prioritized based on significance and objectives is identified either joint- or overlapped;
3. Impact. The section displays mechanism of specific project, impacts on beneficiaries as well as their objectives. This analyzes input, product, output and impact;
4. Indicator. Suitable indication shall be assigned to quantify input, product, output and impact in average or estimation values if no data presents;
5. Data Collection. This identifies data collection methodology for preparation of indicator.
6. Modeling and computation. The model is created based on Discounted Cash Flow prepared base on data collection and additional forecast as appropriate. This calculates net present value (NPV) of benefits, investment and return of investment period.
7. Presentation. Result generated from modeling and calculation shall be presented with limitation of analysis.

$$\text{Social return on investment (SROI)} = \frac{\text{NPV of total benefit}}{\text{NPV of total investment}}$$

If the SROI >1, the project result has higher value than investment.

X. MULTIPLIER EFFECT OF GOVERNMENT SPENDING

Core objective of multiplier effect of government spending is to increase demand or consumption leading to stimulating economic expansion as presented in the form of GDP. Key assumption is that government spending provides income to certain population group either product/service provider to public sectors. This income further transacted into

circulation or additional economic activities resulting in economic expansion. Such additional activities results from higher value of expansion over initial government spending. Hence, assumption on additional government spending for promoting economic growth is correct. Division of additional GDP to initial government spending is presented as “Multiplier effect of government spending” (Economicsonline, 2015)

$$\text{Multiplier effect on government spending} = 1$$

$$(1-\text{mpc})$$

Whereas Marginal propensity to consume (MPC)

means consumption expenditure change based on change of income level. For example, at 100 units of income growth, consumption increases by 80 units. Hence, MPC is 0.8.

If the result of multiplier effect of government spending equals to five, this means that every single baht the government spending can promote consumption of goods and services (Crowding-in effect) which resulting in economic expansion equivalent to five baht in value.

XI. SATISFACTION AND EXPECTATION

Satisfaction is an individual perception on object influence by experience; hence, this can vary individually. This concept extends to feelings of happiness, liking, or personal positive feeling toward work or other stimuli. Satisfaction is endless, changeable over time or influenced by environment, hence, impermanent. Satisfaction is personal experience generated by comparison between expectation to actual effectiveness or result. For example, goods or service that does not meet expectation leads to dissatisfaction. On the other hand, performance exceeding expectation results in satisfaction. For worker, satisfaction process explains that highly motivated workers process a will to perform, which resulting in higher award, incentive and satisfaction. (Thai Rajabandit Dictionary B.E. 1999 and Kotler and Keller, 2009)

In conclusion, satisfaction is liking or positive personal feeling toward work, work elements or other stimuli. Satisfaction results from comparison of acknowledgement or result or effectiveness of goods or service.

Oxford Advanced Learner's Dictionary (2015) defines expectancy as a belief or thought of an individual predicting on something.

Webster Dictionary (2015) explains expectancy as future forecast which can be positive or negative.

Oxford English Dictionary (2015) explains that expectancy is an emotional state of feeling, thought or logical opinion of an individual toward future of something.

Hence, this can conclude that expectation is an emotion upon something at present or future. It is a prediction on a result of stimuli on individual based on experience.

XII. METHODOLOGY

This research conducts by using mixed methodology of qualitative and quantitative. There are 50 accidental samplings of farmers who participated in the rice pledging scheme seasons of 2011-2012 and 2012-2013. Additionally there are 32 samples with clear characteristic selected for analysis. There are qualitative tools consisting of 400 questionnaires developed based on Yamane (1967) with reliability at 95 % for unaccountable population by accidental sampling. As a result there were 354 completed questionnaires selected and processed for Content Validity by Index of Item-Objective Congruence technique (IOC). There are additionally six questions prepared. For this research reliability is based on Cronbach Alpha Coefficient value with reliability level of confidence at 0.819.

XIII. DATA ANALYSIS

For qualitative analysis this research was conducted by various methods ranging from content analysis, arithmetic

Table 1 SROI of Rice Pledging Scheme for the Season of 2011-2012

Year 2011-2012									
Unit (million baht)	Changing numbers	Financial proxy							
Beneficiary		Growth 2011-2012	2011-2012	Deadweight	Attribution	Total Annual	Drift off		
1. Farmers receiving more income									
Participated	Price increases at 4,000 Bt/ton	123,290.00	123,290.00	0	1	1	123,290.00	1	0
Non-participated	Price increases at 2,500 Bt/ton	15,495.00	15,495.00	0	1	1	15,495.00	1	0
2. GDP growth									
		769,103.00	769,103.00	0.357	0.643	0.936	463,275.00	0.228	0.772
3. Circulation in economic system									
		308,104.00	308,104.00	0.238	0.762	0.936	219,892.90	0	1
4. More subsidiaries to farmers (poverty, debt, livelihood)									
			142,070.00	0.357	0.643	0.855	78,121.71	0	1
5. Additional VAT (7%) for government									
			22,077.00	0.034	0.966	1	21,326.98	0	1
6. Business fund growth by 20 %									
			63,079.00	0.170	0.830	1	52,364.07	0.2	0.8
7. Business tax growth by 20%									
			12,616.00	0.170	0.830	1	10,472.98	0.2	0.8
8. Employment growth by 10 %									
			6,308.00	0.170	0.830	1	5,236.49	0.1	0.9
Year 2011-2012									
Unit (million baht)	year 1	year 2	year 3	year 4	year 5	total	NPV		
1. Farmers receiving more income									
Participated	0	0	0	0	0	0	0		
Non-participated	0	0	0	0	0	0	0		
2. GDP growth									
	357,648.30	357,648.30	357,648.30	357,648.30	357,648.30	1,788,241.48	1,637,924.48		
3. Circulation in economic system									
	219,892.90	219,892.90	219,892.90	219,892.90	219,892.90	1,099,464.48	1,007,045.08		
4. More subsidiaries to farmers (poverty, debt, livelihood)									
	78,121.71	78,121.71	78,121.71	78,121.71	78,121.71	390,608.55	357,774.56		
5. Additional VAT (7%) for government									
	21,326.98	21,326.98	21,326.98	21,326.98	21,326.98	106,634.92	97,671.35		
6. Business fund growth by 20 %									
	41,891.26	41,891.26	41,891.26	41,891.26	41,891.26	209,456.29	191,849.70		
7. Business tax growth by 20%									
	8,378.38	8,378.38	8,378.38	8,378.38	8,378.38	41,891.92	38,370.55		
8. Employment growth by 10 %									
	4,712.84	4,712.84	4,712.84	4,712.84	4,712.84	23,564.21	21,583.43		
						total benefit	3,352,219.14		
						total investment	310,145.88		
						SROI	10.81		

2. SROI of rice pledging scheme for season of 2012-2013 is 14.91. From the baseline of SROI >1, the result shows that the SROI of stated rice scheme provides higher return than investment by which SROI for the rice pledging scheme for the

Table 2 SROI of Rice Pledging Scheme for the Season of 2012-2013

mean, frequencies distribution and percentage. Additionally quantitative analysis is conducted based on Inferential Statistics of stepwise multiple regression methods.

XIV. RESULTS

The SROI of rice pledging scheme for the seasons of 2011-2012 & 2012-2013 shows results as below.

1. SROI of rice pledging project for season of 2011-2012 is 10.81. From the baseline SROI >1, the result shows that the SROI of stated rice scheme provides higher return than investment by which SROI for the rice pledging scheme for the season of 2011-2012 presents return of 10.81 Baht for every one Baht of investment. (See Table 1)

season of 2012-2013 presents return of 14.91 Baht for every one Baht of investment (See Table 2).

Year 2012-2013							
Unit (million baht)	Changing numbers			financial proxy			
Beneficiary		Growth 2012-2013	2012-2013	Deadweight	Attribution	Total Annual	Drift off
1. Farmers receiving more income							
Participated	Price increases at 4,000 Bt/ton	128,309.00	128,309.00	0	1	128,309.00	1 0
Non-participated	Price increases at 2,500 Bt/ton	13,761.00	13,761.00	0	1	13,761.00	1 0
2. GDP growth		803,189.00	803,189.00	0.357	0.643	0.936	483,806.96 0.228 0.772
3. Circulation in economic system		315,396.00	315,396.00	0.238	0.762	0.936	225,097.18 0 1
4. More subsidiaries to farmers (poverty, debt, livelihood)			142,070.00	0.357	0.643	0.855	78,121.71 0 1
5. Additional VAT (7%) for government			22,077.00	0.034	0.966	1	21,326.98 0 1
6. Business fund growth by 20 %			63,079.00	0.170	0.830	1	52,364.07 0.2 0.8
7. Business tax growth by 20%			12,616.00	0.170	0.830	1	10,472.98 0.2 0.8
8. Employment growth by 10 %			6,308.00	0.170	0.830	1	5,236.49 0.1 0.9

Year 2012-2013							
Unit (million baht)	year 1	year 2	year 3	year 4	year 5	total	NPV
1. Farmers receiving more income							
Participated	0	0	0	0	0	0	0
Non-participated	0	0	0	0	0	0	0
2. GDP growth	373,498.97	373,498.97	373,498.97	373,498.97	373,498.97	1,867,494.85	1,710,515.91
3. Circulation in economic system	225,097.18	225,097.18	225,097.18	225,097.18	225,097.18	1,125,485.88	1,030,879.15
4. More subsidiaries to farmers (poverty, debt, livelihood)	78,121.71	78,121.71	78,121.71	78,121.71	78,121.71	390,608.55	357,774.56
5. Additional VAT (7%) for government	21,326.98	21,326.98	21,326.98	21,326.98	21,326.98	106,634.92	97,671.35
6. Business fund growth by 20 %	41,891.26	41,891.26	41,891.26	41,891.26	41,891.26	209,456.29	191,849.70
7. Business tax growth by 20%	8,378.38	8,378.38	8,378.38	8,378.38	8,378.38	41,891.92	38,370.55
8. Employment growth by 10 %	4,712.84	4,712.84	4,712.84	4,712.84	4,712.84	23,564.21	21,583.43
						total benefit	3,448,644.65
						total investment	231,255.24
						SROI	14.91

XV. ANALYSIS ON MULTIPLIER EFFECT OF GOVERNMENT SPENDING

Farmers' interviews shows spending changes in relations to income changes. They consume more items: 6.2 % of their income on land rental, 7.4 % on planting and harvesting materials, 5.8 % on labor cost, 5.2 % on fertilizer and pesticide, 5.3 % on education for their children, 6.9 % on household expense, 5.4 % on house and care mortgage, 4.7 % for BAAC repayment, 4.8 % on Loan shark repayment, 5.6% on miscellaneous expense and the rest of 42.7 % for their next planting season. (See Table 3)

The saving of 42.7 % shows propensity of last unit consumption at 0.427

Multiplier effect of government spending =	1
	<hr/>
	(1-mpc)
=	1
	<hr/>
	0.427
=	2.34

Above equation displays that one additional unit (Baht) of spending stimulates more goods and service consumption, which resulting in 2.34 Baht (2.34 x) worth of economic expansion.

For the season of 2011-2012 the farmers participated in the rice pledging scheming earned additional income of 123,290 million Baht while the non-participative earned only 15,495 million Baht additionally (Office of Agricultural Economics, 2014). Hence, total of 138,785 million Baht of additional income estimated Thai economy and resulted in GDP growth total 324,757 million Baht. (138,785 x 2.34)

Similarly to the season of 2012-2013 the farmers who participated in the rice pledging scheming earned additional income of 128,309 million Baht while the non-participative earned only 13,761 million Baht additionally (Office of Agricultural Economics, 2014). This sums to 142,070 million

Baht of additional income and generates GDP growth total 332,443.8 million Baht (142,070 x 2.34).

Table 3 Consumption Pattern Changes Comparing to Income Growth Generated by the Rice Pledging Scheme

I tem	Change of expense	%
1	Land rental	6.2
2	Material cost for soil preparation, seedling, planting and harvesting	7.4
3	Labor cost for soil preparation, seedling, planting and harvesting	5.8
4	Fertilizer and pesticide cost	5.2
5	Education for children	5.3
6	Household expenses	6.9
7	Mortgage for house or car	5.4
8	BAAC debt repayment	4.7
9	Loan shark repayment	4.8
0	Miscellaneous expense	5.6
1	Fund for next season	42.7

XVI. RESULTS ON PERSONAL FACTORS AND OPINIONS ON RICE PLEDGING SCHEME

1. The survey is conducted among 195 male respondents (55.1 %) and 159 female respondents (44.9%);

2. Age groups of correspondents are those under 30 years old (15 samples or 4.2 %), aged 30-40 years old total 125 samples (35.3 %), aged 41-50 years old total 137 samples (38.7%), aged 51-60 years old total 69 samples (19.5 %) and aged over 60 years old total 8 samples (2.3 %);

3. Average score of satisfaction level over Rice Pledging is 3.98 point or high (79.60 %);
4. Satisfaction on government regarding the rice pledging project is high, in average 81.20 % or 4.06 points;
5. Satisfaction on the rice pledging scheme as a whole is high, at 79.80 % or 3.99 points;
6. Average score of expectancy level over Rice Pledging is high at 78.40 % or 3.92 points;
7. Expectancy on government to re-implementing the rice pledging scheme is high, averagely 83.80 % or 4.19 points;
8. Expectancy on the rice pledging scheme to promote better livelihood is high, average at 81.60 % or 4.08 points.

XVII. HYPOTHESIS TESTING

For this research, satisfaction over Rice Pledging scheme (S1), satisfaction over government for implementing Rice Pledging scheme (S2) and satisfaction over Rice Pledging scheme as a whole (S3) influence on overall expectation this test set at 0.05 level of significance.

H0: satisfaction over Rice Pledging scheme, satisfaction over government for implementing Rice Pledging scheme and satisfaction over Rice Pledging scheme as a whole shows no influence on overall expectation;

H1: satisfaction over Rice Pledging scheme, satisfaction over government for implementing Rice Pledging scheme and satisfaction over Rice Pledging scheme as a whole shows influence on overall expectation

From Table 4 as below of regression analysis, F-test value with 0.05 level of significance shows that independent variable influence over overall expectation with 0.000 Sig. (F). Hence secondary hypothesis (H1) is accepted but not primary hypothesis (H0). Additionally Durbin-Watson of 1.674, between 1.5-2.5, shows independence of co-error. Regarding tolerance value of 0.710 – 0.603, close to 1, proves independence of variables. This explains that satisfaction over Rice Pledging scheme (S1), satisfaction over government for implementing Rice Pledging scheme (S2) and satisfaction over Rice Pledging scheme as a whole (S3) influence on overall expectation of the samples and Beta value of satisfaction over the Rice Pledging scheme is higher than level of satisfaction on the government for implementing the scheme. Whereas overall satisfaction over rice pledging scheme with value of 0.379 proves that satisfaction over the rice pledging scheme is more significant than the government implementation and overall rice pledging scheme respectively. With 0.440 Adjusted R² of satisfaction variables on stated Rice Pledging scheme, government implementation, and overall rice pledging scheme able to predict variable of expectancy at 44 per cent based on the following relations between expectation and variables.

$$\begin{aligned} \text{Overall expectation} &= 1.351 + 0.290 (\text{satisfaction over stated rice pledging scheme}) \\ &+ 0.235 (\text{satisfaction over the government for implementing} \\ &\text{rice pledging scheme}) \\ &+ 0.152 (\text{satisfaction over rice pledging scheme as a whole}) \end{aligned}$$

Regression Analysis of Satisfaction influence on Expectation of Rice Pledging Scheme for Seasons of 2011-2012 & 2012-2013

Table 4 Regression analysis results

Overall Expectation	Coefficients			t-value	Sig. (t)	Collinearity Stat.	
	B	Std. Err	Beta			Tolerance	VIF
(Constant)	1.351	0.169		8.012	0.000*		
S1	0.290	0.036	0.379	8.009	0.000*	0.710	1.409
S2	0.235	0.040	0.268	5.869	0.000*	0.759	1.318
S3	0.152	0.041	0.191	3.731	0.000*	0.603	1.658
F-value	93.298						
Sig. (F)	0.000*						
R	0.667						
R ²	0.444						
Adjusted R ²	0.440						
Std. Err. of The Estimate	0.53135						
Durbin-Watson	1.674						

* Level of confidence= 0.05

XVIII. SUMMARY ON HYPOTHESIS TESTING

Based on above hypothesis, conclusions presents as following.

1. SROI for the project of Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 is higher than 1;
2. Multiplier effect of government spending on Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 is higher than 1;
3. Satisfaction of the Seasons of 2011-2012 & 2012-2013 influence on expectation.

Table 5 Summary of Hypothesis Testing

Item	Hypothesis	Results
1	Social return on investment for overall rice pledging scheme for the Seasons of 2011-2012 & 2012-2013 >1	True
2	Multiplier of government spending on the Rice Pledging Scheme for the Seasons of 2011-2012 & 2012-2013 >1	True
3	Satisfaction of the Seasons of 2011-2012 & 2012-2013 influence on expectation	True

XIX. DISCUSSION

Based on SROI of overall rice pledging scheme for the Seasons of 2011-2012 & 2012-2013 which is higher than 1

or beta value at 10.81 and 14.91 respectively, this shows positive return over investment. This corresponds to prior research conducted by Thai Health Foundation (Thai Health Promotion Foundation (Thai Health), 2014) on social return of investment for various cases study of Thai Health projects. For example, Tobacco Project conducted during 2001-2010 presents SROI at 18.3. Accident awareness raising project conducted during 2001-2010 presents SROI at 130.2, consumer protection project conducted during 2008-2012 shows 95.0 SROI, 2008-2012 Healthy Consumer shows 13.5 SROI, 2008-2012 children and youth project presenting 6.2 SROI and 2010-2012 elderly project showing 2.9 SROI respectively. Moreover, this corresponds to a research conducted by King Mongkut's Institute of Technology Ladkrabang, (2014) on feasibility study of cost of living reduction support (case study of bus) which shows 2.01 SROI or SROI of 0.1545 for study of cost of living reduction support (case study of train).

For analysis of multiplier effect on government spending for the rice pledging scheme of 2011-2012 & 2012-2013, the value is 2.34 resulting in economic growth at 2.34 folds. This corresponds to a study conducted by the Center for Applied Economics Research of Kasetsart University (2015) on compensation at 1,000 Baht per rai or total 40 billion Baht paying to farmers that enable to generate GDP growth of 91,357 million Baht or 2.28 times of compensation. Such benefits worth 6.718 billion Baht arrive directly to agricultural sector while another 84.639 billion Baht benefits to other sectors. Additional example includes a statement of the National Economic and Social Development Board (2014) that 2011-2012 rice pledging scheme contributes to income growth for farmer worth 116 billion Baht and 114 billion Baht for the season of 2012-2013. This shows income growth for participated farmers at 42,000 Baht per head, promotes Thailand purchasing power growth min. 2.0 %, and also contributes to GDP growth in 2011-2012 & 2012-2013 at 0.69 and 0.62 % respectively. Nonetheless, this shows irregular growth rate. This irregularity displays by 2012 household expenditure at 6.7 % whereas it should be only 4.7 % without income from rice pledging project or higher purchasing power of farmers.

Satisfaction over rice pledging scheme for the seasons of 2011-2012 & 2012-2013 is high, at 79.60 % while satisfaction over government for implementing these project shows higher score, 81.20 % and 79.80 % for satisfaction over overall rice pledging scheme. These correspond to Chamber of Commerce's Poll (2012) on rice pledging which shows 86 % satisfaction

With expectation on project at 78.40 %, re-implementation rate at 83.80 %, expectation on the projects for livelihood improvement at 81.60 %, show farmers' satisfaction over stated rice pledging scheme and influence over future rice pledging scheme impacts for earning more assets, reducing debt and increasing household revolving fund. (Chamber of Commerce's Poll, 2012)

XX. RECOMMENDATIONS FOR FURTHER STUDY

1. Comparative study of return on investment for rice pledging scheme to rice pricing intervention should be conducted, for aspects of social return on investment, multiplier effect on government spending and satisfaction, and expectation of Thai farmers;
2. Further study on social return of investment and multiplier effect on government spending other state project in comparison to the rice pledging scheme should be conducted;
3. In ensuring effectiveness NPOs can make use of SROI on various projects.

XXI. RESEARCH APPLICATION

1. With SROI for the rice pledging scheme for the seasons of 2011-2012 & 2012-2013 higher than 1 point shows that stated projects provides positive social return on investment. This proves that the model can be used and has been used in numerous, particularly European countries for a baseline for not-for-profit, public project evaluation on return of investment. Comparing to weighted investment result to loss, this unable to claim that public project generating negative return on investment. Compliance with the Royal Decreed of Good Governance B.E. 2003 Thai government requires considering significance of public or social & economic interest for citizen. This implies state obligation in considering return of investment in the form of public interest or other non-quantifiable forms other than financial return.

2. From the multiplier effect on government spending for the rice pledging project of 2011-2012 & 2012-2013 at 2.34 proves to generate GDP growth of 324,757 million Baht for the season of 2011-2012 while the season of 2012-2013 pushes GDP growth further total 332,443.8 million Baht. This shows that stated project able to promote economic growth as a whole and encourages more spending resulting in GDP growth. This research also provides conclusion similarly to the NESDB research (2014) that rice pledging scheme enhance income level among farmers, promote GDP growth and escalate household spending.

3. The Rice Pledging Scheme for seasons of 2011-2012 & 2012-2013 aimed to support farmers, representing more than 20 % of Thai population, who face poverty and inequality (Office of National Economic and Social Development Board, 2014). From SROI and multiplier of government spending on stated projects supporting by this study, these show that government implemented this scheme appropriately and rightly targeted to grassroots economy due to past crisis of 2011 mega flood. The flood impacted negatively on rice plantation, low or no income farmers, and caused severe economic backlash. In respond to the crisis the government had to inject money to the system through farmers at targeted areas and certain period resulting in GDP growth and sustaining economic.

4. Regarding cost effectiveness of the project or social return on investment, the government requires to concern over

public opinion on implementation. Additionally farmers' satisfaction over the scheme plays significant part on project evaluation or indicator. This displays on high satisfaction level of the project for seasons of 2011-2012 & 2012-2013. Such indicator highlights satisfaction of direction beneficiaries or farmer on government performance.

5. Expectation of farmers on the Rice Pledging Scheme of season 2011-2012 & 2012-2013 is high. This display satisfaction and their needs are met. Additionally this implies expectation on future rice pledging scheme as well as higher impact on their likelihood for those participating in the scheme.

6. In addition to fiscal analysis, social return on investment able to promote higher efficiency of public-policy based projects resulting in social justice promotion. Hence, the SROI ensure a sound and reasonable decision making process as well as implementation by government agencies or NPOs.

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