

## **Social Return on Investment (SROI) Framework for Measuring the Real Value of Sungai Muda Flood Mitigation Program**

*Kerangka Penilaian Pulangan Sosial Dari Pelaburan Bagi Pengukuran Nilai Sebenar Program Tebatan Banjir Sungai Muda*

Dona Raihana Don Ramli<sup>1\*</sup>, Kadaruddin Aiyub<sup>2</sup>, Kadir Arifin<sup>3</sup>

<sup>1</sup>Environmental Management Program, <sup>2</sup>Geography Program, <sup>3</sup>Development Science Program  
Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia,  
43600 UKM Bangi, Selangor, Malaysia.

\*e-mail: donna\_raihana@yahoo.com

### **Abstract**

Movement towards modern eco climate has seen an increasing interest in measuring the social impact of projects, programs, organizations, activities, businesses and policies. Everybody seems eager to know the 'real value' of the activities they carried out. Governments have a strong imperative responsibility to measure the social impact of policies, programs and funded activities. Managers would like to know the performance they have been achieved so far, with a chance to improve for continuous efficiency and effectiveness. Investors want to demonstrate the social value their money is creating. Corporations are showing interest in social investment. Corporate social responsibility would love to share the social benefits as a result from the social work they have done. Social return on investment (SROI) has emerged as an approach to meet these demands, as it has been promoted as a more holistic approach to demonstrate the value for money. Hence, this article attempts to investigate the real value of flood mitigation program in Sungai Muda, Kedah as a case study to examine the usefulness of the SROI method. SROI analysis offers a mixed methods framework which involves both qualitative and quantitative data that helps to measure, manage and give a better understanding about the impacts of Sungai Muda Flood Mitigation Program with emphasizing the element of value for money. This study has found a positive social return expressing by the SROI ratio comprised of social, economic and environmental outcomes. The result shows that the SROI framework can indeed help the governments, managers, investors, corporations and corporate social responsibility to place social and environmental aims on a par with economic ones.

**Keywords** value for money, social return on investment, social return

### **Abstrak**

Pergerakan ke arah iklim eko moden telah menunjukkan peningkatan minat dalam mengukur impak sosial sesebuah projek, program, organisasi, aktiviti, perniagaan dan polisi. Semua pihak ingin mengetahui 'nilai sebenar' yang dihasilkan oleh aktiviti yang dijalankan. Pihak kerajaan mempunyai tanggungjawab penting untuk mengukur impak sosial daripada dasar, program dan aktiviti yang dijalankan. Pengurus ingin mengetahui prestasi yang telah dicapai dengan peluang untuk meningkatkan kecekapan dan keberkesanan pada masa hadapan. Pelabur ingin menunjukkan nilai sosial yang telah dihasilkan. Peniaga pula mula menunjukkan minat dalam pelaburan sosial. Tanggungjawab sosial korporat ingin berkongsi faedah sosial daripada kerja sosial yang dilakukan. Nilai pulangan sosial adalah satu pendekatan yang dapat memenuhi permintaan tersebut dan SROI merupakan pendekatan yang lebih holistik untuk menunjukkan nilai wang yang berbaloi. Oleh itu, artikel ini bertujuan untuk meneliti nilai sebenar yang dihasilkan oleh Program Tebatan Banjir (PTB) di Sungai Muda, Kedah sebagai satu kajian kes terhadap keupayaan rekabentuk penilaian SROI. Analisis SROI menawarkan satu kerangka kerja yang melibatkan kaedah campuran iaitu melibatkan data kualitatif dan kuantitatif yang membantu untuk mengukur, mengurus dan memberi pemahaman yang lebih baik mengenai impak Program Tebatan Banjir Sungai Muda dengan menekankan elemen nilai wang yang berbaloi. Kajian ini mendapati pulangan sosial yang positif diperolehi menerusi nisbah SROI yang terdiri daripada pulangan sosial, ekonomi dan alam sekitar. Hasil kajian menunjukkan bahawa kerangka kerja SROI dapat membantu pihak kerajaan, pengurus, pelabur, peniaga dan tanggungjawab sosial korporat untuk meletakkan nilai pulangan sosial dan alam sekitar selari dengan nilai pulangan ekonomi.

**Kata kunci** nilai wang yang berbaloi, nilai pulangan sosial daripada pelaburan, nilai pulangan sosial

## INTRODUCTION

There is increasing interest amongst the governments, corporations, investors, non-governmental organizations and public involving with social investments to evidence the value of social impact they have created. Organization (for-profit and not-for-profit) seems eager to put their activities, policies, projects and programs one step further with highlighting the value for money. The focus on economic return sharing the same spotlight with social and environmental aims in order to achieve sustainability goal. The intention of every investment is to shift the priority from the usual investment to a more sustainable future. A promising investment for a better sustainable future is about achieving the economic return without neglecting the importance of social value. Social value plays a significant role in every social investment as social value is a vital key to gain a balanced of social, economic and environmental return.

Social value has emerged as a crucial global concern in an economic age and it is the beginning to be taken seriously. "Social value refers to wider non-financial impacts of programs, organizations and interventions, including the wellbeing of individuals, communities, social capital and the environment. These are described as 'soft' outcomes, mainly because they are difficult to quantify and measure. This in turn poses a problem for those seeking to measure the effectiveness of a particular intervention or activity with soft outcomes - the providers of the activity, the commissioners of the activity, funders and users. Outcomes that cannot be quantified cannot be counted, evaluated or compared" (Wood & Leighton, 2010: pp. 20). Social value encompasses a broad concept of value by incorporating social, environmental and economic costs and benefits. This means that as well as taking into account the direct effects of interventions, the wider effects on other areas of economy should also be considered (The Compact, 2010). The social value is created when resources, inputs, processes or policies are combined to generate improvements in the lives of individuals or society as a whole (Antonaras et al., 2011).

Unfortunately, the absence of appropriate metrics to measure social value creation, the work done in that area by both the not-for-profit sector and for-profit sector is grossly undervalued and thus the social value created by the investment is not known (Antonaras et al., 2011). Therefore, to bridge the gap, a social value measurement is critically needed. The ultimate of social value measurement is to achieve the maximum possible social value as direction defining in their activities. Social value is currently highly relevant for many providers of funding who wish to understand, define and communicate their activities better. Social value measurements try to capture, measure and possibly assess the impact which is the result of an action, activity, project, program or policy. A culture of accountability, the social value that "value for money" is a good starting point to monitor and evaluate for a better investment in the future.

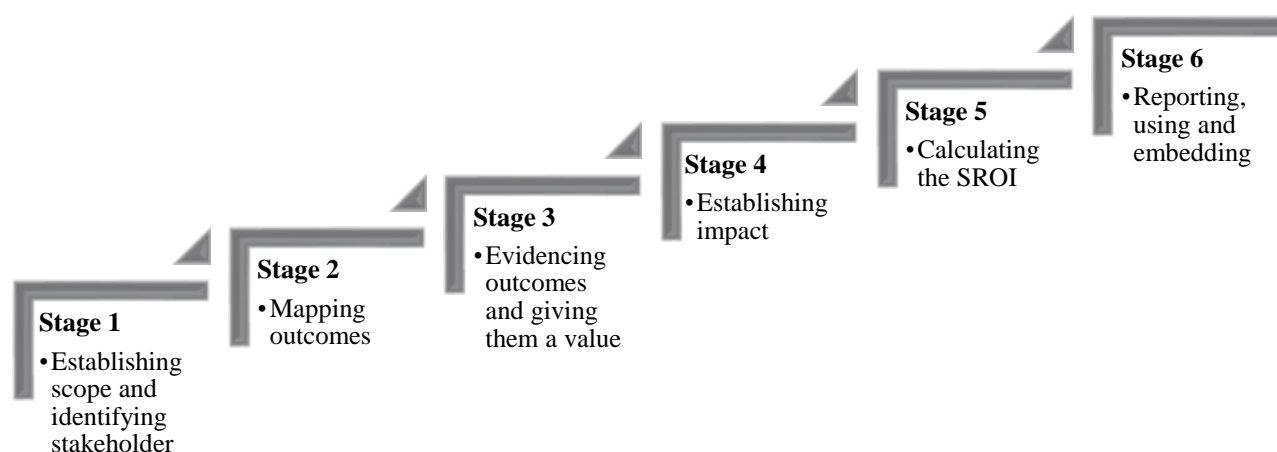
There are a number of methodologies for monitoring social value with the most well-known being Social Return on Investment (SROI) methods (The Compact, 2012). Therefore, SROI is the tool to meet today's demands in the new eco society today.

## THE SROI FRAMEWORK ANALYSIS

SROI is defined as a framework for measuring and accounting for the much broader concept of value. It seeks to reduce inequality and environmental degradation and improve wellbeing by incorporating social, environmental and economic costs and benefits (Nicholls et al., 2012). SROI involves a process for understanding, measuring and reporting the social, economic and environmental value created by an intervention, program, policy or organization (Scholten et al., 2006). SROI can retrospectively measure outcomes that have already occurred (evaluative-type), during the intervention for making an assessment of the social value that has been created so far and help to monitor the progress or can be prospectively predict how much value will be generated if the intervention meets its intended outcomes (forecast-type) (Nicholls et al., 2012). Data collection and subsequent analysis allow calculation of a benefits-to-costs ratio (Nicholls et al., 2012), as an example, a ratio of 3:1 indicates that an investment of each RM1 delivers RM3 in social value.

The SROI framework was first developed by The Roberts Enterprise Development Fund (REDF) in 1996 (Emerson et al., 2000), after which there has been a gradual revision of the original methodology

(Tuan, 2008). These revisions have led to an integration of REDF's original SROI methodology (a social impact measurement tool) with principles and processes normally used in economic evaluations and financial returns on investment to build a framework capable of capturing the wider impact of an interventions (social, economic and environment) (Rotheroe & Richards, 2007). This concept widely referred to as the 'triple bottom line' (Norman & MacDonald, 2004), which is in itself underpinned by the blended value accounting theory (Emerson, 2003). The conduct of SROI analysis based on seven major principles. The first principle - involve the stakeholders. Stakeholders should be informed what gets measured and how it is measured and valued. Second principle - understand what changes. Articulate how change is created and evaluated through evidence gathered, recognizing positive and negative changes as well as those that are intended and unintended. The third principle - value the things that matter. Use financial proxies in order that the value of the outcomes can be recognized. The fourth principle - only include what is material. Determine what information and evidence must be included in the accounts to give a true and fair picture, such that the stakeholders can draw reasonable conclusions about the impact. The fifth principle - do not over claim. Organizations should only claim the value that they are responsible created. The sixth principle - be transparent. Demonstrate the basis on which the analysis may be considered accurate and honest and show that it will be reported and discussed with the stakeholders. The seventh principle - verify the result. Ensure appropriate independent verification of the account. Based on these principles, SROI employs a six stage process for measuring the outcomes (Figure 1).



**Figure 1** Stages of SROI

## **METHODOLOGY**

A quantitative approach was used for this study. A survey was administered to 380 households using purposive sampling by focusing on the farmers living in Sungai Muda flood plain areas. Sungai Muda, which is located within the boundary of Kedah and Pulau Pinang with a catchment area of 4,210 km<sup>2</sup> and 180 km length begin from Muda Dam and flows across district of Baling, Sik and Kuala Muda. This river catchment is main water supply for agricultural, industrial and domestic sector for both Penang and Kedah. The catchment often being flooded on the rainy season from April to May and September to November every year. Many problems raised when flood keep on worsening each year (e.g. riverbank erosion, river pollution and reduction of water resources). The flood event which occurred on October 2003 was the worst (DID, 2011). Therefore, Sungai Muda Flood Mitigation Program plays a vital role in order to minimize the negative impacts of flood, improving the socio-economic level and provide comfort and safety to people and property.

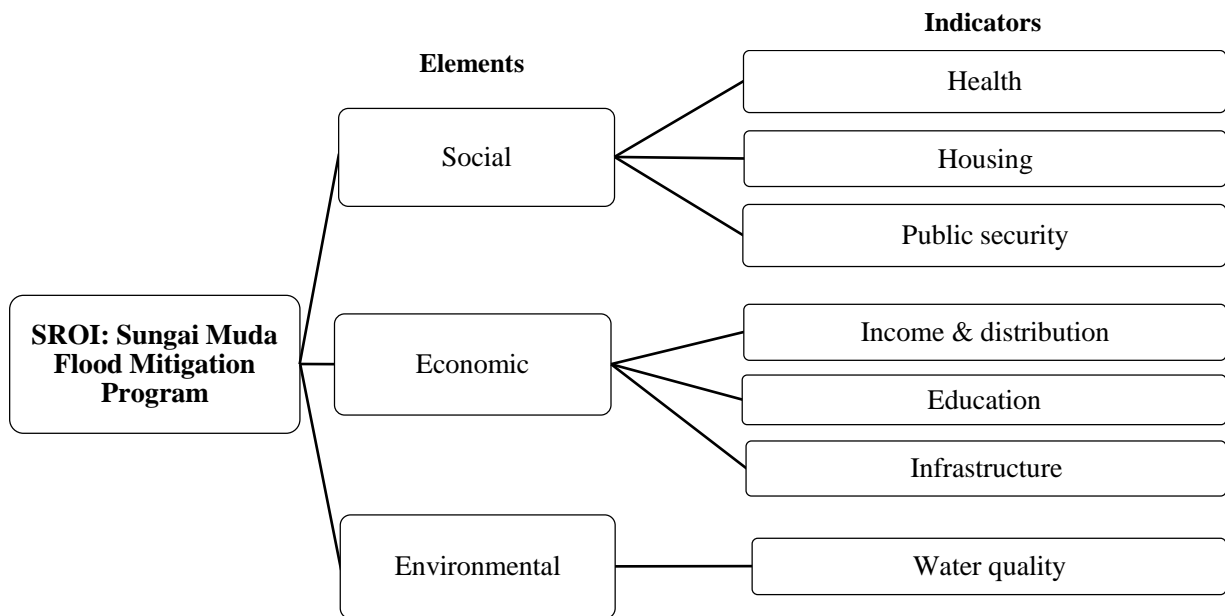
Based on SROI application towards Sungai Muda Flood Mitigation Program, this study emphasizes on three major pillars comprised of social, economic and the environment. Every pillar consists of wellbeing indicators used in Malaysia (Figure 2). The indicators were selected based on the research objectives and needs. These indicators may also be differed subject to place and time. In different cases, the indicators used may not be similar but the three major pillars will remain the same (social, economic and environment). Then, a monetary value will be attributed to the indicator to represent the value of indicator used. For example, social element represented by health indicator. A monetary value was given to health indicator

through the value of cost avoidance of hospital treatment to farmers. Therefore, the value of each element will be calculated based on the value of every indicator as stated in Table 1.

**Table 1** The value of indicator and element of SROI

No.	Element	Indicator	Value of indicator
1	Social	Health	Hospital treatment cost
		Housing	Cost of repair and rebuilding of destroyed and damaged house
		Public security	Cost of replacing MyKad, MyKid, marriage card, birth certificate and official documents
2	Economic	Income & distribution	Value of loss of income assistance, basic needs aid, agricultural assistance
		Education	Cost of schooling assistances
		Infrastructure	Cost of repair and rebuilding destroyed and damaged infrastructure
3	Environmental	Water quality	Cost of cleaning and treating polluted river

The value of every indicator in each element will be adapted according to the situation. The indicators are adjustable to meet the research objectives and needs. Therefore, not all indicators will be similarly applied and carried the same values to all cases due to conformity factor.



**Figure 2** The instrument of SROI

The SROI analysis indeed shows the total net present value impact, value added and SROI ratio in every investment made through activity, policy, project or program, as below:

- (1) Total net present value impact = [social value] + [economic value] + [environmental value]
- (2) Net Present Value of Benefits = [Total net present value impact] x *f* (i.e. frequency of flood in a year)
- (3) SROI ratio = 
$$\frac{[\text{Net Present Value of Benefits}]}{\text{Value of Project/Program Investments}}$$

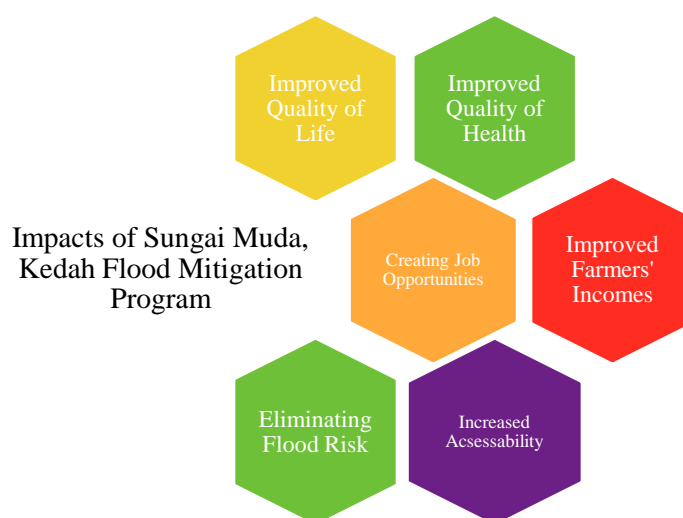
$$(4) \text{ Value added for Project/Program} = [\text{Net Present Value of Benefits}] - [\text{Value of Project/Program Investments}]$$

## RESULT AND DISCUSSION

### Applying SROI analysis in Sungai Muda Flood Mitigation Program

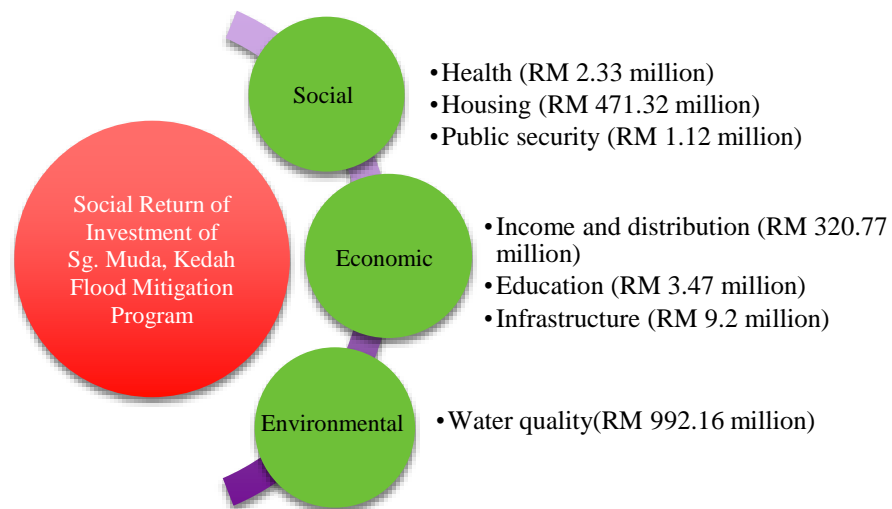
SROI analysis is capable to capture changes across the whole spectrum of the theory of change (input-impact) and provide a monetized ratio (Tuan, 2008; Rotheroe & Richards, 2007; Emerson, 2003; Arvidson et al., 2013; Zappala & Lyons, 2009). SROI can be a useful tool in general, it may be particularly applicable in the Flood Mitigation Program in Sungai Muda, Kedah context. Engaging with intended beneficiaries as one of the key stakeholder groups in particular can help not only in reducing the impacts of flood and improving the quality of life, but also revealing insights and potentially unintended consequences which may otherwise not be apparent. In addition, the examination of the triple bottom line (i.e., social, economic and environment) in SROI analysis is essential to understand the costs and benefits of an approach as holistic as it been portrayed in Sungai Muda Flood Mitigation Program.

SROI demonstrates a significant social value was created from the Sungai Muda Flood Mitigation Program. The SROI ratio shows that the program is positively affecting social, economic and environmental outcomes. Driving the high return in the following outcomes:



**Figure 3** Impacts of Sungai Muda, Kedah Flood Mitigation Program

The social value of Sungai Muda Flood Mitigation Program consists of social, economic and environmental element. Every element carries the value derived from the indicators used in Malaysia Wellbeing Report 2013 (Figure 4).



**Figure 4** The social value of Sungai Muda Flood Mitigation Program

Based on SROI analysis, the total net present value impact of Sungai Muda Flood Mitigation Program is RM 3,600,856,600.00 billion comprised of social indicators (health, housing, public security), economic indicators (income & distribution, education, infrastructure) and environmental indicator (water quality), as below:

**Table 2** The element and indicator of SROI

No.	Element	Indicator	RM (million)
1	Social	Health	2,328,000.00
		Housing	471,320,000.00
		Public security	1,117,000.00
2	Economic	Income & distribution	320,773,200.00
		Education	3,470,100.00
		Infrastructure	9,200,000.00
3	Environmental	Water quality	992,160,000.00
<b>Total</b>			<b>1,800,428,300.00</b>

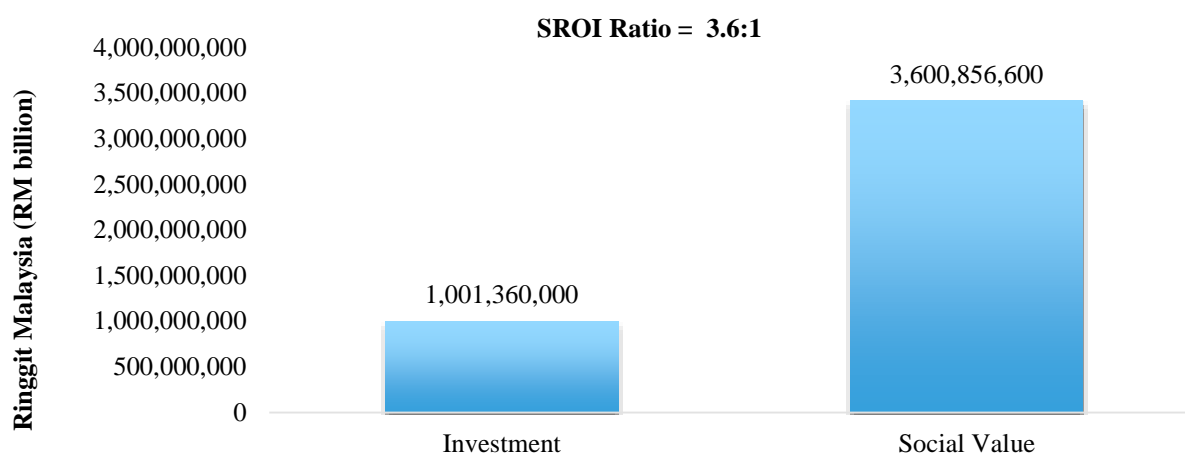
Total net present value impact = [social value] + [economic value] + [environmental value]

$$\text{RM } 474,825,000.00 + \text{RM } 333,443,300.00 + \text{RM } 992,160,000.00 \\ = \text{RM } 1,800,428,300.00$$

$$\text{Net Present Value of Benefits} = [\text{Total net present value impact}] \times 2 \text{ (frequency of flood in a year)} \\ \text{RM } 1,800,428,300.00 \times 2 = \text{RM } 3,600,856,600.00$$

The total cost of investment for Sungai Muda Flood Mitigation Program is RM 1,001,360,000.00 billion [Figure 4]. This indicates that the flood mitigation program has created a value added of RM 2,599,496,600.00, as below:

$$\text{Value added for Project/Program} = [\text{Net Present Value of Benefits}] - [\text{Value of Project/Program Investments}] \\ \text{RM } 3,600,856,600.00 - \text{RM } 1,001,360,000.00 = \text{RM } 2,599,496,600.00$$



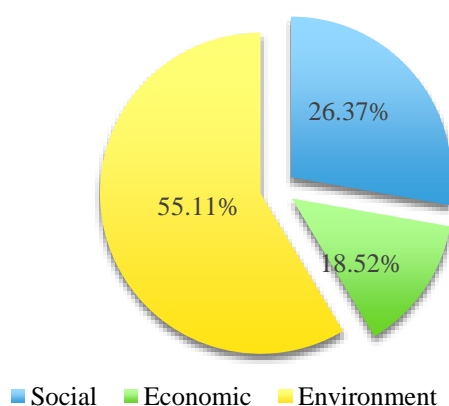
**Figure 5** The SROI ratio

The result shows that for every ringgit invested in Sungai Muda Flood Mitigation Program, a RM 3.60 social benefit is seen, as below:

$$\text{SROI ratio} = \frac{[\text{Net Present Value of Benefits}]}{\text{Value of Project/Program Investments}}$$

$$\frac{\text{RM } 3,600,856,600.00}{\text{RM } 1,001,360,000.00} = \text{RM}3.60$$

The SROI ratio of 3.6:1 is shared values of social, economic and environmental element (Figure 6). This means that every ringgit put into the program was repaid, plus yielded an additional RM2.6 of social impact value.



**Figure 6** Share of value

SROI concentrates on the value of change to social, economic and environment by expressing the value of changes in monetary terms where possible. Therefore, a SROI analysis illustrates the value in investing to strengthen society, with a view to measure the real value of investment. Social value is created through changes to the circumstances of social, economic and environmental towards individual, community and society.

## CONCLUSION

Conventionally, each investment on projects or programs were evaluated through economic costs and benefits analysis which concentrated on financial return. The real social value is always left out from calculation as it is difficult to put monetary value on it. The SROI approach is a unique function in evaluation frameworks. As such, SROI focuses attention on the ultimate purpose of all investment, to give the true value on social impact. The philosophical intent of SROI is to promote a strong target on social impacts. Achieving positive social impact is the primary concern of all social purpose activities, whether conducted through corporate social responsibility, social enterprises, corporations, investors, philanthropic foundations or governments. SROI aims a sharp lens directly on social impact and relates it to the investment required to achieve those impacts. Giving monetary value as proxy to social impacts would justify the effectiveness of any investment and promote continuity of social projects and programs. Accordingly, the wide take-up of SROI and growing sophistication in its use will strengthen the overall contribution made by social purpose activities and improve the wellbeing.

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