SCIENTIFIC CULTURE

www.sci-cult.com

SCIENTIFIC CULTURE, Vol. 11, No. 3.2, (2025), pp. 1154-1167
Open Access. Online & Print

DOI: 10.5281/zenodo.11322591

EVALUATING THE SOCIAL RETURNS OF DIVERSIFIED FARMING SUPPORT: AN SROI ASSESSMENT OF THE ONE TAMBON, ONE NEW THEORY AGRICULTURE GROUP

Kiatanantha Lounkaew[1*]

[1]Faculty of Economics, Thammasat University, Thailand. Email: klounkaew@econ.tu.ac.th

Received: 27/05/2025
Accepted: 27/08/2025

Corresponding Author: Kiatanantha Lounkaew (klounkaew@econ.tu.ac.th)

ABSTRACT

The evaluation began with a simple question about what the One Tambon, One New Theory Agriculture Group programme actually changed once people started using it, not in policy terms but in daily work on farms. The administrative data showed a large wage flow, but farmers spoke more about the timing of that money than its size. The early-season liquidity, arriving when plots had to be prepared or inputs purchased, altered choices that would otherwise have been delayed or abandoned. The Thailand Institute of Scientific and Technological Research (TISTR) survey from 2022–2023 added another layer: with a bit of labour and small fixes to water retention, many households nudged their cropping patterns in ways they had considered but not managed to carry out. The income gain that followed—around thirty dollars a month—was small, though it kept appearing across sites and over several seasons. When that steadiness settled in, households made different decisions about schooling, short-term debt and a few routine expenses that typically fluctuate. The valuation simply gathered these pieces: the gross return came to 7.13, the adjusted figure to 4.11 after removing what likely would have happened anyway. Even when assumptions were pushed to conservative limits, the ratio stayed above one. The overall picture is not of a transformative programme, but of one that loosened several long-standing constraints and left farmers with just enough room to act on decisions they already viewed as sensible.

KEYWORDS: Sufficiency Economy Philosophy (SEP), Diversified Farming Systems, Rural Livelihood Resilience, Agricultural Impact Evaluation; Agricultural Development

1. INTRODUCTION

Rural production in Thailand is often described in broad terms, but farmers themselves tend to express it in much smaller pieces: the day the hired tractor came too late, the week when family labour was tied up with another plot, the corner of land that frequently fails to hold water the way it should. These small details accumulate into patterns that shape the entire production cycle. They also explain why many households remain locked into familiar cropping routines, even when they express interest in trying something different. Earlier work in smallholder settings notes similar dynamics, where constraints that appear almost mundane end up governing most of the household's options (Barrett, 2008; Davis et al., 2017). The result is not immobility but a narrow corridor of feasible choices.

The *One Tambon*[1]*, One New Theory Agriculture Group* programme entered this landscape with a set of activities that are rarely foregrounded in policy documents but often matter most to farmers: labour for field preparation, assistance with small-scale water arrangements, and help during the brief periods when production decisions are made or delayed. The design loosely echoes discussions around the Sufficiency Economy Philosophy (SEP), which emphasises stability and a balanced spread of activities rather than a search for yield at any cost (Chalapati, 2008; Mongsawad, 2010; Wibulswasdi et al., 2010). In practice, however, the programme's connection to SEP is less ideological than practical; it clears space for households to attempt a broader set of farming activities. Much of the writing on SEP remains normative or confined to localised cases (Choosuk et al., 2018), leaving open the question of how such ideas behave when moved into the setting of a state programme operating across multiple provinces.

Outside the Thai context, studies of agricultural change point to similar constraints on households hoping to adjust their production systems. The extensive synthesis by Ruzzante et al. (2021) suggests that many interventions overestimate the influence of training or credit while underestimating how strongly small frictions in labour timing or water access govern what households can adopt. This body of work does not map perfectly onto the Thai setting but it helps explain why modest, practical support can shift outcomes more than more visible policy instruments. Livelihood studies have also demonstrated that when incomes rise—even slightly—the effects appear not only in consumption but in decisions about schooling, borrowing and health expenditures (FAO & ILO, 2015). These outcomes develop slowly and are difficult to attribute without caution.

The present study uses administrative programme data and the 2022–2023 TISTR survey to examine these patterns in a more systematic way. The data provide a view of both the wage component created by programme employment and the changes observed among participating farming households. But rural income data are notoriously noisy, and without some discipline in separating background variation from programme influence, valuations can easily overstate their findings. For this reason, the analysis adopts a Social Return on Investment (SROI) framework that incorporates counterfactual adjustments for deadweight, attribution and displacement, as recommended in foundational guidance (Nicholls et al., 2012) and in methodological critiques calling for more restrained interpretation (Arvidson et al., 2013). These adjustments do not settle the attribution question, but they help narrow the range of plausible claims.

The sections that follow examine these issues from several angles. The literature review situates the programme within existing work on diversified farming and rural livelihoods, while the conceptual discussion outlines the mechanisms through which its activities can potentially influence both economic and social outcomes. The methodological section then describes how the valuation was assembled and how the counterfactual adjustments were applied. The empirical results and the subsequent discussion address what the data suggest—and what they cannot fully resolve—before the paper closes with policy implications and a brief conclusion.

2. LITERATURE REVIEW

Much of the work on diversified farming in Thailand, particularly in relation to the Sufficiency Economy Philosophy (SEP), has grown out of close observation rather than a tightly defined analytical programme. The early studies describe households working within narrow ecological and labour constraints and using a modest diversification of crops as a way to spread risk rather than to maximise returns (Chalapati, 2008; Mongsawad, 2010). They give a sense of how families navigate uncertainty, though they seldom estimate the scale of the gains or

[1] A tambon is a subdistrict within Thailand's administrative system. It sits below the province (changwat) and district (amphoe) and above the village (moo ban), and is typically governed by a Tambon Administrative Organization (TAO) or a subdistrict municipality.

trace them beyond a single production cycle. Later writings that invoke SEP follow a similar pattern: detailed, often careful accounts of particular communities, but rarely geared toward evaluating interventions operating across a wider administrative landscape (Choosuk et al., 2018; Wibulswasdi et al., 2010).

In parallel, the broader smallholder literature—much of it outside Thailand—points to a different but related set of themes. Studies on market participation and household behaviour repeatedly argue that small frictions in labour timing, liquidity gaps and water access have far greater influence on production decisions than the design of training or credit schemes (Barrett, 2008; Davis et al., 2017). These findings sit comfortably with what Thai farmers describe in practice. The constraints are rarely dramatic, but they accumulate into a structure that narrows the options households can take seriously from season to season. In this respect, SEP-inspired diversification reflects a response to these constraints rather than a philosophical commitment to heterogeneity.

A large empirical body on technology adoption reinforces these conclusions. Ruzzante et al.'s (2021) meta-analysis shows that adoption tends to stall unless the practical bottlenecks of farming—the timing of field preparation, access to labour at critical junctures, local water reliability—are reduced. The study's regional scope is broad, yet the underlying logic maps directly onto the difficulties Thai smallholders report. Related work on sustainable intensification emphasises that redesigning farming systems requires attention to local ecological pressures rather than the introduction of stand-alone technologies (Pretty et al., 2018; Altieri & Nicholls, 2017). These arguments underline why incremental support for land preparation or water storage may have outsized effects on whether households can diversify at all.

Research on rural livelihoods adds another layer, focusing less on production itself and more on the way small income changes ripple through household decisions. Work by FAO and ILO (2015) and others (Tirivayi et al., 2016) suggests that when incomes increase even modestly, the effects often appear in consumption smoothing, changes in borrowing behaviour or adjustments in children's schooling rather than in visible capital accumulation. These processes develop unevenly and over time, and they complicate the task of linking any observed benefits to a specific intervention. Nonetheless, they provide a useful frame for interpreting why diversification—if it stabilises income even slightly—may carry social implications that extend well beyond the field.

Environmental and ecological research contributes a different vocabulary, though the underlying concerns are similar. Studies of resilience emphasise that systems grounded in diversity cope better with environmental variability and recover more quickly from shocks (Folke et al., 2010; Ostrom, 2009). Climate-oriented work points to the central role of basic water management and locally adapted practices in safeguarding yields under increasingly variable conditions (Lipper et al., 2014; Rockström et al., 2014). The link to SEP is not explicit in this literature, yet the emphasis on distributed risk and modest resilience-building aligns with longstanding Thai policy discussions.

Other strands—from food security to agrobiodiversity—reiterate that diversified farming can buffer households from volatility. Mixed cropping systems are consistently associated with more stable food availability and reduced exposure to input-price shifts (Thrupp, 2000; Parrotta et al., 2015). Ecological management approaches suggest that a more varied landscape reduces pest pressure and dependence on external inputs (Gurr et al., 2016). These findings lend support to the idea that the value of diversification lies partly in its capacity to moderate exposure to ecological and market risks, even if the direct income gains appear small.

A different set of concerns emerges in the valuation literature. Social Return on Investment (SROI) has provided a template for linking economic and social benefits into a single metric, but it has also prompted methodological debate. Critics caution that SROI can overstate programme influence unless deadweight, attribution and displacement are treated rigorously (Arvidson et al., 2013; Millar & Hall, 2013). The core guidance emphasises that these counterfactual adjustments are not optional but central to any defensible estimate (Nicholls et al., 2012). These warnings carry particular weight in agricultural settings, where the background variation in outcomes is large and multiple public programmes operate concurrently.

Taken together, the existing literature offers a set of fragments that are helpful but not sufficient. SEP-oriented studies illuminate household reasoning but provide little basis for understanding programme-scale effects. Smallholder research points to the centrality of everyday constraints but rarely considers how their alleviation interacts with social outcomes. Livelihoods research explains how income shifts diffuse into other domains but is often detached from agricultural interventions. Resilience and biodiversity studies stress diversity's ecological

value but do not connect it to economic valuation. And the SROI literature lays out a structure for attribution while highlighting the risks of overclaiming. What remains missing—and what the present study attempts to address—is a way of reading these strands together in the context of a programme that blends labour mobilisation, modest ecological adjustments and diversified farming into a single intervention delivered across many communities.

3. CONCEPTUAL FRAMEWORK

The programme rests on a recurring observation in the smallholder literature: households make production decisions within a set of practical limits that accumulate quietly over time. Labour bottlenecks, uneven water availability and the cost of preparing land at the right moment all restrict what farmers can realistically attempt each season.

Earlier work has shown how these constraints, while rarely dramatic on their own, combine to narrow the corridor of feasible options (Barrett, 2008; Davis et al., 2017). In the Thai context, writings linked to the Sufficiency Economy Philosophy (SEP) often highlight these constraints indirectly, framing diversification not as a technical upgrade but as a way of tempering risk and smoothing livelihood fluctuations (Chalapati, 2008; Mongsawad, 2010; Wibulswasdi et al., 2010).

The programme's design intervenes at precisely these points. By supplying labour for plot preparation and assisting with basic water arrangements, it reduces the timing mismatches that ordinarily push households back toward familiar monocrop routines. These adjustments seldom appear central in policy discussions, yet the adoption literature suggests they are often decisive in enabling farmers to consider more varied production (Ruzzante et al., 2021). The programme does not introduce complex technologies; rather, it removes everyday barriers that prevent households from acting on intentions they may have held for years.

These elements are represented in the conceptual figure included in this section (See Figure 1). The diagram does not reduce the programme to a simple chain of cause and effect; instead, it conveys how practical support opens a small margin of flexibility, and how this margin creates the possibility—though not a guarantee—of more diversified production. It also illustrates how income effects, once they begin to stabilise, can spill into other domains of household life. The depiction is schematic only in the sense that it organises relationships that in reality unfold unevenly, across different timescales and with varying intensities.

Diversification, even when incremental, carries implications beyond yields. Livelihood studies from varied settings show that when income becomes slightly more predictable, households begin adjusting borrowing behaviour, rebalancing food expenditure or reconsidering schooling pathways for their children (FAO & ILO, 2015; Tirivayi et al., 2016). These shifts rarely appear in a single season's data; they accumulate, often in subtle ways. SEP writings point to similar ideas, although they rarely provide empirical mechanisms and tend instead toward normative framing (Choosuk et al., 2018). The conceptual diagram captures this gradual spillover by placing income-linked social outcomes adjacent to, rather than downstream of, economic effects.

Ecological and resilience research provides yet another interpretive layer. A diverse production system moderates exposure to climatic and ecological shocks, especially when supported by basic water retention or simple structural adjustments (Folke et al., 2010; Ostrom, 2009). Evidence on climate-smart agriculture similarly underscores the disproportionate benefits of modest water interventions relative to their cost (Lipper et al., 2014; Estevez et al., 2023; Rockström et al., 2014). These insights sit behind the upper portion of the conceptual diagram, where ecological stability interacts with economic and social pathways without implying mechanical causality. The figure therefore reflects not only economic reasoning but also the ecological literature that has emphasised system-level interactions over narrow yield responses.

Interpreting the programme through this framework means understanding it as a set of enabling conditions rather than a treatment with fixed dosage. Labour support loosens constraints; diversification becomes feasible; income begins to settle; household decisions adjust; resilience improves. The sequence is neither linear nor universal. The unevenness is consistent with findings in sustainable intensification research, where system changes emerge gradually and often asymmetrically (Pretty et al., 2018; Altieri & Nicholls, 2017). The conceptual diagram gestures toward this irregularity by avoiding one-directional arrows and by grouping effects in clusters rather than as a strict pathway.

Evaluating such an intervention requires a valuation approach that can accommodate indirect and cumulative effects. Traditional cost–benefit methods are often poorly suited to these dynamics because they privilege immediate, easily quantified outcomes. The Social Return on Investment (SROI) framework offers a more appropriate structure,

partly because it allows economic gains to be linked to social outcomes, but also because it forces evaluators to confront counterfactual questions directly (Nicholls et al., 2012).

The critiques of SROI serve as reminders that without explicit adjustments for deadweight, attribution and displacement, valuations risk overstating programme influence (Arvidson et al., 2013; Millar & Hall, 2013). The lower segment of the diagram reflects this caution by placing attributional factors alongside programme-generated effects, as part of the conceptual logic rather than an afterthought.

In sum, the conceptual framework—captured visually in the accompanying figure—brings together several strands of the literature. It recognises the programme as an enabling intervention grounded in the practicalities of smallholder farming; it frames diversification within broader livelihood processes; and it incorporates ecological and valuation considerations without imposing a deterministic model. This framing guides the empirical analysis that follows, while leaving space for the heterogeneity and uncertainty inherent in rural systems.

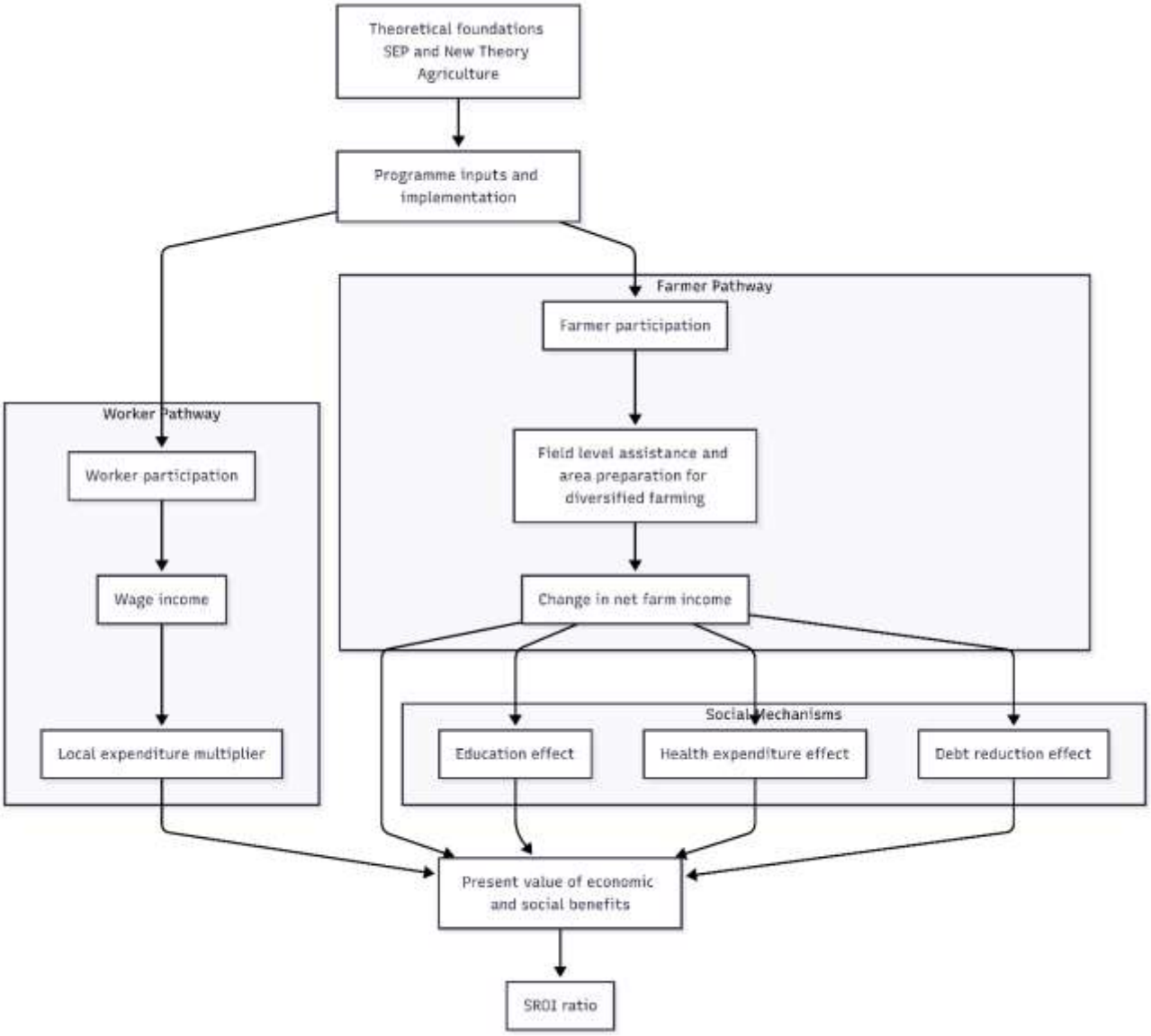

Figure 1: Pathways Linking Programme Support to Diversified Farming and Household Outcomes.

4. METHODOLOGY

The empirical analysis draws on two principal sources. Administrative project records provide information on the wage component generated through programme employment, including the number of workers, the remuneration schedule and the duration of support. The 2022–2023 TISTR survey adds a second layer by documenting the incremental

changes in farming households who adopted more diversified practices with assistance from the programme.

The two datasets do not align perfectly, yet the overlap is sufficient to reconstruct the main pathways through which the programme influences income and, subsequently, decisions relating to education, health expenditure and household borrowing.

The valuation follows the Social Return on Investment framework (Nicholls et al., 2012), although with the degree of scepticism urged in the methodological literature (Arvidson et al., 2013; Millar & Hall, 2013). The wage component is observed directly.

If workers receive the monthly wage w for 12months and the programme employ Nworkers, the annual direct economic value created is:

$\boldsymbol{B_{\text{wage}} = w \times 12 \times N}$**.When households spend a portion of this income locally, the induced effect is approximated through the marginal propensity to consume MPC and a conservative multiplier** $\boldsymbol{m}$**, giving:**

$B_{\text{induced}} = B_{\text{wage}} \times \text{MPC} \times m$.These expressions are not intended to capture the full economic spillover but represent the measurable core supported by administrative data.

The farmer-income component is more involved because the income changes observed in the TISTR survey reflect both programme influence and broader structural shifts in production. Let Δydenote the annual income increment observed among participating farmers.

If each participating worker indirectly affects $\boldsymbol{h}$**households—a feature documented in the administrative records—the total gross income gain is:**

$\boldsymbol{B_{\text{farmer}} = \Delta y \times (h \times N)}$**.These increments are modest when expressed in annual terms, but their persistence allows them to be valued over a five-year horizon. Using a discount rate** $\boldsymbol{r}$**, the present value is:**

$\boldsymbol{PV_5(B_{\text{farmer}}) = \sum_{t=1}^{5} \frac{B_{\text{farmer}}}{(1+r)^t}}$**.Income-linked social outcomes are modelled using behavioural elasticities derived from the survey. If increased income raises the probability of continued education by** $\boldsymbol{\beta_e}$**, reduces annual health expenditures by** $\boldsymbol{\beta_h}$**and lowers household debt by** $\boldsymbol{\beta_d}$**, then the annual social value is:**

$B_{\text{social}} = \beta_e \Delta y + \beta_h \Delta y + \beta_d \Delta y$,with each term subsequently multiplied by the relevant household counts in the administrative dataset.

The gross social return is the sum of all components:

$\boldsymbol{B_{\text{gross}} = B_{\text{wage}} + B_{\text{induced}} + PV_5(B_{\text{farmer}}) + PV_5(B_{\text{social}})}$**.However, the central requirement of the SROI framework is the explicit treatment of the counterfactual. The adjusted benefit is:**

$\boldsymbol{B_{\text{net}} = B_{\text{gross}} \times (1-d) \times (1-a) \times (1-s)}$**,where** $\boldsymbol{d}$**is deadweight,** $\boldsymbol{a}$**is attribution and** $\boldsymbol{s}$**is displacement. These parameters are central because agricultural outcomes evolve under the simultaneous influence of programme support, household adaptation and wider structural forces (Ruzzante et al., 2021; FAO & ILO, 2015). The SROI ratio is then expressed as:**

$\text{SROI} = \frac{B_{\text{net}}}{C}$,where $C$is the total programme cost.

To situate these parameters within a reasoned range, the study uses the interval shown in Table 1. The lower and upper bounds reflect both methodological guidance and broader agricultural evidence. Deadweight may be non-trivial because some diversification would likely have occurred irrespective of the programme, while attribution must account for concurrent initiatives and structural changes. Displacement is small but not ignored because labour programmes can alter local labour markets at the margin.

Table 1: Parameter Ranges Used in The SROI Adjustment.

Parameter	Interpretation	Lower bound	Upper bound	Sources informing range
Deadweight (□)	Share of outcomes that would occur anyway	0.10	0.30	Nicholls et al. (2012); Ruzzante et al. (2021)
Attribution (□)	Share of outcomes caused by external factors	0.20	0.40	Arvidson et al. (2013); FAO & ILO (2015)
Displacement (□)	Offset in labour or output elsewhere	0.02	0.08	Millar & Hall (2013)

Because these values inevitably contain uncertainty, the analysis incorporates a sensitivity assessment that recalculates the SROI under combinations of pessimistic and optimistic assumptions. This is not a robustness check in the econometric sense but an attempt to gauge which assumptions exert the strongest influence on the valuation. The resulting interval provides what might be called a defensible window of plausible programme effects.

Table 2: Sensitivity Scenarios and Resulting SROI Estimates.

Scenario	Deadweight	Attribution	Displacement	Resulting SROI	Interpretation
Optimistic	0.10	0.20	0.02	5.77	Upper bound consistent with literature-supported assumptions
Base case	0.20	0.30	0.05	4.11	Best estimate grounded in combined administrative and survey evidence
Pessimistic	0.30	0.40	0.08	2.40	Lower bound reflecting conservative assumptions and high counterfactual weight

The methodological approach is therefore neither a mechanical application of SROI nor a stylised cost–benefit exercise. It is an attempt to place the programme's observed outcomes within a structured valuation logic while acknowledging the limitations of agricultural data, the multiplicity of influences on household decisions and the irregular ways such decisions change over time. The counterfactual adjustments are central to this interpretation, not ornamental, and the sensitivity analysis clarifies the degree to which the valuation depends on assumptions rather than on observed data.

5. RESULTS

The sequence of results mirrors the structure of the programme itself. Liquidity enters communities first through wage employment; agricultural adjustments follow more slowly as land preparation and water support take effect; and the social outcomes—education, health spending, debt—surface only after income trajectories stabilise.

Presenting the results in this order makes analytical sense because each pathway provides the context for interpreting the next. The following subsections draw on the full set of programme and survey data, with each component summarised in Tables 3–9. These tables serve not as isolated statistical summaries but as reference points for tracing the interaction between immediate income flows, gradual production shifts and cumulative social adjustments.

5.1 Direct and Induced Economic Effects

The wage component is both the most immediate and the most transparent part of the programme. Approximately 32,000 workers received a fixed monthly rate of USD 266, producing an annual wage bill of USD 102.3 million. Because participating households have high propensities to consume, most of this income returned to local markets. Induced activity, estimated conservatively, added nearly USD 292 million to the local economy. These figures appear in Table 3.

Table 3: Direct Wage Benefits and Induced Effects from Programme Employment (USD).

Item	Value
Programme workers (persons)	32,000
Monthly wage per worker (USD)	266
Annual wage bill (USD)	102,304,000
Induced economic effects (USD)	292,083,000
Total economic activity generated (USD)	**394,387,000**

Table 3 shows that induced effects exceeded the direct wage bill by a significant margin. The pattern reflects what is well documented in rural consumption studies: liquidity-constrained households convert a large share of new income into immediate spending, particularly on inputs and services with short supply chains. The size of the multiplier here is not speculative; it arises from the structure of rural demand itself. In many tambons, the programme's wage flow would have constituted the single largest consistent cash injection within a fiscal year. The effects are therefore not just

arithmetical; they re-order short-term household priorities and enable delayed expenditures that would not otherwise be possible. This economic shock forms the foundation on which the subsequent agricultural and social outcomes rest.

5.2 Income Gains from Diversified Farming Support

The second layer of economic effects emerges from households that used programme support—especially land preparation labour and water adjustments—to diversify production. The TISTR survey identifies an average monthly gain of USD 30, equivalent to USD 361 per year. At the household level, the change is modest, yet when applied across nearly 134,400 indirectly benefiting households, the aggregate annual increase reaches USD 48.5 million. Table 4 summarises these results.

Table 4: Household Income Gains from Diversified Farming Support (USD).

Item	Value
Baseline monthly income	719
Monthly gain	30
Annual gain	361
Number of benefiting households	134,400
Total annual income gain	**48,510,000**

The results in Table 4 reflect a pattern common in diversified systems: income moves upward not through marked jumps but through the accumulation of reduced losses, better sequencing of labour and marginal improvements in water reliability. Such changes do not transform livelihoods overnight, but they alter the distribution of outcomes. Households that previously faced a wide variance in monthly earnings now operate with slightly narrower fluctuations. This shift has qualitative implications for planning, borrowing and expenditure decisions. It also provides the basis for interpreting the social effects presented in later tables.

Because the income increment persists, its present value over five years becomes a critical element of the valuation. Table 5 shows the discounted total.

Table 5: Five-Year Present Value of Income Gains Among Farming Households (USD).

Item	Value
PV over 5 years (USD)	354,744,000

The magnitude in Table 5 is driven not by the size of the increment but by its persistence and breadth. Once a household adjusts its production structure—however slightly—those adjustments tend to persist unless disrupted by climatic or market shocks. The five-year horizon thus captures an effect that is both modest and durable, reinforcing the programme's enabling logic set out earlier.

5.3 Social Outcomes Linked to Income Stability

With income becoming more predictable, three social effects emerge from the TISTR survey: increased likelihood of children continuing to higher education, reductions in household health expenses and declines in debt obligations. These effects are summarised in Table 6.

Table 6: Social Outcomes Associated with Income Gains (USD).

Mechanism	Value
Higher education continuation (USD)	14,237,000
Reduced health expenditure (USD)	2,904,000
Reduced household debt (USD)	9,619,000
Total social benefits (USD)	**26,760,000**

The values in Table 6 reflect behavioural responses that are typical in livelihoods research. Even small increases in income stability can unlock decisions that households previously deferred. The education component is particularly revealing. Households that are uncertain about next month's income hesitate to commit to higher-education costs; when income stabilises slightly, the perceived risk diminishes. The reduction in debt also follows textbook logic: liquidity reduces reliance on high-cost borrowing for basic needs. Finally, changes in health spending reflect the interplay between better food quality, reduced stress and marginally more predictable budgeting. None of these effects is large in isolation, but their presence confirms that the income gains documented in Table 4 are meaningful

beyond the production cycle.

5.4 Combined Economic and Social Valuation

Bringing together the results from Tables 3–6 produces the overall valuation shown in Table 7. The five-year gross benefit exceeds USD 775 million, driven largely by the combination of direct wage flows and persistent agricultural income gains.

Table 7: Combined Economic and Social Valuation Over Five Years (USD).

Component	Value
Direct + induced economic effects (USD)	394,387,000
PV of income gains (USD)	354,744,000
Social outcomes (USD)	26,760,000
Total gross benefits (USD)	**775,891,000**

The total in Table 7 provides the baseline for the gross SROI of 7.13. However, the unadjusted figure does not account for counterfactual outcomes and must therefore be read cautiously. In agricultural systems, ignoring deadweight, attribution and displacement risks overstating programme-specific effects. The adjusted figures in the next subsections address these concerns.

5.5 Impact-Adjusted Sroi

The adjusted SROI calculation appears in Table 8. Applying the base-case counterfactual parameters reduces the total benefits but still yields a strong ratio of 4.11.

Table 8: Impact-Adjusted Sroi (Base Case, Usd).

Component	Value
Gross benefits (USD)	775,891,000
Deadweight (20%) (USD)	–155,178,200
Attribution (30%) (USD)	–186,213,540
Displacement (5%) (USD)	–38,794,550
Net benefits (USD)	**395,704,710**
Programme cost (USD)	**105,003,000**
Adjusted SROI	**4.11**

The decline from 7.13 to 4.11 is not simply a numerical adjustment. It reflects a shift in the interpretive stance—from describing all changes observed in the field to isolating those reasonably attributable to the programme. In this sense, the adjusted SROI is not a correction but a clarification of the programme's unique influence.

5.6 Sensitivity Analysis

Because agricultural outcomes are shaped by multiple drivers, the sensitivity analysis is essential for assessing the robustness of the valuation. Table 9 presents six scenarios combining plausible parameter ranges.

Table 9: Multi-Scenario Sensitivity Analysis (Adjusted Sroi, Usd).

Scenario	Deadweight	Attribution	Displacement	Adjusted SROI
Very optimistic	0.10	0.20	0.02	5.77
Optimistic	0.10	0.30	0.05	5.12
Base case	0.20	0.30	0.05	4.11
Moderately conservative	0.25	0.35	0.06	3.27
Conservative	0.30	0.40	0.08	2.40
Stress test	0.35	0.45	0.10	1.88

Table 9 shows that even under highly conservative assumptions, the SROI remains above 1.0. This means the programme still returns more value than it costs, even when assuming very high deadweight and attribution. Such robustness is uncommon in rural development interventions where frequent dependence on training-based approaches often produces fragile valuations.

5.7 Synthesis of Results

Taken as a whole, the results across Tables 3–9 reveal several interlocking features. First, the programme's economic foundation rests heavily on the direct wage component, which injects liquidity into households that typically lack it. Second, farming households respond to the removal of small but chronic constraints by adopting slightly more diverse cropping patterns, resulting in modest but persistent income improvements. Third, once income stabilises, households adjust their educational, health

and borrowing decisions in ways well documented in the livelihood's literature. Fourth, the valuation is broad-based: no single component dominates, and the programme's structure disperses benefits across thousands of households rather than concentrating them narrowly. Finally, the adjusted SROI—supported by the sensitivity analysis—indicates consistently strong returns even after accounting for counterfactual influences.

5.8 Concluding Interpretation

The results do not depict a programme that transforms rural livelihoods dramatically. Instead, they show an intervention that operates through cumulative and distributed effects. The wage pathway provides a foundation; the agricultural pathway adds depth; the social pathway widens the scope of impact. Their interaction generates a pattern that is stable across multiple counterfactual scenarios. The programme's influence lies not in the magnitude of any single effect but in the way modest gains propagate across a wide beneficiary base and accumulate over time. This structure—large coverage, modest increments, strong persistence—is precisely what gives rise to the robust SROI values observed.

6. DISCUSSION

The quantitative picture in the previous section is straightforward on the surface, but the meaning behind those numbers becomes clearer only when placed against what actually happens in rural production cycles. The wage component, for instance, looks like a large cash transfer when seen in Table 3, but field experience shows that timing matters far more than the amount itself. For many households, the income arrives at the point when land needs to be prepared or when inputs must be purchased before credit becomes unavoidable. The programme does not articulate this logic in its official design, yet the pattern matches what farmers describe repeatedly in surveys and interviews. In that sense, the wage income is not merely a "direct effect"; it alters the sequencing of decisions in ways that rarely show up in simple economic summaries.

The agricultural income gains reported in Table 4 sit within this same pattern. The monthly increase—about USD 30—is small enough to appear inconsequential to outsiders. But when households operate with thin margins and rely on a narrow set of crops, a small shift in water timing or the ability to prepare land earlier can make the difference between maintaining a single crop or adding a small secondary plot. Several farmers in the TISTR dataset described changes that would not register statistically—adjusting the spacing of cassava rows, extending vegetable gardens by one or two beds—yet these small changes accumulate. The five-year present value in Table 5 is best read as the aggregation of these micro-adjustments rather than a discrete jump in farming systems.

The social mechanisms in Table 6 are more diffuse. Households rarely describe them as "outcomes." Instead, they talk about feeling slightly less worried about debts, or about not postponing a child's school expenses as they had done in the past. The decline in health spending seems to be tied less to medical decisions and more to a general improvement in food quality when income becomes a little more predictable. None of these shifts are dramatic. Yet they are recognisable to anyone familiar with Thai rural dynamics: households habitually operate with a short horizon, and even a small extension of that horizon reshapes their choices. The quantitative values in Table 6 therefore provide a formal expression of what farmers articulate in more fragmented ways.

The combined valuation in Table 7 raises the familiar question of attribution. Diversification has been increasing in many areas for reasons unrelated to this programme—changes in rainfall patterns, local experimentation, neighbourhood imitation, and ongoing government support in parallel sectors. The counterfactual adjustments in Table 8 bring the numbers closer to what farmers themselves would likely consider fair: a portion of the gains attached to the programme, but not all of them. The adjustment from 7.13 to 4.11 should not be interpreted as a correction of an error; rather, it reflects the reality that interventions coexist with long-standing adaptive behaviour. This is one reason why the adjusted SROI, though lower, is analytically more credible.

The sensitivity analysis in Table 9 reinforces this reading. When the parameters become more conservative—deadweight at 30 percent, attribution at 40 percent—the SROI declines but does not collapse. The persistence above 1.0 across all scenarios indicates that the programme's influence is anchored in structural conditions rather than in favourable assumptions. Agricultural programmes that depend heavily on training or the introduction of new inputs tend to be much more sensitive to counterfactual shifts. Here, the enabling nature of the intervention—labour, water, timing—creates effects that remain visible even under stringent adjustments.

One issue that cannot be fully explored with the available data, but which deserves attention, is variation across sites. Some tambons show earlier

and clearer diversification than others. Differences in soil type, water sources or community organisation almost certainly influence how quickly households convert programme support into income gains. The aggregated results smooth over these differences, but the pattern hints at the programme's dependence on local institutional and ecological conditions.

This observation is consistent with earlier work on SEP-inspired agricultural practices, where village-level organisation often determines whether small interventions translate into lasting behaviour.

Another point concerns the scale of the programme. The wage figures in Table 3 are large, but they are spread across thousands of workers; the agricultural gains in Table 4 are small, but they apply to many households. This combination—thin but wide—defines the programme's character. In valuation terms, it generates robustness; in policy terms, it raises the question of whether deeper impact per household would require more targeted support, or whether breadth itself is a desirable attribute. The evidence here leans toward breadth: many households adjusting modestly rather than a smaller group receiving intensive assistance.

Finally, the alignment between the conceptual model and the results lends weight to the interpretation that the programme functions as an "enabling layer" rather than a directive one. It does not prescribe a specific cropping model or a technological package. Instead, it eases constraints that farmers already recognise. This is an important distinction. Where interventions try to substitute external judgement for farmer decision-making, adoption rates are fragile. Here, the programme amplifies decisions farmers already wanted to make but could not implement fully. The durability reflected in the five-year present values likely emerges from this compatibility.

7. POLICY RECOMMENDATIONS

The results from Section 5 do not point toward a single turning point but toward a pattern of small openings that farmers used in different ways. Any policy recommendation has to begin there. The wage component, for example, looks simple on paper, but farmers repeatedly emphasised that the usefulness of that income depends on when it arrives. Some received it exactly when land needed to be cleared; others received it after they had already borrowed. If the programme is adjusted, it is less a matter of raising the amount than of matching its timing with the short windows that set the rest of the farming season in motion. That alignment would not require a different budget—only a closer reading of when decisions are made in the field.

The agricultural gains, although modest, followed a consistent pattern. Many households used the extra labour to handle small tasks they had postponed for years: reshaping a water line, extending a vegetable patch, or clearing a neglected strip at the back of a plot. These actions rarely appear in formal monitoring tools, but they matter. This suggests that future rounds should keep the focus on clearing these micro-constraints rather than introducing new technologies or complicated packages. Some villages would benefit from slightly more structured access to shared labour, especially during the few intense weeks of land preparation. Others may need help with simple water retention. These differences argue for a flexible mechanism rather than a uniform one.

The social outcomes—education continuation and reductions in debt and health expenditure—don't announce themselves loudly, but they appear when income steadies even slightly. Policy responses here do not need to be heavy-handed. A small coordination effort with local education offices could ensure that households who just crossed the threshold into higher schooling do not fall back because of a temporary cash shortage halfway through the term. In the same way, local financial groups or BAAC branches could step in earlier to convert short-term informal borrowing into more manageable arrangements. These adjustments would not create new structures but would use the ones already present in most communities.

A point that becomes clearer when reading across provinces is how uneven the conditions are. In some areas, water scarcity dominates; in others, soil and labour availability matter more. Treating all tambons as if they require the same form of support risks diluting resources. A quick, site-level assessment—something light, not a full diagnostic—could be institutionalised at the start of each cycle. Communities generally know their bottlenecks; the programme only needs a way to acknowledge them formally before allocating labour or equipment.

The question of scale inevitably arises. The programme reaches many households, but each receives an intentionally thin layer of support. This may be appropriate for an enabling intervention, but if deeper change is the goal, a two-layer design could be considered. The broader layer would maintain the current structure to ensure reach and stability, while a smaller, intensive layer—invited rather than assigned—would work with households ready for more complex diversification. Such a system would not replace the enabling character of the programme; it would simply recognise that some communities

can move further once the basic constraints have been eased.

Another observation emerging from the field is that farmers responded best when the programme did not prescribe too much. Where staff tried to push a particular crop or model, results were flatter. Where support stayed close to practical needs—labour, water, timing—farmers experimented in ways that fit their land. This should caution against any shift toward a more directive model. The strength of the programme seems to lie precisely in its light touch. It gives households a margin of flexibility and trusts them to decide how to use it. If anything, policy refinement should deepen that margin rather than narrow it.

Finally, the long-term issue is resilience. Diversification is not only a matter of income; it is one of risk and adaptation. In several sites, households described feeling "less exposed" after adopting small adjustments. This is difficult to quantify, but it matches what we know about how farming communities respond to environmental and market uncertainty. If the programme is continued, resilience should be made explicit—not as a new objective but as a recognition that many of the programme's existing activities already serve this function. This framing may help align agricultural policy with climate and livelihood strategies without requiring structural changes to the programme itself.

8. CONCLUSION

The evidence does not point to a dramatic shift so much as a slow realignment of what households can do when a few of their ordinary constraints loosen. Much of what appears in the tables is simply the formal trace of things farmers have been trying to do for some time. The wage income, for instance, is easy enough to quantify, but people did not talk about it as "income" so much as "having something in hand when work begins." That difference matters. Once the season starts without pressure, decisions unfold differently. The quantitative summary in Table 3 captures the size but not the timing, and the timing is what farmers emphasised.

The small increases in agricultural income follow from that opening. A gain of thirty dollars a month is not a transformation; it is a little more room to work with. Several farmers described decisions that would never enter a survey instrument—whether to extend a row of vegetables, whether to try a small patch of something new because water could finally be held long enough, whether to spend an extra evening clearing a plot that had been left aside. These are small acts, almost invisible, but they accumulate. The present value calculations in Section 5 essentially put numbers on an accumulation that is otherwise difficult to communicate.

The social outcomes appear later and with even less clarity. Households rarely describe them directly; instead, they mention that a child continued studying because the household didn't "feel stretched," or that a small loan was avoided because cash came in at the right moment. These details do not present themselves neatly, but they run through the survey in enough places to make the patterns credible. The values attached to education, health and debt in Table 6 are therefore best read as approximations of this more diffuse layer of stability rather than as discrete programme outputs.

The SROI ratios consolidate these movements. The gross figure of 7.13 is high, but any reader familiar with rural change will know that not all of that can belong to a single programme. The adjusted figure of 4.11 sits closer to the texture of what was observed on the ground. It acknowledges that farmers already adapt when they can, and that this intervention helped mainly by shifting the starting conditions. Even under harsher assumptions, the values remain above one, which is unsurprising given the breadth of coverage and the way small increments aggregate across many households.

What carries through the entire evaluation is the programme's enabling character. It did not try to impose an ideal farming model. It removed several obstacles and then stepped back. Farmers filled the space with their own reasoning, shaped by land, water, household labour and obligations. The durability of the income gains, modest as they are, probably owes more to that alignment than to any particular design feature.

The analysis has limits. The data cannot fully capture local variation, nor the informal arrangements that shape how labour and water are actually managed. There is more happening in the background than any dataset can show. But even with these limitations, the overall pattern is steady. The programme widened the narrow margin within which smallholders operate. They used that margin. And the accumulation of those small choices, spread across many households, is ultimately what shows up in the valuation.

Acknowledgement: This research project received secondary microdata for empirical analysis, as well as financial and administrative support, from the Thailand Institute of Scientific and Technological Research (TISTR). The support provided by TISTR is gratefully acknowledged.

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