



The Donor Committee for Enterprise Development

Case Study in using the DCED Standard Tofu production in Indonesia with the VIP¹

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This case shows how the business models of small-scale producers were analysed, and translated into a results chain and measurement plan of good quality.

Part 1: Overview of VIP

The Value Initiative Programme (VIP) in Indonesia is funded by the SEEP Network and implemented by a consortium of Mercy Corps, Swisscontact, MICRA and PUPUK. This phase runs from 2009 to 2011, and has six staff.

VIP aims to improve product quality, production efficiency and market linkages in Jakarta's tofu and tempe value chains; these are traditionally, informal industries employing a large number of poor people. This case study focuses on the tofu industry. Tofu producers could improve their profitability and generate social benefits through greater access to three services: information on cleaner production techniques, on improved equipment, and on good hygiene practices.

Examples of cleaner production in the tofu value chain include biogas digesters to convert waste into energy, and new equipment which reduces the amount of firewood required. Good hygiene practices include the use of stainless steel pots to prolong the tofu's shelf life, and avoiding the use of additives such as formaldehyde and borax, both of which present a health risk to consumers.²

From the start, VIP has aimed to incorporate the Standard into its results measurement process.

Part 2: Value Initiative Program's Work towards the Standard

Sustainability is a key element of VIP's strategy. Before drafting a new results chain, VIP staff draw the **business models** that underpin it. This helps staff to understand commercial relationships between different actors in the tofu value chain, so that VIP can ensure that the changes it triggers will continue after the programme ends. Once staff are clear about these commercial relationships, they draw results chains. Staff use the results chains to decide which activities VIP should carry out to trigger behaviour change in the first place, and to illustrate how the effects of this behavioural change will affect the wider value chain.

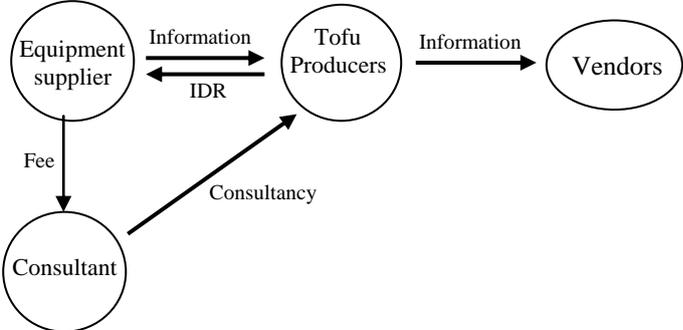
The next section shows how three business models piloted by VIP are incorporated into the results chains, and how this has helped the programme to decide which business model has

¹ We thank Prashant Rana and Stania Yasin for all their assistance in preparing this case study.

² For information on the Value Initiative Program, visit the Mercy Corps Indonesia website at http://indonesia.mercycorps.org/?show=work&type=sub_work&id=8

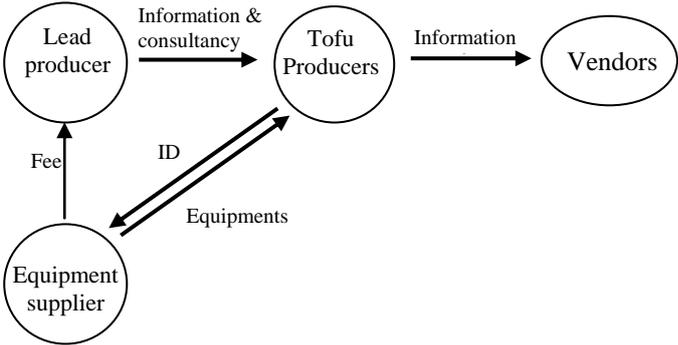
been most useful. Each of the three business models aims to increase the adoption of Cleaner Production (CP) techniques and Good Hygiene Practices (GHP) by Jakarta’s tofu producers and vendors.

The first business model shows information on CP and GHP transferred as an embedded service. Tofu equipment suppliers pass on CP and GHP information to tofu producers, who in turn give this information to tofu vendors. Equipment suppliers also hire consultants to raise awareness of their CP and GHP products.



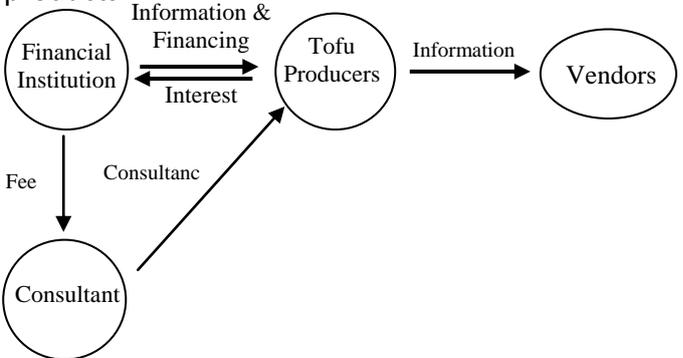
Service	Information on CP and GHP along with equipments as embedded service to producers
Number	5 Equipment Suppliers X 20 producers X 20 vendors = 2,000 vendors

In the second model, leading tofu producers provide information and consultancy on CP and GHP to other tofu producers, which raises demand for equipment suppliers’ CP and GHP products. Equipment suppliers pay lead producers a fee in return for their service.



Service	Information on CP and GHP along with consultancy as embedded service to producer
Number	12 Lead producers X 20 producers X 20 vendors = 4,800 vendors

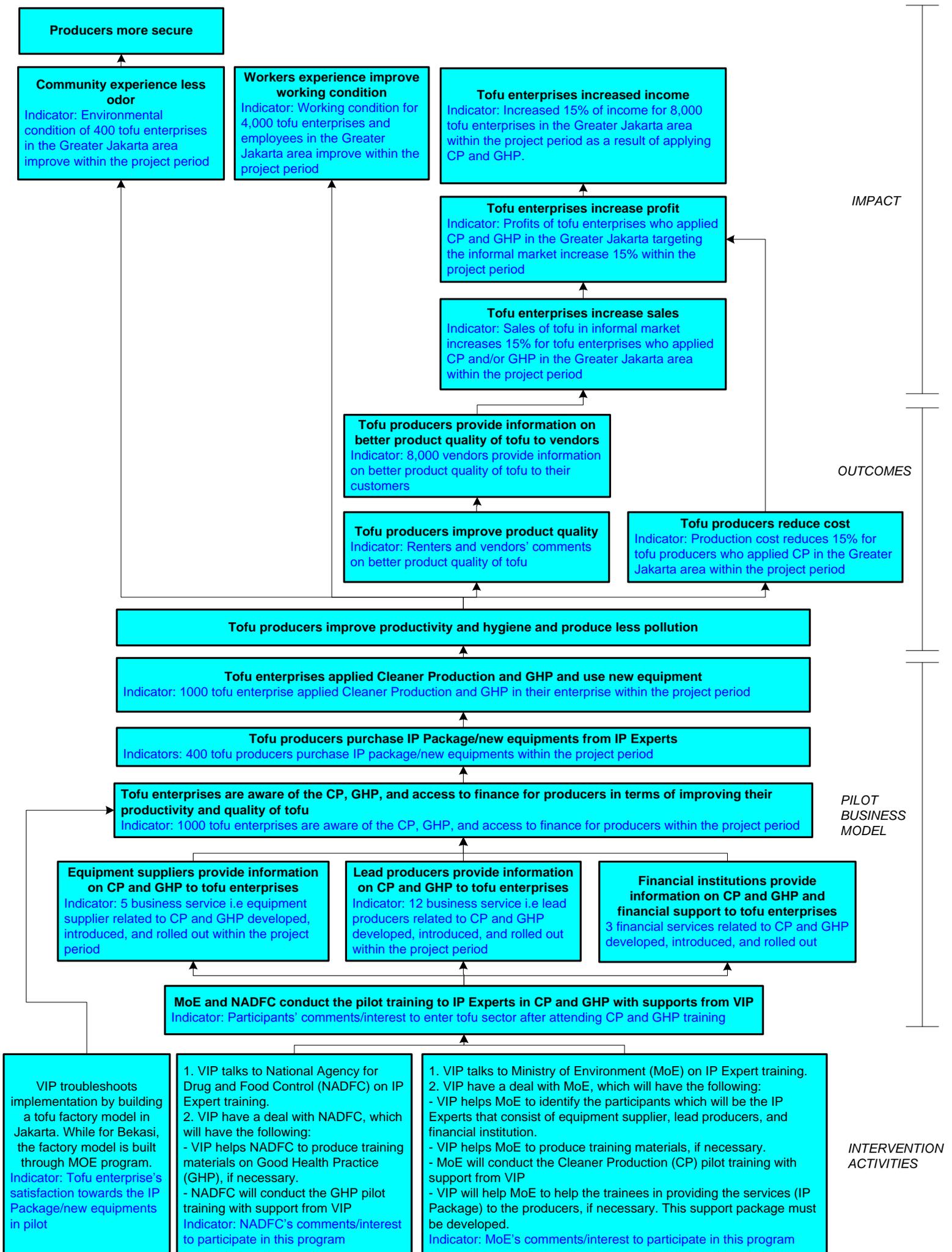
In the third model, financial institutions hire consultants to raise awareness of products which can improve CP and GHP. The financial institution profit by offering information and loans tied to the purchase of CP and GHP products.



Service	Information on CP and GHP along with financing as embedded service to tofu producers
Number	3 Financial institution X 20 producers X 20 vendors = 1,200 vendors

All three business models are captured in the results chain, shown on the next page.

Result Chain for Intervention : Improve Production for Tofu - Pilot



The results chain on the previous page also shows the **indicators** that VIP will use to test the effectiveness of these three models, when the programme does its impact assessment.³ One example of this is the Intervention Results Assessment Plan, which defines how the programme will measure change and what will be done to measure attribution. The Annex shows an Intervention Results Assessment Plan for the market uptake phase of interventions in the tofu sector.

Documents that support the logic of the results chain are gathered in a report called the Intervention Plan. For Stania Yasin, a VIP program officer, **supporting documents** are important because they explain why the programme is doing certain activities, and why these activities will lead to the anticipated changes.

VIP plans to use a range of methods to assess **attribution**. These include in-depth interviews to compare results between target and control groups.

³ As a relatively new programme, VIP has so far only collected baseline data. The programme plans to collect data from the same respondents when it does its first impact assessment.

Annex: Intervention Results Assessment Plan for the Tofu Sector

Causal Chain Level		Indicator	Definition	Calculation and Assumptions	Attribution Method	Info Source(s) + Key Info	Main Tool(s)	When/ How Often To Collect	Status
Impact	Tofu enterprises increased income	Increased 15% of income for 8,000 tofu enterprises in the Greater Jakarta area within the project period as a result of producers applying CP and GHP	Increased fifteen percent of income for eight thousands tofu enterprises (owners, renters, and vendors i.e. loppers, wet market vendors, and cart vendors) who applied CP and/or GHP in the Greater Jakarta within the project period (Links with Branding intervention)	<p>Calculation: This will be calculated as % increase in income = ((endline income – baseline income) : baseline income) x 100%). Income will be calculated through the difference in sales and cost per day before and after producers applying CP and/or GHP.</p> <p>Assumptions:</p> <ol style="list-style-type: none"> 1. Increase in profit will lead to increase in income 2. The condition of producers who applied CP and/or GHP resulting increase in income in all areas will be the same as producers who applied CP and/or GHP that are assessed and monitored by VIP team 	Control Group	<p>Info source : sample of producers who applied CP and/or GHP</p> <p>Key Info: producers' sales, cost, and income</p>	Survey questionnaire	Baseline and endline survey, same time with Branding intervention	Baseline: Average of daily income for : a. Tofu owner = IDR 1.156.755 b. Tofu renter = IDR 116.502 c. Control group = tofu owner = IDR 774.244
	Many tofu enterprises and workers experience improve working condition	Working condition for 4,000 tofu enterprises and employees in the Greater Jakarta area improve within the project period	Improve working condition for four thousands tofu enterprises (owners and renters) and employees of tofu who apply CP and/or GHP in the Greater Jakarta area within the project period	<p>Calculation: This will be calculated as # of tofu enterprises and employees who benefit = # of producers who applied CP and GHP x (average # of workers + average # renters)</p> <p>Assumptions:</p>	Control Group	Info source : sample of producers, workers, renters who applied CP and/or GHP	Survey questionnaire	After producers applied CP and GHP	Q2 = None Q3 = 10 Q4 = 51 Q5 = 72

			Workers and renters receive benefit from their owner (tofu producers) who are applying CP and/or GHP.		Key info: working condition			
Many community experience less odour and smoke	Environmental condition of 400 tofu enterprises in the Greater Jakarta area improve within the project period	Environmental condition of four hundreds tofu enterprises in the Greater Jakarta improve as result of tofu producers applying CP i.e. use steam boiler that has chimney in the design and/or not throwing liquid waste to the river anymore by installing the biogas technology.	<p>Calculation: This will be calculated as # of enterprises improve environmental condition = # of enterprises who use biogas technology</p> <p>Assumptions:</p> <ol style="list-style-type: none"> 1. Tofu producers do not throw liquid waste into the river/waste channel anymore 2. Tofu producers are using biogas technology to overcome liquid waste issue that cause odour. 	Control Group	<p>Info source : producers, renters, and workers</p> <p>Key Info: environmental condition</p>	Survey questionnaire	After producers applied CP and GHP	<p>Q2 = None</p> <p>Q3 = None</p> <p>Q4 = None</p> <p>Q5 = 1</p>
Many tofu enterprises increase profits	Profit of tofu enterprises who applied CP and GHP in the Greater Jakarta targeting the informal market increase 15% within the project period	Profit of tofu enterprises (owners, renters, and vendors i.e. loppers, wet market vendors, and cart vendors) who applied CP and GHP in the Greater Jakarta targeting the informal market increase 15% within the project period (Links with Branding intervention)	<p>Calculation: This will be calculated as % increase profit = ((endline profit – baseline profit) : baseline profit) x 100%). Profit will be calculated through the difference in profit per day before and after producers applying CP and/or GHP.</p> <p>Assumption:</p> <ol style="list-style-type: none"> 1. Increase in sales will lead to increase in profit 2. Profit equals to income 	Control Group	<p>Info source : sample of producers who applied CP and/or GHP</p> <p>Key Info: producers' sales, cost, and income</p>	Survey questionnaire	Baseline and endline survey, same time with Branding intervention	<p>Baseline:</p> <p>Average of daily profit for :</p> <ol style="list-style-type: none"> a. Tofu owner = IDR 1.156.755 b. Tofu renter = IDR 116.502 c. Control group = tofu owner = IDR 774.244

			3. The condition of producers who applied CP and/or GHP resulting increase in profit in all areas will be the same as producers who applied CP and/or GHP that are assessed and monitored by VIP team					
Many tofu enterprises increase sales	Sales of tofu in informal market increases 15% for tofu enterprises who applied CP and/or GHP and its vendors in the Greater Jakarta area within the project period	Sales of tofu in informal market increases fifteen percent for tofu enterprises (owners, renters, and vendors i.e. loppers, wet market vendors, and cart vendors) who applied CP and/or GHP in the Greater Jakarta area within the project period (Links with Branding intervention)	<p>Calculation: This will be calculated as % increase sales = ((endline sales – baseline sales) : baseline sales) x 100%). Sales will be calculated through the difference in sales per day before and after producers applying CP and/or GHP as well as vendors.</p> <p>Assumption:</p> <ol style="list-style-type: none"> 1. Producers provide information on better product quality to vendors and then pass it to their customers 2. Improving quality of tofu by applying CP and/or GHP will lead to improving sales of the producers in informal market 	Control Group	Info source : Tofu producers who applied CP and/or GHP Key Info: producers' sales	Survey questionnaire	Baseline and endline survey, same time with Branding intervention	Baseline: Average of daily sales for : a. Tofu owner = IDR 3.328.583 b. Tofu renter = IDR 263.311 c. Control group = tofu owner = IDR 2.761.168

				3. The condition of producers who applied CP and/or GHP resulting increase in sales in all areas will be the same as producers who applied CP and/or GHP that are assessed and monitored by VIP team					
Outcomes	Many tofu producers reduce cost	Production cost reduces 15% for tofu producers who applied CP in the Greater Jakarta area within the project period	Tofu production cost (soybean is not included) reduces fifteen percent for producers who applied CP in the Greater Jakarta area within the project period	<p>Calculation: This will be calculated as % cost reduction = ((production cost before applying CP – production cost after applying CP) : production cost before applying CP) x 100%). production cost will be calculated through the difference in production cost per day before and after producers applying CP</p> <p>Assumption:</p> <p>1. Producers and workers applied critical components of CP (including purchasing new equipments).</p> <p>2. The condition of producers who applied CP in all areas will be the same as producers who applied CP that are assessed and monitored by VIP team</p>	Comparison of before/after applying CP and GHP	Info source: sample of tofu producers who applied CP a	Monitoring form of CP	Before applying CP; after tofu producers in pilot apply CP for one month [particularly re-building the factory (Jakarta, Bekasi, through MoE), change equipments or behaviour]	Baseline: Average of daily cost (soybean not included) for: a. Tofu owner = IDR 598.486 b. Tofu renter = IDR 55.980 c. Control group = tofu owner = IDR 613.135 Q5 = Based on the pilot factory, the production cost reduces 30%
	Many tofu producers	Renters' comments on better product	Renters comments on tofu that have better	<p>No calculation</p> <p>Assumption:</p>	Comparison of	Info source: renters Key info: renters'	Interview, observation,	After producers	Q2 = None Q3 = None

	improve product quality	quality of tofu	product quality as result of producers applying CP (minimally change their drum to stainless drum) and GHP (minimally not smoking and use clothes during production process) within their factory.	Renters are honest providing	before/after applying CP and/or GHP	comments	Monitoring form	applying CP and GHP	Q4 = None Q5= The comments from the renter in the pilot factory are: 1. The tofu product is much cleaner now. It has better taste and has longer shelf life. 2. The productivity in H. Momo's factory has improved as he receives additional of tofu amounting one tray which he sell IDR 18.000
Uptake Business Model	Many tofu enterprises applied CP and GHP and use new equipment	1,800 tofu enterprises applied the CP and GHP in their enterprise within the project period	One thousand tofu enterprises (owners and renters) applying the CP and GHP practice within their factory. The applied technique can be in form of change in factory layout, purchasing new equipment, change in behaviour, etc.	Calculation: This will be calculated as # of tofu enterprise apply CP and GHP = [# of producers who apply CP and/or GHP technique x + # of producers purchase equipments + # of producers receive loan] x average # of renters) Assumption: The number that will be taken into account between number of producers who apply CP/GHP, purchase equipments and receive loan is the highest number.	Comparison of before/after applying CP and/or GHP	Info source : sample of producers who apply CP and/or GHP, producers who purchase equipments, Equipment supplier, Banks Key Info: producers who receive loan for CP implementation, producers who purchase equipments	Monitoring form on CP and/or GHP implementation, observation, interview	Quarterly to monitor how many tofu producers start applying CP and/or GHP	Q2 = None Q3 =10 Q4 = 51 Q5 = 72

			Renters also taken into account as they use the equipments so then they apply CP and/or GHP as well					
Many tofu producers purchase new equipments from IP Experts	300 tofu producers purchase new equipments within the project period	Three hundreds tofu producers purchase new equipments that are CP and/or GHP standard such as stainless drum, steam boiler, biogas, etc.	<p>Calculation: # of producers who Purchase new equipments = # of producers who purchase new equipment</p> <p>Assumption: The number that will be taken into account is the highest number.</p>		Info source : tofu producers Key Info: List of producers who purchase new equipments or access financial institution	Monitoring Form	Quarterly to track which producers that purchased new equipments	Q2 = None Q3 = None Q4 = 1 tofu producer Q5 = 2 tofu producers
Many tofu enterprises are aware of the CP, GHP, and access to finance in terms of improving their productivity and quality of tofu	5,400 tofu enterprises are aware of the CP, GHP, and access to finance for producers within the project period	Five thousands and four hundred tofu enterprises (owners and renters) who are aware of the CP, GHP, and access to finance information received either from CP and GHP activities (training, meeting, sensitization or assessment conducted by VIP), media (brochure, TV, radio, etc.), or visit to demo plant.	<p>Calculation: # of producers who are aware = [# of producers who (attend CP & GHP activities) x Average # of renters] + # of media exemplar spread in market</p> <p>Assumption: Tofu producers (owners) pass the information on CP and GHP to their renters</p>		Info source : tofu producers, renters, media Key Info: awareness on CP, GHP, and access to finance	Training attendance, guest book on pilot demo factory, notes on numbers of media exemplar that spread in market	Every CP and GHP Training, Every media that VIP use, Quarterly on guest book to see who visited the demo plant	Q2 = 140 tofu enterprises Q3 = 520 tofu enterprises Q4 = 1080 tofu enterprises Q5 = 1640 tofu enterprises
More Financial institutions provide information on CP and GHP	10 financial service provide financial support to producers within the project period	Ten financial service either from the government or private bank that can provide information on CP and	<p>No Calculation</p> <p>Assumption: 1. Producers needs financial support in order to apply CP and/or GHP</p>		Info source : financial service provider and producers	Observation, Monitoring Form	Quarterly to check which financial service that are able to	Q2 = None Q3 = None Q4 = 1 financial service i.e. Bank Syariah Mandiri

and financial support to producers		GHP particularly to lead producers along with financial support as embedded service. The service consist of access to finance as well as equipments in terms of improving the skills, production process, energy efficiency, and technology for waste water management in tofu industry	2. Financial institution see a business opportunity in this sector and making profit continuously		Key Info: financial services product given to the producers and number of producers that they have reached		provide service to tofu producers	(BSM) Q5 = 1 financial service i.e. Bank Syariah Mandiri (BSM)
More lead producers provide information on CP and GHP to producers	10 lead producers provide information on CP and GHP to producers within the project period	Ten lead producers provide information on CP and GHP as well as link to financial institutions to other tofu producers within the project period. The IP package consist of equipments in terms of improving the skills, production process, energy efficiency, and technology for waste water management in tofu industry as well as access to finance.	No Calculation Assumption: 1. Lead producers have capacity to reach big number of producers to deliver IP Package as an embedded service to producers. 2. Lead producers have business deal with equipment supplier and/or financial institution 3. Lead producers see a business opportunity in this sector and getting commission from equipment supplier or financial institution		Info source : Lead producers, financial institution Key Info: Information given to the producers			
Bank provide access to	Comments from other new financial	In the uptake stage, there should be new	No Calculation Assumption:		Info source: New financial institutions	Interview, Observation,	Every meeting held with new	

	finance to many financial institutions	institution to enter tofu sector	financial institutions in different areas that would enter tofu sector. T & T will approach those FI to see their interest to enter this sector	Financial institution provide sufficient and honest comments/information on their interest to provide access to finance for financial institutions		Key info: new financial institutions' comments/interest to enter tofu sector	Monitoring form	financial institutions	
Intervention Activities		Bank's comments/interest on providing access to finance to financial institutions	Bank's comments/interest to provide access to finance to financial institutions after T & T delivered a business analysis on tofu sector.	No Calculation Assumption: Bank provides sufficient and honest comments/information on their interest to provide access to finance for financial institutions		Info source : Bank Key Info: Bank's comments/interest	Interview, observation, Monitoring form	After moving from pilot to uptake phase and conducted meeting with the Bank	
		One business analysis on tofu sector is developed	One business analysis on tofu sector is developed and delivered to the Bank which is expected to gain Bank's interest to enter this sector thus Bank will provide access to finance to financial institutions	No Calculation No Assumption		Info source: T & T team Key info: business analysis	Monitoring Form	After moving from pilot to uptake phase	
	T & T will conduct event	300 tofu producers attended the events	For every event, T & T will invite 50 tofu	No Calculation No Assumption		Info source: Events' attendance	Attendance form, Monitoring Form	Every event that are held	

<p>for tofu producers in Greater Jakarta areas that will consist of workshops and field visit as a way to promote CP and GHP as well as to link the producers to the related equipment suppliers and financial institutions</p>	<p>of workshops, field visit, and business linkage</p>	<p>producers that have not been reached by the program so far to be aware of CP and GHP through workshops and field visit to tofu factory that already apply CP and GHP. To make the event turn into practice, T & T will also invite the suppliers and financial institutions so that in this event, business linkage between producers and suppliers and financial institutions will be developed</p>		<p>Key info: List of participants attended the events</p>		<p>by T & T</p>	
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