How can financial service providers integrate Environmental Performance Management to enhance the resilience of end-beneficiaries to climate change?

Insight from the Philippines.

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Summary

Introduction

Climate change and environmental degradation are already affecting all regions of our planet, and particularly the most vulnerable populations in developing countries, especially those engaged in agricultural activities (Morton, 2007). In the inclusive finance sector, these environmental challenges represent direct risks (financial, operational, social, etc.) for the financial service providers (FSPs) that work with these vulnerable populations on a daily basis. Because of their proximity to these vulnerable customers and the services they offer, FSPs could play a major role in protecting them. For most of them, however, these issues are new and complex, and the question is how to tackle them.

Since 2012, the inclusive finance sector has had a benchmark to help FSPs place customers, staff and the environment at the heart of their strategic and operational decisions: the Universal Standards for Social and Environmental Performance Management. Since 2022, these Standards have included a seventh operational dimension dedicated to Environmental Performance Management (EPM). Dimension 7 provides FSPs with guidelines for avoiding negative environmental impacts and contributing to climate change adaptation, environmental risk mitigation and regenerative solutions. Dimension 7 provides a practical analysis for institutions wishing to develop an action plan consistent with their social performance management strategy, within the framework of the Universal Standards. It encourages them to have a clear environmental strategy and systems in place to implement it (Standard 7.A), to identify key environmental risks at FSP and customer level (Standard 7.B) and to offer financial and non-financial products and services to build customer resilience (Standard 7.C).

In this article, we will look at how these financial service providers can help their customers to become more resilient in the face of climate change. To do so, we will analyze the relevance of this Environmental Performance Management approach, based on a concrete case study: the "Green Inclusive and Climate Smart Finance" (GIF) project in the Philippines, a collaborative initiative involving ADA, a Luxembourg NGO involved in the financial inclusion sector, project and operational manager, the Luxembourg Ministry of the Environment, Climate and Sustainable Development, co-financing the project, and the Microfinance Council of Philippines (MCPI), a national network of microfinance institutions, local program manager. This is an interesting example, as innovative loan programs combining financial and non-financial services have been created to encourage smallholder farmers to adopt climate-smart agricultural practices.

In particular, we will look at how strategy, risk analysis and training and support for smallholder farmers by local experts can ensure effective implementation and scaling of such an initiative, at both FSP and sector level. The analysis will be conducted based on the results of two FSPs that have developed a test lending program with two types of green loans (one can be used as working capital for sustainable agriculture, the other for the acquisition of equipment/technologies adapted to climate change). Non-financial services have been provided to 35

farmers to enhance their knowledge of the impact of climate change and smart technologies through training and visits to sustainable farms. Eight demonstration farms are currently being developed under the guidance of organic farming experts.

Thus, we will test 3 hypotheses with this concrete case study to analyze whether these postulates are correct:

- **H1.** FSPs need a clear environmental strategy to implement efficient EPM (test with Standard 7A);
- **H2.** FSPs need to understand risks at customer level to provide adapted responses to address their environmental vulnerability (test with Standard 7B);
- **H3.** FSPs need to provide appropriate financial and non-financial services to ensure the efficiency of their environmental strategy (test with Standard 7C).

In other words, we are going to test whether, as part of their social and environmental strategy, FSPs can directly mitigate the adverse consequences of climate change for their customers. The wide range of financial services they offer (loans, savings, micro-insurance, etc.) could enable rural farmers to diversify their sources of income and acquire the raw materials or assets they need to produce and protect themselves against natural disasters. Non-financial services, such as awareness-raising, training and the development of entrepreneurial skills, could also bring real added value by strengthening farmers' ability to improve their practices.

We will begin with a review of the literature on climate change and financial inclusion, then present the empirical research, methodology and data description, and develop our three hypotheses based on the concrete case of the GIF project in the Philippines.

Context: climate change affecting the most vulnerable

Climate change represents the biggest challenge of our century. It affects every continent and every population, whatever their socio-cultural characteristics. Climate change is not just a future problem, but a reality whose negative effects are already being felt. It is estimated that a warming of more than 4 degrees would lead to the extinction of one species in six by 2100. This rise in average temperature will have multiple consequences: sea levels will rise faster and more sharply than predicted; population migrations will occur, implying an increase in the number of climate refugees potentially exceeding that of conflict-related refugees; water acidification will lead to the dissolution of shellfish, disrupting the entire food chain; extreme climatic events will multiply and intensify, generating

new tensions of various kinds, and many other consequences besides (Mark C. Urban, 2015).

Climate change is increasing the frequency and severity of extreme weather events, such as typhoons, hurricanes and droughts, which pose a direct threat to sustainable development. According to the international experts of the United Nations Intergovernmental Panel on Climate Change (IPCC), the multiplication and intensification of natural disasters will become one of the main factors contributing to food insecurity in the future.

Although climate change has a universal impact on all populations, its severity is amplified for vulnerable populations due to their living conditions and limited financial resources to cope with natural disasters. Inhabitants of developing countries are likely to be among the hardest hit by extreme weather events. Indeed, estimates show that the poorest billion people have contributed to only around 1% of global warming (H.J. Schellnhuber, 2015), but it is precisely them who are already suffering and will suffer most from the repercussions on their daily lives.

The Philippines, a Southeast Asian archipelago of some 7,640 islands, is among the countries most vulnerable to climate change, due to the increasing frequency of extreme weather events (Kreft and Eckstein, 2013, Garschagen et al., 2014). With more than 20 typhoons a year, regular earthquakes, volcanic eruptions and tsunamis, the country is ranked as the world's most disaster-prone country due to climatic variations (World Risk Report, 2022).

As a predominantly agricultural nation, the Philippines relies heavily on resources from this sector to ensure the livelihood of a large proportion of its population. Yet the country's agriculture faces a myriad of challenges, with climate change being the sector's main issue. Covering an area of over 30 million hectares, almost half of this land is devoted to agricultural activities (Philippine Statistics Authority, 2019). Around 23% of the working population, or almost 10.8 million people in 2022, are employed in agriculture, contributing around 10% of the country's Gross Domestic Product (GDP) (PSA, 2022 and World Bank, 2022). At the same time, nearly 80% of Filipinos living below the poverty line reside in rural communities, whose livelihoods largely depend on agricultural activities (World Bank, 2018).

According to the Philippine Statistical Authority (PSA, 2020 Environmental Accounts Report), the Philippines suffered losses equivalent to 463 billion Philippine pesos (7.6 billion euros) over the last decade (2010-2019) due to extreme weather events. Among these losses, the agricultural sector suffered the greatest impact, accounting for 62.7% of these losses, equivalent to Php290 billion (4.8 billion euros). A study conducted in the Mindanao region of the Philippines sought to highlight the impact of climate change on smallholder farmers (A. Chandra et al., 2017). This research reveals how these factors increase the vulnerability of rural farmers by disrupting their ability to repay, due to significant losses caused by extreme weather events. Agricultural yields are reduced, resulting in a loss of financial resources with no possibility of repayment. Consequently, climate change

and its effects are forcing these farmers to review their production practices and protection against these risks. Filipino farmers are therefore highly exposed to these risks.

Against this backdrop of climate upheaval, an agricultural transition is needed to promote the emergence of climate-resilient farming practices in order to redefine farming systems to ensure soil sustainability and food security in a context of climate change.

Research questions: what role can inclusive finance play in improving the resilience of vulnerable populations to climate change?

Microfinance has long been heralded as an effective tool in the fight against poverty (Yunus, 2008). Measuring and managing its social performance therefore appears necessary to ensure that microfinance can fulfill its social promises (Morduch, 1999). Today, a few financial service providers see climate change and environmental protection as an integral part of their mission. Increasingly, FSPs are integrating environmental objectives as part of their triple mission of financial, social and environmental sustainability.

Nevertheless, EPM as a way of managing environmental risks and opportunities seems to be a rather complex subject for FSPs wishing to take an interest in and integrate it into their day-to-day activities. In this sense, it has been progressively studied to develop benchmarks and standard frameworks for assessment and guidance, such as the Microfinance Environmental Performance Index (Allet, 2014) and the Green Index (Allet et al. 2016). Building on these best practices, Cerise+SPTF, as an organization dedicated to promoting best practices in Social and Environmental Performance Management (SEPM) in the inclusive finance sector, has co-developed Dimension 7 on SEPM with e-MFP's Climate Smart and Inclusive Finance Action Group (GICSF-AG). It provides FSPs with concrete advice on how to address the environmental and social issues facing their customers.

Case studies and methodology

To test our hypotheses, we will use a case study of the GIF project (Soulet, 2023) carried out in the Philippines.

The "Green Inclusive and Climate Smart Finance" (GIF) project in the Philippines was first implemented between 2013 and 2020, and its second phase ran from May 2021 to October 2024. It involves three local financial service providers, all of which are members of MCPI. The main aim of the GIF project is to increase FSPs' capacity to achieve environmental sustainability in their operations. More

specifically, it aims to support FSPs in developing green financial and non-financial services to help their customers mitigate and/or adapt to the effects of climate change, increase their resilience through green and climate-smart solutions, and raise awareness of climate change and green finance among the low-income population and FSPs. Although the GIF project has two components: energy efficiency in urban communities and sustainable agriculture, the analysis focuses solely on the second component, implemented by Rangtay sa Pagrang-ay Microfinance, Inc (RPMI) and Bangko Kabayan, Inc. This article is based on the master thesis research carried out for ADA and MCPI as part of the European Microfinance Program (Soulet, 2023) to generate an in-depth understanding of the development and implementation of such a program, with the objective of promoting more climate-resilient agriculture among FSPs in the Philippines. The research was used as a key reference for this paper, as it contains all the information needed to delve deeper into how FSPs could effectively integrate EPM to improve their end-beneficiaries' protection from climate change.

This study took place in the Philippines from May to September 2023, with 51 individual semi-directive interviews conducted in 7 municipalities of Luzon (33 farmers ~of the 35 pilot farmers selected for the project~, 10 FSP staff, 8 partner staff). The study was carried out in four main stages:

(A) Understanding the subject through field visits, document analysis and meetings with key project stakeholders.

(B) Formalization and revision of questionnaires and planning of individual semi-directive interviews. Four questionnaires were drawn up (for the FSPs, for the farmer customers, for the training providers and for the organization responsible for implementing the project). These questionnaires were composed of quantitative questions aimed at establishing a profile of the FSPs and clients involved in the project (sociological profile, business profile, access to financing, etc.) and qualitative questions relating to the objectives and motivation for creating such a loan program, the impact of training on farmers' motivation and ability to implement sustainable agriculture projects, etc.).

(C) Semi-structured individual interviews. Qualitative and quantitative data collection took place during two main field visits with individual semi-structured interviews, while other quantitative data were exchanged by e-mail. All interviews were conducted with an MCPI staff member. The questions were put to the farmers in English, and the MCPI team translated them into the client's local language. The customer answered in his own language, and the MCPI team gradually translated the answer into English.

(D) In-depth analysis and brief writing.

Results presentation

H1: FSPs need a clear environmental strategy to implement efficient EPM (test with Standard 7A).

The implementation of an environmental strategy and plans enables the FSP to manage environmental performance in a thoughtful, comprehensive and systematic way, according to its priorities, the context of its operations and resources, and in line with its financial and social objectives. This what the first Dimension 7 Standard of EPM is all about. To test this first hypothesis, we will analyze the GIF project in the Philippines and the two pilot FSPs.

Ibaan Rural Bank, Inc, one of the project's two FSPs, was established in 1957. Renamed Bangko Kabayan Inc. during their 40th anniversary, they undertook to redefine their identity from a rural bank to a private development banking institution in 2016. Bangko Kabayan positions itself as a banking entity that aims to foster growth in rural areas by offering products and services that generate added value for businesses and households, while helping to improve their standard of living. The bank's core business is the generation of loans and deposits. With a portfolio dedicated to inclusive finance of PHP 455 million (7.5 million euros) for nearly 10,000 loans in 2022, and over 400 employees in 38 branches, Bangko Kabayan recognizes itself as a potential leader among market banks in the Philippines, giving them the opportunity to create positive economic, environmental and social impacts. Further analysis of this FSP shows that the GIF project is integrated by the bank into a much broader social and environmental strategy. Bangko Kabayan follows a detailed sustainable financing framework, with the development of sustainable strategic objectives and an Environmental and Social (E&S) Risk Management System. The latter refers to the introduction of policies, procedures and tools to identify, assess, control and mitigate exposure to environmental and social risks. As an integral part of the bank's sustainability initiative and credit risk assessment process, Bangko Kabayan adheres to sustainability regulations in its business operations, and uses this policy as a guide for corporate decision-making and a benchmark for how it deals with opportunities and risks related to the direct and indirect impact of sustainability. Over the past two years, the Board of Directors has approved a transition plan for the implementation of the sustainability framework, accompanied by internal capacity-building initiatives. Encouraged by this experience and dynamic approach to managing their social and environmental performance, Bangko Kabayan, after participating in the Green Microfinance training provided by MCPI in 2017, expressed their desire two years later to develop their knowledge of climate-resilient agricultural practices and train their teams in this area. They contacted MCPI and directly became an identified partner for the GIF project.

RPMI, the project's second FSP, is a non-profit, non-governmental organization that has specialized in microfinance since 1987. Its core mission is to transform the lives of entrepreneurs, farmers, fishermen and their families in the Philippines

by providing inclusive and responsive microfinance products and services, focusing on enterprise and community development. RPMI has a total portfolio of PHP 337 million (5.5 million euros), with just over 54,000 loans in 2022, and 308 employees in 27 branches. For them, the environmental performance strategy is not yet integrated as a specific and clear strategic plan. RPMI asked to be part of the GIF project a little later after its launch. The idea of developing a loan to promote more sustainable agriculture had already emerged in internal discussions, and the call for projects came at an opportune moment for them. They were subsequently selected and became the GIF project's second institution.

Although these entities are structurally different, the two FSPs seek to achieve two common objectives, as defined in the project's descriptive documents, by piloting their respective green financial products and non-financial services:

- Increase agricultural productivity and the incomes of farmers, livestock breeders and fishermen, using agricultural techniques that can increase crop yields without compromising environmental integrity and social and public health;

- Develop climate resilience by strengthening the capacities of farmers and fishermen to ensure optimal productivity despite the negative impacts and constraints caused by climate change.

Both FSPs developed their respective projects with a clear strategy of improving, at the FSP level, the economic sustainability and resilience of their customers engaged in agriculture, and contributing, at the sector level, to building resilience through the adoption of sustainable agriculture practices. It is important to note that both FSPs already had a conventional agricultural lending program and therefore chose to develop a specific lending program for sustainable agriculture in line with their core social mission. Each decided to select a limited number of pilot farmers (20 for RPMI and 15 for Bangko Kabayan) to ensure that they can easily train, monitor and collect data to make the project successful (see appendix Table 1). Secondly, based on the results of the pilot farms, their intention is to make their new green loans one of their main products. In the long term (5 to 7 years), they would like to offer a single financial product for sustainable agriculture to replace their respective current conventional programs in all their branches. Consequently, the effective implementation of a social and environmental performance management approach relies on a two-stage process: 1) a short- to medium-term strategy, with a pilot test phase lasting one to two years, with the primary objective of defining the product characteristics based on the pilot tests and obtain Board validation; 2) a longer-term strategy under which both FSPs intend to standardize the approach and apply it to their entire portfolio, as a global environmental strategy.

This case study from the Philippines is an interesting example of how two financial service providers, with different legal structures and a distinct vision of environmental performance management, can integrate and develop a project with clear strategic objectives. Evaluating and measuring results to create concrete

evidence for management is also an essential part of their long-term strategic vision to make this new green loan program a standardized and unique product. Having a management team that is motivated, and initiates change to help the institution achieve the triple aim seems essential for implementing effective EPM, as well as for participating in projects such as GIF. The latter is also an interesting vehicle for implementing a broader environmental strategy, which could serve as a starting point for developing a long-term transformation strategy.

H2: FSPs need to understand risks at customer level to provide adapted responses to address their environmental vulnerability (test with Standard 7B).

Environmental issues are broad and diverse. To engage in EPM, it is important for the FSP to first identify the environmental risks and opportunities associated with its business context. It can then define appropriate strategies to mitigate risks and/or grasp potential opportunities. This is what the second Standard of Dimension 7 Environmental Performance Management presents. The GIF case study and project have chosen to examine the environmental risks faced by customers and their vulnerability to climate change and environmental degradation. At this stage, the project does not focus on the negative environmental impact generated by customers.

To ensure effective project implementation, a Climate Risk and Vulnerability Assessment (CRVA) of the project's target clients was carried out by Agafer Creatives, a Philippines-based consultancy firm engaged in multiple facets of development work. The results of the risk and vulnerability assessment, complemented with farm scoping, were used to tailor technical assistance to the target clients through training, coaching and mentoring. MCPI, in partnership with Earthman & Co, a technical service provider specializing in sustainable and organic agricultural development services, developed a training module on Sustainable, Integrated and Climate-Adaptive Practices (SICAP) in agricultural enterprises. The SICAP module is a key document used to improve knowledge of climate change and the ability of target customers to mitigate its effects.

The study carried out as part of the European Microfinance Program (Soulet, 2023) revealed that the design itself of the training sessions played a decisive role in encouraging smallholder farmers to implement climate-resilient practices (see Tables 2 and 3 in the appendix). Consequently, the structure of the training courses (a mix of 3 days of theoretical classes and 2 days of field visits to sustainable farms) was highly appreciated by the farmers who took part. They admitted to being particularly inspired by the greenhouses and other equipment, being seen as real-life examples applicable to their own farms. Moreover, the SICAP training program has motivated participating farmers to apply what they have learned to their own farms and, even more, to educate their friends and other farmers in their farmers' associations. For some, the training courses have enabled

them to think about their future goals and how to develop their business and solve their main problems, such as falling incomes due to reduced production quality caused by pests and diseases, typhoons and heavy rains, and rising production costs.

In addition, it is essential for the FSP to carry out market research for green practices and technologies to be able to understand customer requirements and create products best suited to their needs. The above-mentioned study revealed that almost all the farmers questioned would be interested in trying out green production, initially in a pilot area and, if the results are convincing (particularly in terms of quantity produced and costs), on a much larger scale. Specific structures and technologies such as greenhouses and solar water pumps were mentioned several times (see Tables 4 and 5 in the appendix).

Conducting interviews to understand and identify customers' vulnerability to climate change and environmental degradation is essential for developing an environmental strategy and, subsequently, green products that meet customer expectations, even if this process can be time-consuming and costly. Field analysis could be an essential starting point for the future success of such a project and, more generally, for providing an appropriate response to customers' environmental vulnerability. With this information base, FSPs need to convert the ideas gleaned from analysis into tailor-made green financial and non-financial products.

H3: FSPs need to provide appropriate financial and non-financial services to ensure the efficiency of their environmental strategy (test with Standard 7C).

Environmental Performance Management is not just about managing and mapping environmental risks, but also about fostering green opportunities. If the FSP has identified environmental risks at customer level, this usually means that there is a need to help customers mitigate these risks. And if there is a need, it means there is an opportunity for the FSP to offer a "green" solution to meet that need. Risks and opportunities can therefore be seen as two sides of the same coin. Assessing the potential market for green practices and technologies opens up new perspectives for the FSP, which can then consider developing new products and services, differentiating itself from competitors and extending its reach. Based on the risk analysis and the identified vulnerabilities of pilot customers to climate change, Bangko Kabayan and RPMI have developed a green loan program dedicated to sustainable agricultural practices, including: a loan to provide working capital for sustainable agriculture, e.g. the purchase of organic inputs (seeds, fertilizers, pest control, etc.) or farm diversification; and a loan to invest in climate-smart farming technologies/equipment and renewable energy solutions for on-farm use, linked to organic practices or increasing farm efficiency (e.g. motorboat, rice/corn

thresher, drainage systems, hydroponics (solar) and aeroponics, greenhouse, drip irrigation, etc.).

However, most green practices and technologies require adapted financial conditions: sustainable agriculture solutions often represent initial investments to be amortized over longer periods and with a repayment schedule adapted to the seasonality of revenues; while for renewable energy solutions, the repayment schedule can be adapted to match the monthly savings generated by the technology in terms of energy expenditure. Furthermore, many green practices and technologies are more "push solutions" than "pull solutions": they need to be promoted to attract customers. For FSP, it is therefore essential to reach target customers and inform them of the existence, benefits and accessibility of these green practices and technologies. To convince customers, experience shows that beyond the social and environmental benefits, it is essential to communicate the financial advantages that can be expected from these practices and technologies. As an outcome of the GIF project, the two FSPs have designed their loans on the basis of an analysis of costs and returns specific to agricultural crops, developed by MCPI and Earthman & Co. The loan specificities (see Tables 6, 7 and 8 in the appendix) are specific to the pilot project and are based on the current needs of the eight demonstration farms, and may therefore evolve over time, particularly when the project costs of other test customers are known. Indeed, both FSPs are looking to redefine various aspects of the loan products, such as disbursement, repayment schedules, interest and penalties, to make them more effective for their customers. This requires time and good management of demonstration farms. Ideally, therefore, both organizations would like to create loans with specific advantages over their conventional farm loans. They would both like to offer better conditions for the new loan to encourage the practice of more sustainable agriculture. The ultimate objective is to ensure greater economic sustainability and resilience for their customers engaged in the agricultural sector, and this means offering them incentives on the new loan. So far, most of the loan specifics are identical to those of conventional agricultural loans, as the main objective of the pilot period for demonstration farms is not yet to obtain the best conditions, but to test technologies and demonstrate a business case for both FSPs and customers. However, certain conditions have already been added to ensure the success of the demonstration farms: RPMI, the NGO, has chosen not to set an interest rate for its new equipment loan only for its four pilot customers. Their aim is to establish this before the official launch of their loans. Both FSPs have declared their ambition to allow lower interest rates to encourage farmers to use these loans; RPMI has also decided to base its loan amounts on the cost & return analysis of the four demonstration farms, and to set a minimum and maximum loan amount according to its customers' projects. Bangko Kabayan has transformed its regular equipment loan into a new, much larger loan to enable farmers to purchase the equipment they need for their project; in addition, both FSPs will enable pilot customers to benefit from longer repayment periods. For equipment loans, the aim is to enable investment in assets whose return on investment does not fall within the regular cycle of agricultural harvests. Finally, both FSP loans are uncollateralized, mainly because they can access the Philippine

Guarantee Corporation's guarantee fund, which will cover up to 60% of the loan amount for the equipment loan, and up to 85% of the loan amount for the inputs. For this guarantee to apply, customers must meet the "smallholder farmer" criteria, i.e. fulfill specific conditions (land of less than 5 ha for the owner and less than 3 ha for tenants, etc.).

However, tackling environmental problems usually requires changing habits or practices. While financial services can remove some of the barriers to adopting green practices/technologies (i.e. the financial barrier, as well as the physical barrier in the case of partnerships with green technology providers), they only work if customers are already aware of and willing to change their behavior and adopt new practices/technologies. Non-financial services are essential to encourage behavioral change and help FSPs achieve their environmental objectives. This is why the GIF project also integrates this dimension. The first stage of the project involves developing knowledge, raising awareness of the effects of climate change and building the capacity of selected smallholder farmers. This phase was carried out through training workshops on sustainable, integrated and climate-adapted practices. Then, in a second phase, mainly through the eight demonstration farms, knowledge is translated into practice, tested by farmers and progressively implemented. As a result, the two FSPs have developed tailored non-financial services: RPMI has offered free training delivered by MCPI and technical partner Earthman & Co to its selected customers. They would like to create a partnership with the current technical service provider to continue supporting their customers. Bangko Kabayan offered the same training during the pilot phase of the project. However, once the test period is over, their status as a development bank, with essentially financial services, encourages them not to directly offer non-financial services, including technical assistance, but rather to encourage their customers to find technical assistance alongside the financial service offered. Bangko Kabyan may recommend service providers it has identified, such as Earthman & Co for example, but always intends to encourage its customers to find their own.

As mentioned, awareness-raising and capacity-building can be used as a strategy to mitigate environmental risks at the customer level identified by the FSP (e.g., training customers in sustainable farming practices to reduce their vulnerability to climate change), to foster the transition to a ecological economy (e.g., training customers in solar installation business development, the use of organic pesticides, etc.). To this end, MCPI has launched Sustainable, Integrated and Climate-Adaptive Practices (SICAP) training workshops to help farmers in all sectors develop their businesses by improving their management, planning and marketing skills. Within this framework, a profile of pilot customer farmers was established; three- to four-day theoretical training courses were developed using the analysis of the latter customer's profile and the results of the CRVA, and as a proof of concept, eight customers were proposed to set up demonstration farms with tailor-made technical assistance and advice. All sessions were presented by local experts and the MCPI team. They were accompanied by exercises and group discussions; the climate-smart farm exposures were also the subject of practical sessions. The final part of this SICAP training module is the production of a set of

toolkits designed to improve the long-term skills of these farmers, and above all to provide them with materials and documents summarizing good practices to follow. These documents will be produced in English and Tagalog to make them easier for farmers to understand: a profiling tool, produced with data collected during visits to customers' farms, will be used to develop an operational plan to provide a baseline and to monitor and evaluate farmers' profiles and businesses; a business plan tool will help farmers to plan, manage and sustain their businesses. An operational plan tool will help farmers think through their new responsible farming project and teach them what key business operations and activities to undertake. In addition, based on the SICAP module, crop-specific production guides have been developed to raise awareness and build skills among Bangko Kabayan and RPMI customers. These documents will therefore be a major asset in ensuring the success of the demonstration farms and the project as a whole. Their practical and customized aspects, in the customer's language, with easy-to-follow steps, will make them complementary elements to training and technical assistance to strengthen the skills and knowledge of smallholder farmers in the Philippines.

Finally, as financial service providers cannot be expected to become experts in all environmental technologies and practices, experience shows that developing partnerships with third parties (e.g. technology suppliers, technical assistance providers, trainers) is key to the successful implementation of green financial products. Thanks to the partnership with Earthman & Co, the training courses were aimed at improving farmers' situation, building their capacities and making them more enterprising. These consultants, experts in organic farming, can advance the Philippine agricultural sector by providing turnkey agricultural development services to foster sustainably productive and profitable agriculture. Trainers can leverage their skills and experience through partnerships (e.g. Melendres Farm, an organic farming company that handles crop planning and planting, and Organic Option, a company specializing in the sale of organic products on the Philippine market). Together, trainers and technical partners can provide support in areas where a sustainable farm may need help. This partnership therefore helps FSPs achieve economies of scale, as Earthman & Co represents the entire agricultural value chain and can provide technical assistance to customers and suppliers, sell organic inputs and greenhouse components, and provide access to organic market opportunities.

With climate change, sudden climatic events such as heat waves, droughts, heavy rains, floods or storms are becoming increasingly frequent and severe. These climatic shocks have a direct and severe impact on poor and vulnerable populations whose ability to adapt is limited. Since extreme weather events affect customers' businesses or households (loss of crops, assets, etc.), offering financial products and services adapted to the customers concerned can help them better cope with the consequences of climate-induced shocks. Moving from strategy to on-the-ground risk analysis, to a concrete financial product, is therefore more than necessary for comprehensive environmental performance management. But non-financial services are also more than necessary to support and encourage customers to adapt their behavior and practices. Tailor-made, on-the-ground

technical assistance can effectively support customers in their transition to more responsible practices, while enabling the FSP to achieve its environmental objectives. The promotion of environmentally-friendly practices and technologies cannot function without financial and non-financial services. According to the interviews conducted as part of the Master Thesis research (Soulet, 2023), most of the farmers interviewed felt that the training they had received had contributed significantly to their motivation to develop a project using ecological practices. They really triggered new goals and opportunities, through the relevance of the topics studied, the concrete examples they were able to see, the desire and inspiration to become like the trainers, Filipino experts in organic farming, but also through meeting other farmers in the same situation as theirs. Most of the farmers interviewed are already using a risk minimization strategy, planting a large number of different varieties or applying simple, effective farming methods (progressive planting, raising crops to avoid flooding, etc.). However, the survey reveals a lack of knowledge and technical and financial capacity to implement practices better adapted to climate change, and above all to purchase equipment. Only 4 farmers out of 33 have tried or been able to buy equipment to protect their crops, and 2 out of 33 have tried to diversify to limit risks. Finally, the majority of farmers do not appear to have sought outside help. Only 4 consulted industry specialists for advice. Most didn't ask anyone for help; they simply accepted their problems. Their long experience seems to be a major obstacle to behavior change. Overall, the majority of customers interviewed had no experience of organic farming. Those who had tried it before were forced to stop because they couldn't find a market, or because the production stage was time-consuming and labor-intensive.

Thanks to the training received, the advice of organic farming experts and the potential financial service that would be made available to them, almost all the farmers interviewed would be interested in experimenting with organic production, initially in a pilot area and, if the results are convincing (particularly in terms of quantity produced and cost reduction), on a much larger and more widespread scale. Specific equipment such as greenhouses and solar water pumps were also mentioned several times. Finally, over two-thirds of those questioned seemed highly motivated to develop a new project linked to sustainable farming practices. Over a third indicated that they had experienced losses and increased costs linked to labor, fuel/gas and fertilizers in particular. That's why 21 out of 33 farmers said they would like to develop such a project to reduce the above-mentioned costs. Some farmers even explained that they no longer wanted to use pesticides, because they equate them with poison and refuse to eat what they produce themselves because of the chemicals used. Some farmers explained that they produce with chemical fertilizers and pesticides to sell, and that they create small organic plots for their own consumption. Very few farmers mentioned the need to set up this new project in order to diversify: the desire to reduce their costs, improve the quality of their production and increase their income were the three main reasons for their motivation.

Access to finance is therefore the first thing farmers need, but technical support is also urgently required to help them become more confident about the future and

create new models and routines. A program with adapted financial and non-financial services could therefore be an interesting solution to strengthening their resilience in the face of climate change.

Conclusion

The Universal Standards for Social and Environmental Performance Management, as a comprehensive set of "best practices" for the inclusive finance sector, help financial service providers put customers and the environment at the center of all strategic and operational decisions. Dimension 7 Environmental Performance Management encourages FSPs to make a serious commitment to improving their environmental performance, helping to foster climate change adaptation, environmental risk mitigation and regenerative solutions for their end beneficiaries. To this end, the research paper produced as part of the European Microfinance Program illustrated how the Green Inclusive Finance project in the Philippines is an example of the integration and implementation of Dimension 7 of the Universal Standards developed by Cerise+SPTF. Moreover, this study and article, through the GIF project, is proof that financial service providers can develop financial and non-financial products adapted to farmers to enable them to be more resilient in the face of climate change. Based on the analysis of Dimension 7 practices and the project results, we can draw the following conclusions:

- Having a clear environmental strategy seems to be an important management factor (case of Bangko Kabayan), but being alert to opportunities and developing an environmental strategy alongside a concrete project also seems to work (case of RPMI). RPMI does not yet have a written environmental strategy, but it is clear to them that as a microfinance institution, they have a responsibility to implement sustainable environmental practices to conserve natural resources, protect the environment and their vulnerable clients. Consequently, the GIF project was an entry point for RPMI to specifically help its farmer clients meet the challenges associated with the impact of climate change, and then to use this experience as a concrete first project on which to build a broader environmental strategy.

- Measuring and collecting data on specific climate risks and customer vulnerability is essential for creating tailor-made products to meet customer needs, adapting innovative sustainable agriculture solutions, creating tangible evidence and developing products to be offered on a larger scale.

- Converting market and risk analyses into suitable financial products is an important first step in enabling customers to develop a responsible agricultural project. But the addition of non-financial products and services is essential for implementing effective EPM, managing change, convincing

farmers to test new ways of producing and demonstrating the positive effects.

- Working with specialized partners to develop non-financial services is a key element in the successful application of environmental performance for an FSP, as its staff cannot master all elements of the agricultural value chain. FSPs need technical support to ensure quality training and capacity building, tailored customer access to relevant green products and new markets. In addition, local partners play a powerful role as role models and as a source of replication for rural farmer customers.

The results of this project provide a solid foundation for both FSPs to develop financial products and non-financial services, but it also draws lessons for the Philippines (risk analysis, farmer advice) and for EPM in general in the financial inclusion sector. This confirms our three hypotheses: FSPs need a clear strategy to implement an effective and thorough analysis of specific/local environmental risks in order to provide a tailored response to environmental vulnerability. In addition, a combination of financial products and non-financial services, developed in collaboration with technical partners, is needed to ensure the effectiveness of the environmental strategy. The GIF project represents one component of a much broader environmental strategy in the financial inclusion sector. ADA, for example, is currently designing and implementing inclusive finance projects in Asia-Pacific and Central America with the aim of enabling vulnerable populations to adopt sustainable solutions for climate adaptation and build their resilience. At the same time, local consultants and MCPI staff have been trained in the Philippines to carry out environmental audits to help eight FSPs develop a clear environmental strategy.

This might be the foundation for a new green revolution in financial inclusion!

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Appendix

Table 1: Details of individual customer interviews

Partner FSP	Study Sites	Agriculture Sub-Sector	Number of Respondents
RPMI	Solano, Nueva Vizcaya	Vegetable farming, Palay production, Fisheries, Livestock	5
	Alaminos, Pangasinan	Vegetable farming, Fisheries	5
	Buguias, Benguet	Vegetable farming	4
	Dingras, Ilocos Northe	Vegetable farming, Palay Production, Livestock raising	4
	SUB-TOTAL		***18***
Bangko Kabayan	Tiaong, Quezon	Vegetable farming, Corn production	5
	Sariaya, Quezon	Vegetable farming, Palay and Corn production	6
	San Juan, Batangas	Vegetable farming	4
	SUB-TOTAL		***15***
TOTAL			**33**

Table 2: RPMI customers - Impact of training and evolution of knowledge

		Average number of trained days			Increased knowledge perception					Training structure perception				
		Farm scoping	One session of 3 days (3 days)	Farm exposure (2 days)	1	2	3	4	5	1	2	3	4	5
RPMI	Vegetable farmers (n=5)	-	2	2	-	-	-	1	3	-	-	-	-	4
	Palay farmers (n=7)	-	6	3	-	-	-	1	6	-	-	-	1	6
	Fisherfolks (n=6)	-	5	3	-	-	-	1	4	-	-	-	1	4
	TOTAL (n=18)	**-**	**13**	**8**	**-**	**-**	**-**	**3**	**13**	**-**	**-**	**-**	**2**	**14**
	AVERAGE PROFILE	***13/18 have followed one sessions of 3 days***								***-***				
	4 Demo-Farm Farmers	-	4	4	-	-	-	-	4	-	-	-		4

Table 3: Bangko customers - Impact of training and evolution of knowledge

		Average number of trained days				Increased knowledge perception					Training structure perception				
		Farm scoping	One session of 2 days	Two sessions of 2 days (4 days)	Farm exposure (2 days)	1	2	3	4	5	1	2	3	4	5
Bangko Kabayan	Vegetable farmers (n=10)	2	8	3	3		2	1	4	1	-	-	3	-	4
	Palay farmers (n=2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Corn farmers (n=3)	1	3	2	1		1			2	-	-	-	1	2
	TOTAL (n=15)	**3**	**11**	**5**	**4**	**-**	**3**	**1**	**4**	**3**	**-**	**-**	**3**	**1**	**6**
	AVERAGE PROFILE	***11/15 have followed at least one session of two days***				***-***					***-***				
	4 Demo-Farm Farmers	-	-	4	3	-	-	-	2	2	-	-	-	-	4

Table 4: RPMI customers - Motivation & new project

		Project	Previous experience in organic farming		Confidence level				
			Yes	No	1	2	3	4	5
RPMI	**Vegetable farmers (n=5)**	- Greenhouse with homemade organic fertilizer - Greenhouse with HVC - Greenhouse with organic vegetables - Greenhouse and drip-irrigation - Organic livestock practices & Greenhouse with organic fertilizer	2	3	-	-	-	-	5
	Palay farmers (n=7)	- Non-GMO rice production (organic fertilizer & carbonise ash) - Organic rice farming with organic fertilizers - None - Organic rice with organic fertilizers and pesticides & new equipments (tresher, miller) - Greenhouse with organic vegetables (lettuce, pet-chai, etc) - Organic integrated farm - Organic rice and poultry & goat using organic inputs	1	5	-	-	1	1	4
	Fisherfolks (n=6)	- Organic shrimp culture & e-rator - Cage expansion with organic feeds - Cage expansion with organic feeds & solar lights & add a net - New organic inputs and pesticides - Cage expansion with organic feeds - Cage expansion & solar lights & paddle e-rator	2	4	-	-	1	1	4
	TOTAL (n=18)	-	**5**	**12**	**-**	**-**	**2**	**2**	**13**
	AVERAGE PROFILE	-	***12/18 have never tested organic farming***						
	4 Demo-Farm Farmers	*- Greenhouse with organic vegetables* *- Organic rice with organic fertilizers and pesticides & new equipments (tresher, miller)* *- Organic shrimp culture & e-rator* *- Cage expansion & solar lights & paddle e-rator*	*1*	*3*	-	-	-	*1*	*3*

Table 5: Bangko Kabayan customers - Motivation & new project

		Project	Previous experience in organic farming		Confidence level				
			Yes	No	1	2	3	4	5
Bangko Kabayan	Vegetable farmers (n=10)	- Start organic farming (tomato and ampalaya) - Set-up an automatize irrigation system - Install a solar water pump - Set up a nursery green house - Non-GMO corn production - Install a GH - Shift to organic practices and replace the 4 fuel water pump - Organic hog raising - Greenhouse nursery and organic eggplant - Nursery and organic crop diversification	2	8	1	-	3	3	3
	Palay farmers (n=2)	- Solar water pump - Organic poultry business	1	1	-	-	-	1	1
	Corn farmers (n=3)	- Shift to organic young corn farming/non-GMO young corn - Shift to organic young corn farming/non-GMO young corn - Use organic foliar & greenhouse for organic lettuce	-	3	-	-	1	1	1
	TOTAL (n=15)	-	3	12	1	-	4	5	4
	AVERAGE PROFILE	-	12/15 have never tested organic farming						
	4 Demo-Farm Farmers	*- Set-up an automatize irrigation system & organic tomatoes and ampalaya* *- Greenhouse nursery and organic eggplant* *- Nursery and organic crop diversification* *- Non-GMO young corn & Greenhouse for organic lettuce*	*1*	*3*	*-*	*-*	*1*	*1*	*1*

Table 6: RPMI - Access conditions for the new green loan package

	Loan name	Client profile	Client age	Client business	Client practices	Client land ownership	Client experience	Client localisation	Client CSA knowledge	Other conditions
RPMI	Agricultural Development Program - Green	- Smallholder farmers (rice, corn, vegetables) - Backyard hog growers - Fish growers	25 to 70 years old	- For crop: maximum of 5 ha for landowners and 3 ha for tenants ; minimum of 1,250 sqm for rice and corn farmers ; minimum of 250 sqm for vegetable farmers - For livestock: at least 2 existing pigs - For fisheries: at least 1 fish pond or fish cage	- Crop - Vegetables - Shrimp - Lapu-Lapu - Livestock	- Owner-cultivator - Tenants - Leaseholders	- For crop: Engaged in farming for at least 5 years - For livestock: Engaged in backyard piggery for at least 1 year - For fisheries: Engaged in fish growing for at least 1 year	N/A	- A farm plan will be required from the client - Clients will be required to strictly follow the recommended organic farming protocols	- Having a good repayment history and a previous loan fully paid - Being a permanent resident of the barangay with at least a year of stay - Must not have agricultural loan from other MFIs - Get listing of smallholder farmers from the Departement of Agrarian Reform per municipality of the branch coverage
	Equipment Loan				- Motorboat - Rice/corn thresher - Solar aerator - Installation of rain shelter - Greenhouse - Wind breaker - Fish cages - Other materials or tools needed					- Must have an ADP-Green Loan - Submit a proposal of the cost of equipment intended to purchase from a reputable supplier

Table 7: Bangko Kabayan - Access conditions for the new green loan package

	Loan name	Client profile	Client age	Client business	Client practices	Client land ownership	Client experience	Client localisation	Client CSA knowledge	Other conditions
Bangko Kabayan	Sustainable ANI Loan	- Crop growers	21 to 64 years old for the new borrowers, up to 70 years old for the repeat borrowers	- For crop growers: less than 5 ha of lands	- Palay - Okra - Bitter gourd - Soybean - String beans - Eggplant - Tomato - Cassava - Cabbage - Other short-term crops	- Owner-cultivator - Tenants - Leaseholders	- Business operation for at least 1 year - No start-up farm shall be financed	Farm must be accessible with a public means of transporation from BK branch	- Borrower(s) must engage in or plan to engage in climate- smart agricultural practices and activities - They must have existing partnerships with reliable technology and market linkage providers, e.g., Earthman & Co	None
	Sustainable Agri Business Builder Loan				- Drainage systems - Hydroponics - Aeroponics - Greenhouse - Drip irrigation - Solar dehydrators - Solar dryer - Other sustainable and climate-smart technologies/equipment					- Existing ANI client on his/her 5th cycles or has been a BK borrower for at least two (2) years, whichever comes first. - No incidence of delay payment more than 10 days in the last 4th cycle

Table 8: Specificities of new financial products

	Loan name	Loanable amount		Loan term	Repayment	Interest rate	Service charge	Documentary stamp	Mandatory credit insurance	Collateral	Microsavings
		Minimum	Maximum								
RPMI	Agricultural Development Program - Green	Loan amount will be based on the green project of the client, including the demo-farm and the other from the test period. MF NGOs are mandated to provide loans for a maximum of Php 300,000 (4,956€)		- For shrimp: 5 months - For lapu-lapu: 8 months	Lump sum	30% per annum (2,5% monthly)	- Loan Redemption Fund: 1,5% - Loan Service Fee: 1%	None	None	None	Php 200 monthly (3€ monthly)
	Equipment Loan			3 to 5 years	Every harvest, prepayment is allowed	None					None
Bangko Kabayan	Sustainable ANI Loan	Php 40,000 (657€)	Php 300,000 (4,927€)	2 to 6 months	Single paiement	25% to 42% per annum	4% per annum	1,5 PHP on each 200 or fractional part theorof x term/365	0,65% of approuved loan amount per month	None	None
	Sustainable Agri Business Builder Loan	Php 100,000 (1,642€)	Php 1,000,000 (16,423€)	6 months to 3 years	Semi-annual or annualy paiement	25% to 30% per annum					