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Republic of the Union of Myanmar

Republic of the Union of Myanmar  
Preparatory Survey on BOP Business  
for Solar Storage Unit and Solar  
Lantern

**Final Report**

(Public Version)

December 2016

Japan International Cooperation Agency

Panasonic Corporation

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## List of Abbreviations

AIS	Automotive & Industrial Systems Company
ESE	Electricity Supply Enterprise
GOGLA	Global Off-Grid Lighting Association
HPGE	Hydropower Generation Enterprise
MBC	Myanmar Business Central Corporation
MEPE	Myanmar Electric Power Enterprise
MESC	Mandalay Electricity Supply Corporation
MFI	Micro Finance Institution
MJI	MJI Enterprise
MOE	Ministry of Energy
MOEE	Ministry of Electricity Energy
MOEP	Ministry of Electric Power
PACT	PACT Global Microfinance
PAP	Panasonic Asia Pacific
PwC	PricewaterhouseCoopers Sustainability LLC
RB	Rainbow Bridge
YESC	Yangon Electricity Supply Corporation

# 1. Executive Summary

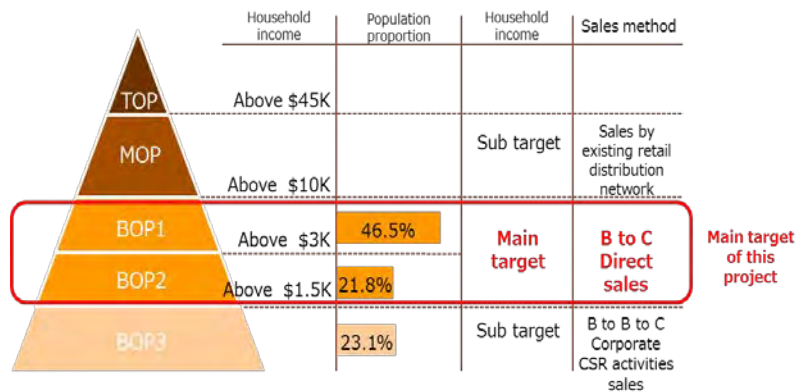
## 1.1 Overview of Survey and Compliance with Development Issues

### 1.1.1 Overview of Envisioned Project (as at Time of Proposal)

#### (1) Envisioned Project Plan

This project envisions a B to C model wherein we collaborate with microfinance organizations (hereinafter referred to as “MFI”) and agriculture-related businesses centered on Panasonic’s Myanmar Branch Office, which is already established in Myanmar, utilizing their farming area networks to sell two types of products—SOLAR STORAGE and SOLAR LANTERNS—to

Figure 1.1: Envisioned target customer



Source: Project member created based on Harvard business review, NRI data

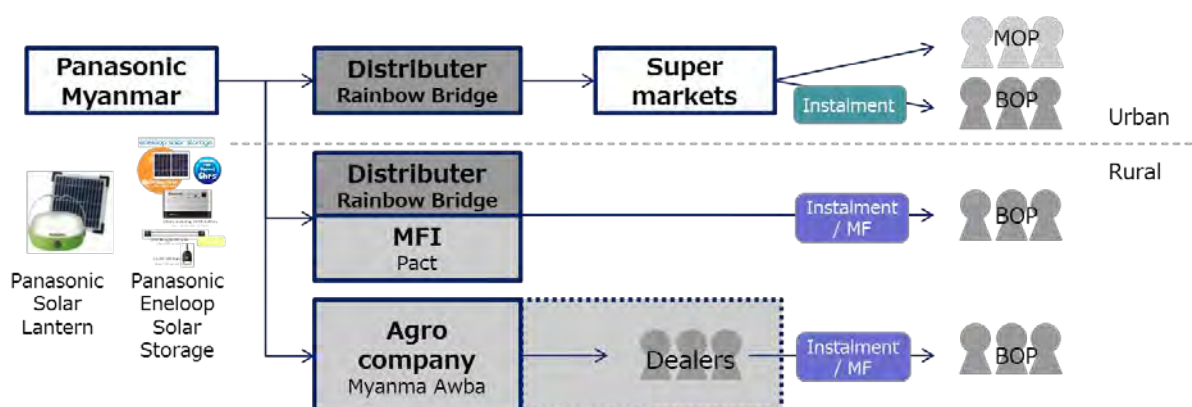
BOP groups living in areas without electricity. The project is to mainly target two income levels, BOP1 (people living on annual household incomes of between 3,000 and 10,000 dollars) and BOP2 (people living on annual household incomes of between 1,500 and 3,000 dollars, selling the high-priced SOLAR STORAGE to BOP1 and the low-priced SOLAR LANTERNS to BOP2).

Regarding distribution of the two product types to BOP groups under the project, it is envisioned that, by establishing partnerships with MFI and agriculture-related businesses that have broad farming area networks in Myanmar, products will be distributed through these organizations’ existing client networks. Furthermore, in line with the purchasing capability of low-income BOP groups, with our cooperative partners we considered mechanisms for lowering payment hurdles by enabling the purchase of these products through microfinance and installment sales. With regards to SOLAR STORAGE in particular, since the sales price is 115 dollars—which is thought to be expensive for BOP groups—we believe that microfinance and installment sales will become necessary.

PACT Global Microfinance (hereinafter referred to as “PACT”), with which we will be collaborating with regard to microfinance, began microfinance operations in Myanmar with UNDP financing in 1997. Today, PACT is the largest MFI in Myanmar, supporting 64 townships, 10,000 villages, and 680,000 members. In considering this project, we conducted a survey of microfinance in Myanmar and approached PACT as a potential partner from the standpoint of clientele size and project operation capability, reaching an agreement for pilot sales cooperation. The Rainbow Bridge company (hereinafter referred to as “RB”), a distributor, has been handling sales of Panasonic products in Myanmar for many years and has established sales bases in numerous cities centered on Yangon and Mandalay.

Through cooperation between PACT, which has a huge client network, and RB, which has a well-established performance record and network in distribution and sales, it will be possible to provide products to difficult-to-access BOP groups. Since PACT will be able to increase its own loan debit balance and RB will acquire be able to acquire new business fields through this project, there is thought to be merit for both organizations as long as the business feasibility of the project is established. Conversely, in the case that these merits cannot be generated, it will become difficult to continue the project and we will need to search for a new business model and new partners.

Figure 1.2: Project over all



Source: Project member created


PACT will set an annual interest rate of 30% on loans for the purchase price of the two products, with a repayment moratorium period of one year. Our preliminary survey found that the target clientele currently pay 10-30 dollars per month to use generators, and so it is thought that setting loan repayments of around 15 dollars per month on SOLAR STORAGE purchases would be well within reason. Since the main point of differentiation between SOLAR STORAGE and rival products is considered to be its long battery life of approx. 5 years, comparisons will be made with cheaper rival products and differentiation will be strengthened through the provision of after-sales maintenance services.

## (2) Target Products (SOLAR STORAGE/SOLAR LANTERNS)

This project envisages selling two products in Myanmar—SOLAR STORAGE and SOLAR LANTERNS. SOLAR STORAGE comprises a solar panel, storage (storage battery), a straight-tube LED light, and a bulb LED light. The storage also has a USB port, enabling recharging of mobile telephones and other devices. SOLAR LANTERNS comprise solar panels and LED lights with built-in batteries. The two products have different functions and attachments, and this affects their sales prices. For this reason, this survey envisions selling two products in different price brackets to targets in different income groups. As we will explain in detail in section “2.1.4 Situation Regarding Off-grid Solar Competition”, there is little competition in the SOLAR STORAGE market, and so it is regarded as having high potential as a market. In contrast, because of the product’s simple function, it is difficult in the SOLAR LANTERNS market to

achieve differentiation and many rival products—including low-prices Chinese products—are sold in retail stores; thus the market itself is regarded as a price competition.

Figure 1.3: Solar Storage and Solar Lantern

Product name	Panasonic Eneloop Solar Storage	Panasonic Solar Lantern
Product image		
Reference price	<ul style="list-style-type: none"> <li>• 135,000~150,000 MMK</li> </ul>	<ul style="list-style-type: none"> <li>• 70,000 MMK</li> </ul>
Accessories	<ul style="list-style-type: none"> <li>• Solar panel</li> <li>• 5W LED light (strong/weak)</li> <li>• 1.5W LED panel</li> </ul>	<ul style="list-style-type: none"> <li>• Solar panel</li> <li>• LED light (Built-in battery)</li> </ul>
Panel output	<ul style="list-style-type: none"> <li>• 15W</li> </ul>	<ul style="list-style-type: none"> <li>• 3.5W</li> </ul>
Light ON time	<ul style="list-style-type: none"> <li>• 7h~24h</li> </ul>	<ul style="list-style-type: none"> <li>• 6h~90h</li> </ul>
Charging time	<ul style="list-style-type: none"> <li>• About 5 hours</li> </ul>	<ul style="list-style-type: none"> <li>• About 6 hours</li> </ul>
Features	<ul style="list-style-type: none"> <li>• High endurance</li> <li>• Included straight tube LED with a wide range shining</li> <li>• Solar panel output is large, charging time is time</li> <li>• Warranty / Maintenance available</li> </ul>	<ul style="list-style-type: none"> <li>• Strong, compact</li> <li>• Adapted to various usage scenes such as hanging, placing, and carrying</li> </ul>

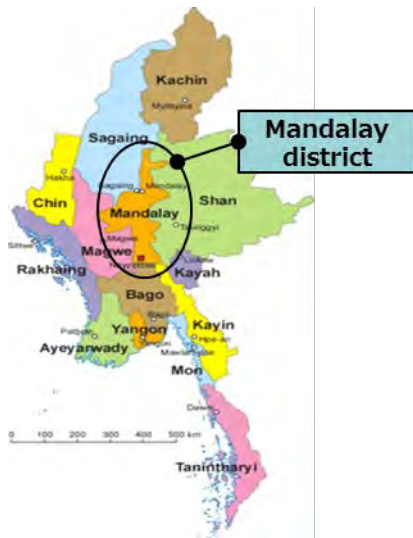
Source: Project member created

### (3) Pilot Sales Area

The areas where pilot sales of SOLAR STORAGE and SOLAR LANTERNS are to be carried out are areas without electricity where existing distribution networks can be utilized and the weather conditions match the product characteristics of SOLAR STORAGE and SOLAR LANTERNS. For these reasons, outlying agricultural village areas of Myanmar’s Mandalay district were selected.

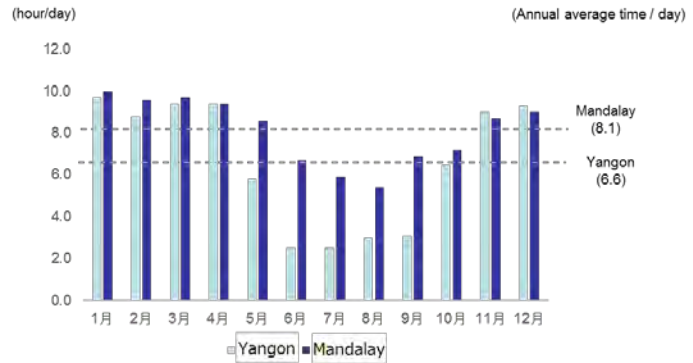
- (i) Utilization of existing distribution networks: since the local distributor has bases in Yangon and Mandalay, it is easy to obtain cooperation for pilot sales in these areas.
- (ii) Compatibility of weather conditions: located in Myanmar’s central Dry Zone, the Mandalay district has longer periods of sunny weather compared to the Delta area and Yangon district, making solar recharging relatively easy.

Figure 1.4: Pilot sales area



Source: Zentech

Figure 1.5: Average sunshine hours in Yangon and Mandalay district

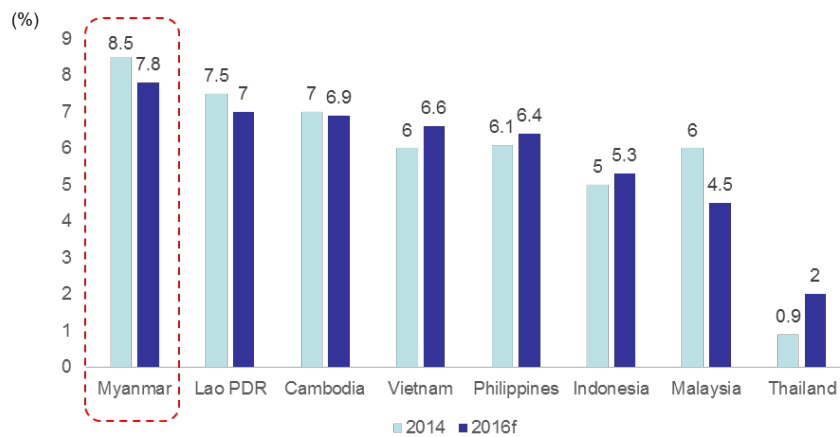


Source: Project member created based on ClimaTemps.com

### 1.1.2 Survey Background

Myanmar’s population reached 53.89 million in 2015,<sup>1</sup> and with the lifting of economic restrictions in recent years, the country is achieving rapid economic growth. With Myanmar’s 2014 GDP growth rate at 8.5% and its 2016 growth rate expected to be 7.8%, Myanmar’s GDP growth rate the highest of all ASEAN countries<sup>2</sup>

Figure 1.6: GDP growth rate of ASEAN countries



Source: Project member created based on World Bank, Global Economic Prospects 2016

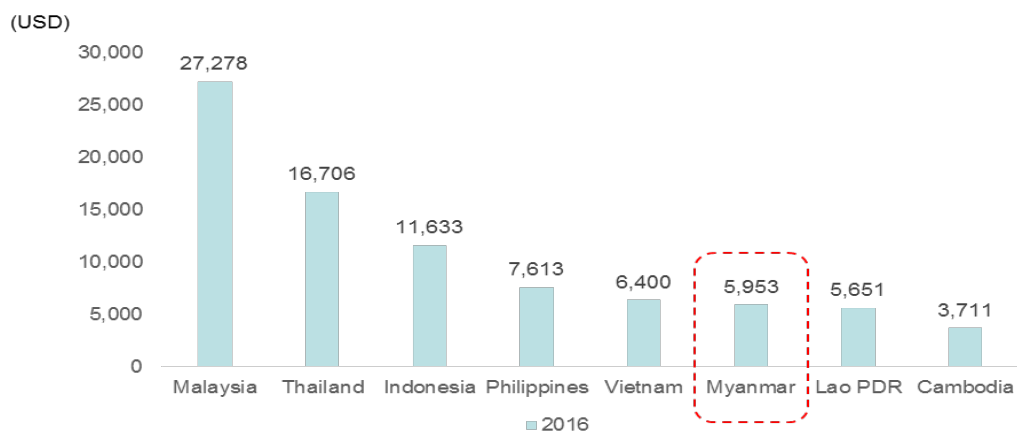
However, Myanmar’s poverty rate is also a high 37%, with the 2016 per capita GDP a low 5,953 dollars in 2016—the third lowest per capita GDP amongst ASEAN countries after Cambodia (3,711 dollars) and

<sup>1</sup> United Nations Department of Economic and Social Affairs: Population Division

<sup>2</sup> World Bank Global Economic Prospects 2016

Laos (5651 dollars) and one-quarter of Malaysia’s per capita GDP (27,278 dollars), which is the highest amongst ASEAN countries. Consequently, expanding the country’s socioeconomic development while increasing the incomes and improving the quality of life for the poor are important issues for Myanmar’s government.

Figure 1.7: ASEAN countries per capita GDP (PPP)



Source: Project member created based on International Monetary Fund, World Economic Outlook Database April 2016

Since its establishment, Panasonic’s basic management philosophy has committed the company to “making a contribution through our business operations to improving the lives of people around the world, and to the further progress of society”. In particular, the Energy Device Business Division of Automotive & Industrial Systems Company (hereinafter referred to as “AIS”) delivers safe and reliable products to customers worldwide, in both developed and developing countries, through its cores business activities, which are the production and sale of dry cells and batteries, improving people’s lives in accordance with its mission of “Creating New Life with Energy”. Since BOP markets where there are many areas without electricity are important markets for dry cell batteries—the division’s core business—high added value SOLAR STORAGE and SOLAR LANTERNS are positioned as strategically important products in terms of future expansion of dry cells and batteries in BOP markets. Panasonic and Myanmar have a long-standing relationship. Panasonic Asia Pacific Pte. Ltd. was established in Singapore in 1989 as a Panasonic distributor, and since then sales have also been expanded into Myanmar as the country is regarded as an important market in the ASEAN region. In March 2015, Panasonic opened its first Myanmar general showroom and service center in Yangon, and utilizing its strengths as a general electronics manufacturer, has been contributing more and more to improving quality of life for Myanmar people and expanding business in the region, providing “A Better Life, A Better World” to Myanmar’s consumers and its business partners.<sup>3</sup>

<sup>3</sup> Panasonic HP, Annual Report 2015



### 1.1.3 Survey Objectives

This project envisions a business model wherein we collaborate with local partners (MFI and agriculture-related businesses), utilizing their farming area networks to provide SOLAR STORAGE and SOLAR LANTERNS products to BOP groups living in areas without electricity in Myanmar. Accordingly, in order to realize the envisioned business model, this survey aims to ascertain the needs and market environment for SOLAR STORAGE and SOLAR LANTERNS in Myanmar and formulate a distribution model, partner cooperation model, work flow, and business plan aimed at commercialization. The ultimate goal of the project is to realize a “stable electricity supply” to BOP groups who live in areas of Myanmar that until now have been without electricity and are thought to have been using low-efficiency inferior products by providing highly efficient manufacturer-guaranteed products.

### 1.1.4 Compatibility with Development Issues

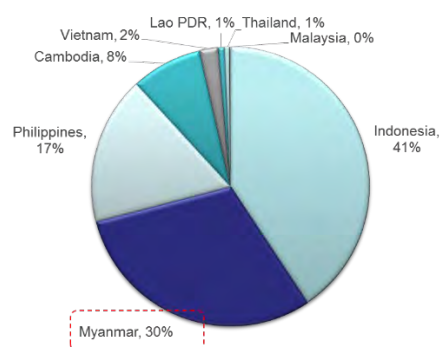
One social issue in Myanmar is an insufficient supply of electricity. The electricity diffusion rate for the country overall is an extremely low 30%, the lowest rate amongst ASEAN countries. The main electrified regions comprise city areas such as Yangon and Mandalay; in contrast to a 60% electricity access rate in urban areas, the electricity access rate for farming areas is 18%, meaning that approx. 80% of people living in agricultural villages are still living in areas without electricity. The proportion of the population living in areas without electricity in Myanmar is 30%, the second highest percentage amongst ASEAN countries after Indonesia (41%), indicating that Myanmar’s development of electricity supplies is falling behind other ASEAN countries.<sup>4</sup>

Table 1.1: Electricity access rate in ASEAN countries

	電化率 (%)	都市部の電化率 (%)	地方部の電化率 (%)	無電化地域人口 (millions)
Myanmar	32%	60%	18%	36.3
Cambodia	34%	97%	18%	9.9
Philippines	79%	94%	67%	20.6
Indonesia	81%	94%	66%	48.7
Lao PDR	87%	97%	82%	0.9
Vietnam	97%	99%	96%	2.6
Thailand	99%	100%	98%	0.7
Malaysia	100%	100%	99%	0.1

Source: Project member created based on IEA, World Energy Outlook 2015

Figure 1.8: Proportion of the population living in areas without electricity in ASEAN countries



Source: Project member created based on IEA, World Energy Outlook 2015

<sup>4</sup> IEA, World Energy Outlook 2015

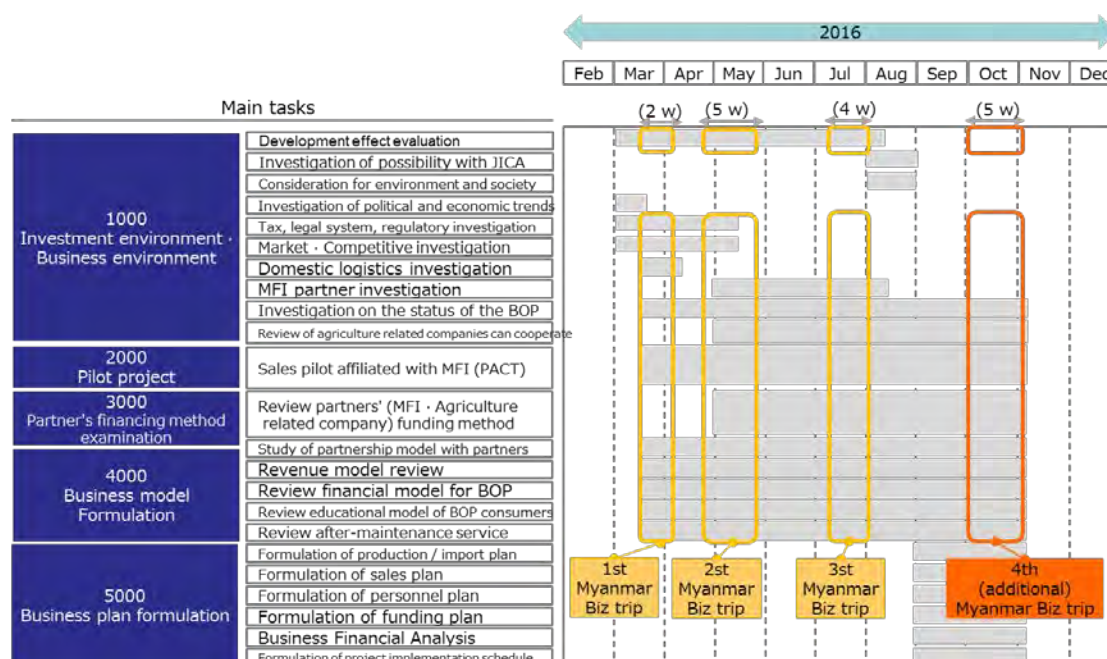
In 2015, the Myanmar Government announced a masterplan for achieving 100% domestic electrification entitles the “National Electrification Plan”. Receiving 400 million dollars in financing from the World Bank, the government is aiming to create an electricity supply network servicing 2 million households by 2020 and 7.2 million household by 2030.<sup>5</sup> Through the sale of high-efficiency SOLAR STORAGE and SOLAR LANTERNS products in areas without electricity, this project aims to provide a stable electricity supply to people in these areas, a goal that also matches Myanmar Government’s policies. Furthermore, although Her Excellency Aung San Suu Kyi—leader of the National League for Democracy (NLD), which was newly elected as Myanmar’s ruling party in 2016—has been appointed to the newly created role of State Counsellor, or head of government, immediately after the NLD come into power she served simultaneously in four Cabinet roles as Minister of Electric Power and Energy, Minister of Foreign Affairs, Minister of the President’s Office, and Minister of Education. For Myanmar’s current government, domestic electricity supply is a top-priority policy issue, and it is believed that this project will contribute significantly to the resolution of Myanmar’s social issues.

## 1.2 Survey Method

### 1.2.1 Overall Survey Plan

This survey mainly undertook to (i) survey the investment environment/business environment in Myanmar; (ii) conduct pilot sales; (iii) consider means for partners to procure financing; (iv) consider future business models; and ultimately (v) formulate a business plan.

Figure 1.9: Project over all milestone



Source: Project member created

<sup>5</sup> World Bank, Myanmar towards Universal Access to Electricity by 2030

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## 1.2.2 Survey Period

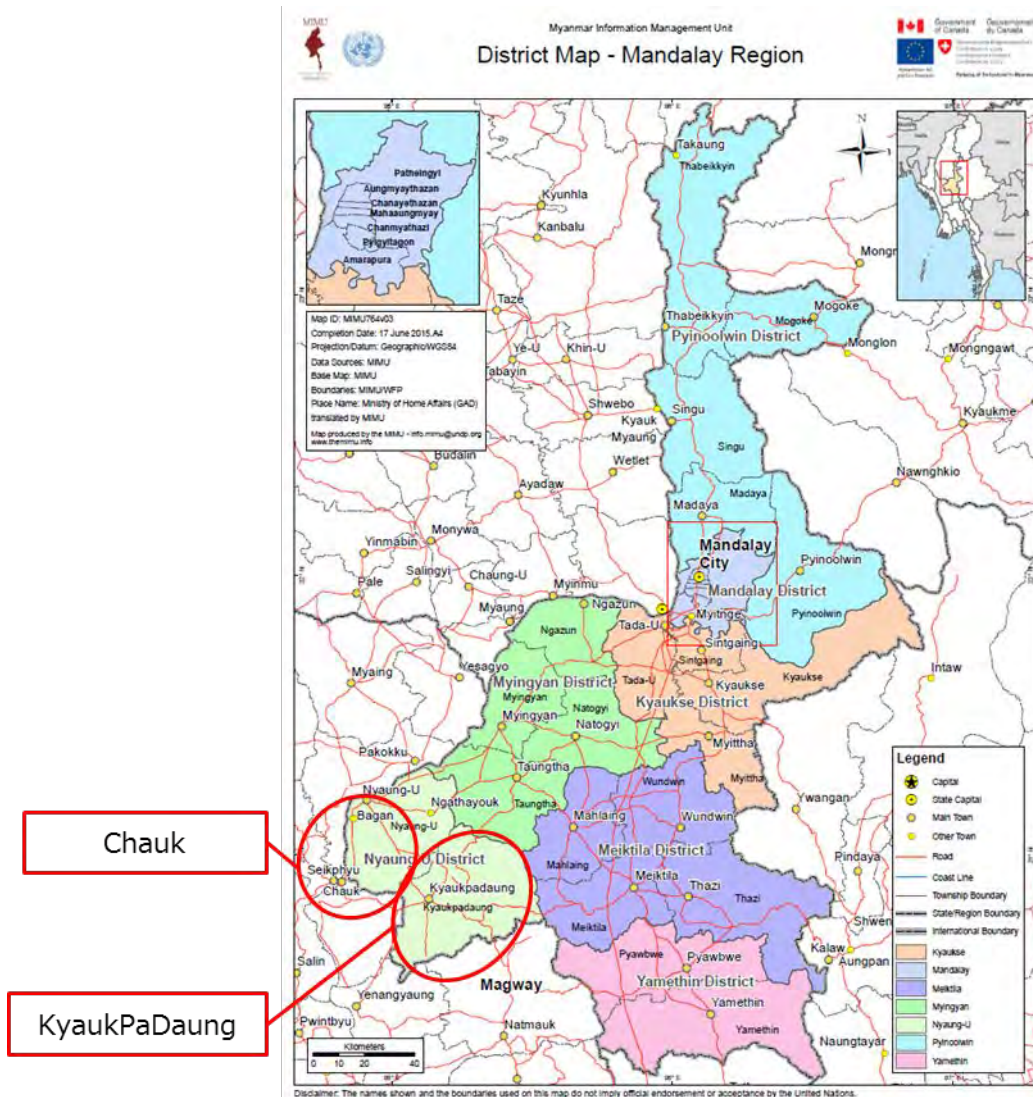
The survey period was nine months, from March to November, 2016. A survey team based in Japan visited Myanmar a total of four times in 2016 (March-April, April-May, July, and October-November) to conduct survey research in collaboration with Panasonic's Myanmar Branch Office and local partners. The survey periods were as follows:

- Phase 1: March 28 – April 8 (10 days)
- Phase 2: April 25 – May 27 (25 days)
- Phase 3: July 4 – July 29 (20 days)
- Phase 4: October 3 – November 4 (25 days) \*Extended longer than the initial plan

## 1.2.3 Survey Area

As mentioned above in Section 1.1.1(1), the Mandalay district in Myanmar's central Dry Zone was selected as the area for implementing pilot sales of SOLAR STORAGE/SOLAR LANTERNS and market surveys due to the large number of villages without electricity, the ability to utilize the distribution network of RB's Mandalay Branch Office, and weather conditions that matched the product characteristics of SOLAR STORAGE and SOLAR LANTERNS. Following discussions with PACT (MFI) and RB (distributor), which were already business partners, Kyaukpadaung Township in Mandalay District and Chauk Township in Magway District were selected as the areas for conducting pilot sales and surveys.

Figure 1.10: Map of Mandalay district

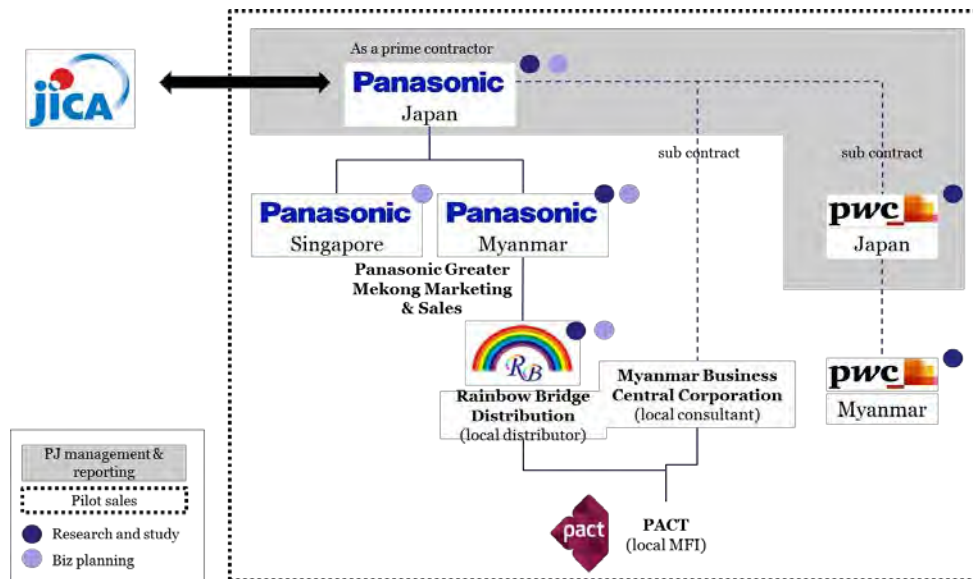


Source: Myanmar Information Management Unit

### 1.2.4 Survey Structure and Role

With regard to the project’s overall structure, Panasonic (Japan) oversaw the project overall, while Panasonic (Myanmar) collaborated with RB—Panasonic’s local distributor—in overseeing pilot sales and PricewaterhouseCoopers Sustainability LLC (Japan) (hereinafter referred to as “PwC”) coordinated with PwC (Myanmar) to provide overall support. Furthermore, Myanmar Business Central Corporation (hereinafter referred to as “MBC”) coordinated with PACT (MFI) in carrying out pilot sales as sales support for the period of the survey only (reinforcing the RB sales team and providing support for BOP surveys).

Figure 1.11: Project structure

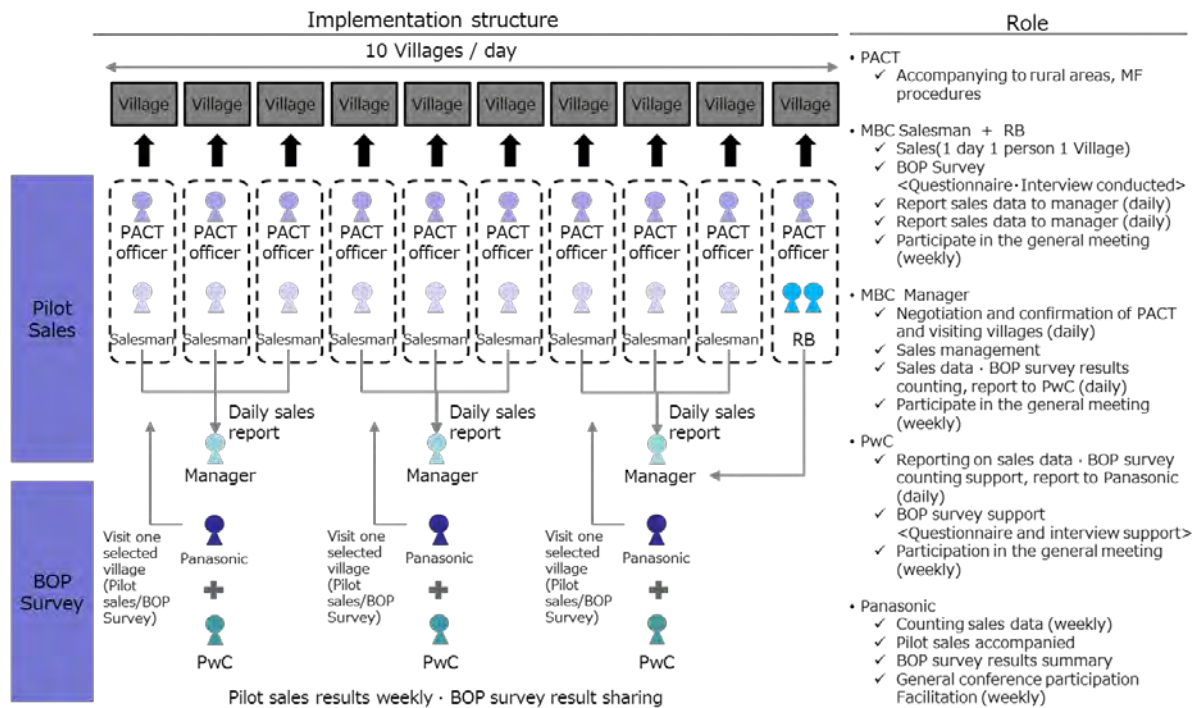


Source: Project member created

For the pilot sales and BOP survey, generally a total of ten teams comprising nine MBC salespeople (one per team) and two RB salespeople (two per team) accompanying PACT officers visited one village per day to conduct pilot sales and BOP surveys. Three MBC managers held meetings with PACT officers at the PACT office every morning to confirm the villages that would be visited that day and assign salespeople. In addition, MBC managers input sales information reported by the salespeople each day and questionnaire data into a database and reported this information to Panasonic and PwC. Panasonic and PwC collected overall pilot sales and BOP survey results, facilitated weekly meetings, and otherwise managed the project overall.

In Phase 4, which was added to the initial project plan, teams comprising two managers and six salespeople additionally carried out budget controls and summarization of the sales activity results of Phases 1, 2, and 3.

Figure 1.12: Project structure for pilot sales and role

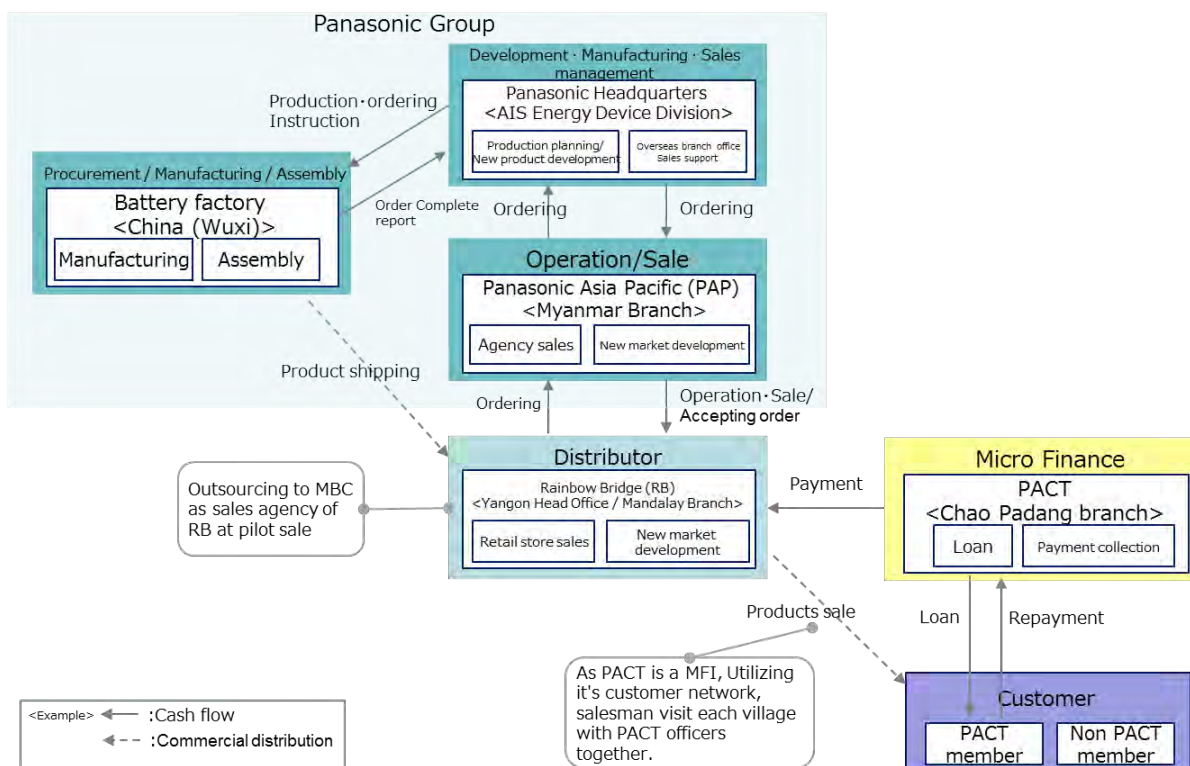


Source: Project member created

### 1.2.5 Business Model Implemented (at the time of pilot sales)

At the time of pilot sales, first of all, a B to C model was implemented as the basic business model whereby RB and MBC salespeople directly visited villages one by one with staff of the MFI PACT to sell products. For the SOLAR STORAGE sales activities, Panasonic AIS in Japan provided new product development, production management, and operational support, while in Myanmar the Myanmar Branch Office of Panasonic Asia Pacific (hereinafter referred to as “PAP”; head office located in Singapore) conducted marketing activities, developed sales channels, and carried out sales in collaboration with local distributor RB (at the time of pilot sales, MBC was contracted to act as RB’s sales agent). Furthermore, although RB has a strong distribution network in urban areas, the company has not constructed a network for distribution to BOP lining in areas without electricity—the target of this projects—and so direct sales in agricultural village areas without electricity were carried out with the cooperation of PACT, which has a strong network in rural areas of Myanmar and has the largest number of members of any MFI in Myanmar.

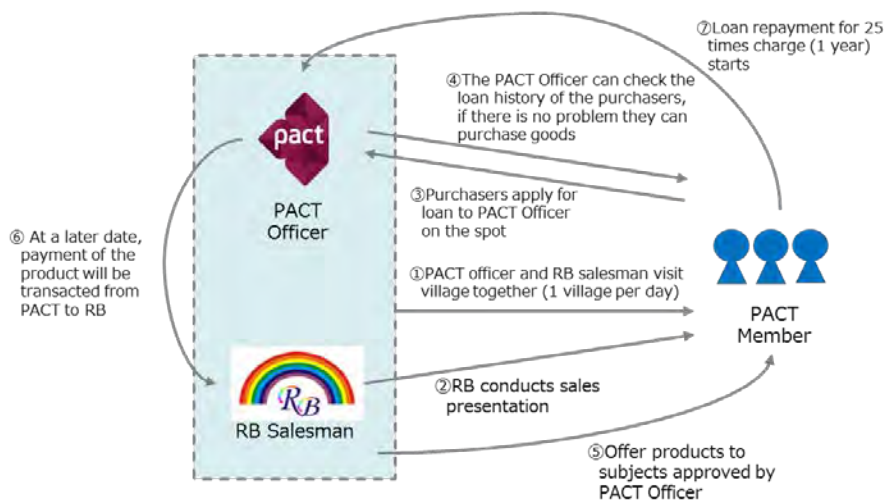
Figure 1.13: Business model for solar storage <As pilot sales>



Source: Project member created

The basic sales model implemented at the time of pilot sales was a B to C sales model whereby RB and MBC salespeople visited villages one by one together with PACT officers to sell products directly to PACT members. Under this model, the PACT officer first of all carried out normal

Figure 1.14: Basic business model collaborating with PACT



Source: Project member created

PACT activities such as collecting loan repayments and lending money to villagers newly requesting loans; depending on the size of the village, these activities took an average of around one to two hours. The RB and MBC salespeople then make approx. one-hour-long presentations about SOLAR STORAGE, and if there were any villages desiring to purchase the product, the PACT officer carried out loan screening and

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made a loan decision on the spot, checking that there were no problems with the client's loan history. Once the PACT officer had approved the loan, the purchaser was able to receive the product on the spot and 25-installment loan repayments to PACT commenced. PACT then paid RB the amount for the SOLAR STORAGE products purchased in cash at a later date.

The main objectives of the B to C sales model used in this project are to “maximize sales” and “minimize costs”. For this reason, during the pilot period, verifications were carried out in two sales areas (Kyaukpadaung and Chauk) centered on a sales model in which salespeople visited villages directly, working together with PACT, with the aim of “maximizing sales”; however, partway through the project it was decided to broadly carry out additional verifications of three sales models with the aim of “minimizing marketing costs”.

Under the first additional sales model, RB work with MJI Enterprise (hereinafter referred to as “MJI”)—a Japanese MFI active in Myanmar—instead of PACT, with MJI members (MJI clients) acting as sales agents. Since it is not necessary for RB salespeople to visit villages one-by-one under this model, marketing costs can be reduced. However, it is important that RB first of all explain the characteristics of Panasonic's SOLAR STORAGE and how the product is used to the sales agents, ensuring that they are fully aware of the product's value. For MJI, too, it is also compatible with MJI's business philosophy that BOP groups in farming areas—which are MJI members—borrow loans from MJI and carry out sales agent activities with the aim of achieving economic independence for themselves. This model was also discussed with PACT, but due to the large number of members and organizational scale in PACT's case, it was thought that finding appropriate human resources for acting as sales agents would be difficult, and so partway through negotiations it was decided to carry out trial sales with MJI members acting as sales agents.

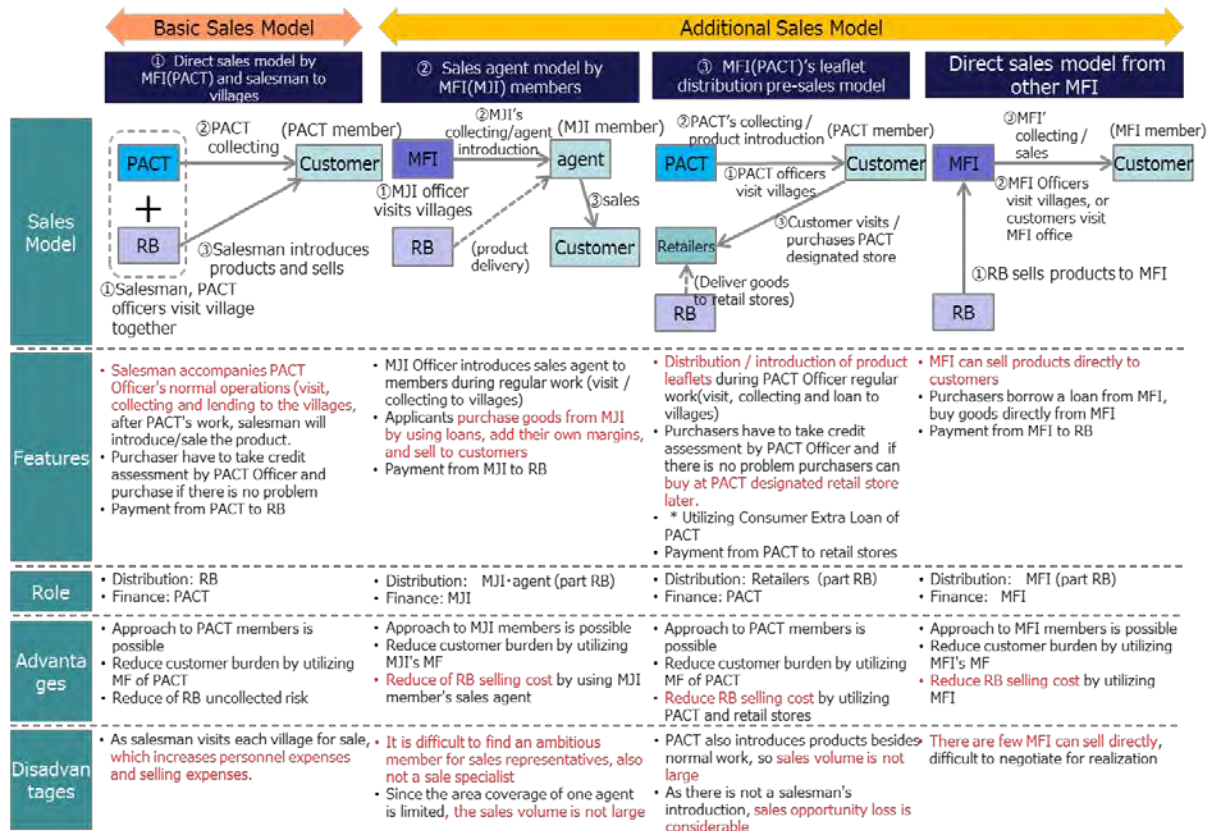
For the second additional sales model, PACT officers distribute product leaflets and carry out pre-sales activities. Under regulations in Myanmar, it is not possible for MFI to sell products. Accordingly, under this sales model, although PACT officers cannot sell SOLAR STORAGE products directly, they can instead distribute product information leaflets to PACT members and carry out pre-sales activities. In this case, as with the sales agents in the first additional sales model, it is important that RB first of all thoroughly convey product knowledge to PACT officers in whom PACT members have a high amount of trust. There is no longer a need for RB salespeople to visit villages directly, and once a certain number of villagers desiring to purchase the product has been reached, RB simply has to either deliver the products to local retail stores or travel to the village to sell the products directly to the villagers, thereby making it possible for RB to greatly reduce its sales costs.

Under the third additional sales model, a different MFI from PACT sells SOLAR STORAGE products directly to its members. In addition to its regular microfinance function, this MFI also has a production/sales function and has obtained the necessary licensing for conducting sales activities. In this case, not only can RB's distributor role be performed by the MFI—thereby reducing RB's sales costs—but



also sales activities can be carried out more effectively by utilizing the clients and distribution channels the MFI already has in place. However, there are extremely few MFI that have sales functions and licensing, and so research and negotiations need to be carried out in order to realize this model.

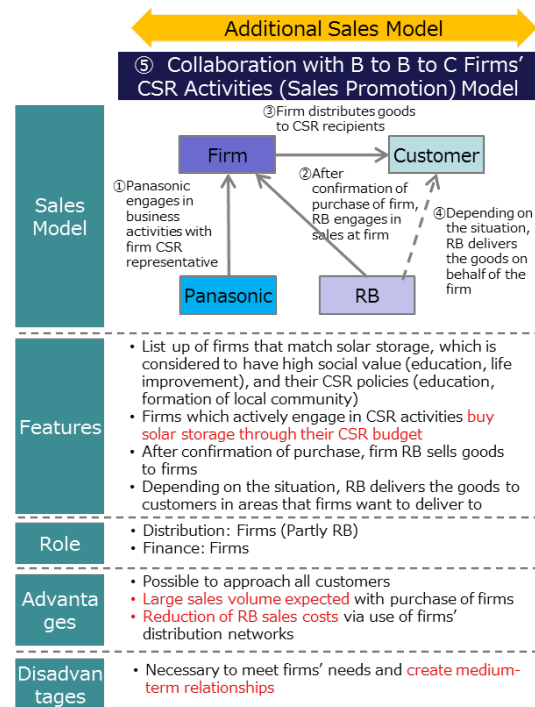
Figure 1.15: B to C sales model used in this project



Source: Project member created

Furthermore, it was decided that a B to B to C sales model (which had not be initially envisioned as part of the project) was a necessary verification item in terms of being a model that enables balance between “maximizing sales” and “minimizing costs” with an eye towards commercialization of the project, and additional verifications were carried out. Under this sales model, enterprises that are active in carrying out CSR activities (sales promotions) purchase SOLAR STORAGE products using their CSR activity expenses. In recent years, a large number of companies (both domestic and foreign) have been moving into the Myanmar market and achieving growth, and are actively carrying out CSR activities and sales promotions as part of marketing. There are two reasons why SOLAR STORAGE products in particular contribute to companies’ CSR activities and sales promotions. Firstly, the high-social-value (in terms of education/life improvement) SOLAR STORAGE is highly compatible with the CSR policies of many companies (education/local community building), making it easy for companies to include SOLAR STORAGE in their CSR activity reports. Secondly, for companies desiring to reach clients living in farming areas with their own products, distributing SOLAR STORAGE (which has high added value for BOP groups in farming areas) as a novelty or incentive also contributes greatly to raising awareness of their own brand. It is thought that this sales model would enable BOP groups—the ultimate recipients—to acquire SOLAR STORAGE projects free of charge from these companies without having to purchase them for themselves, thereby greatly contributing to increasing Myanmar’s electrification rate.

Figure 1.16: B to B to C sales model used in this project



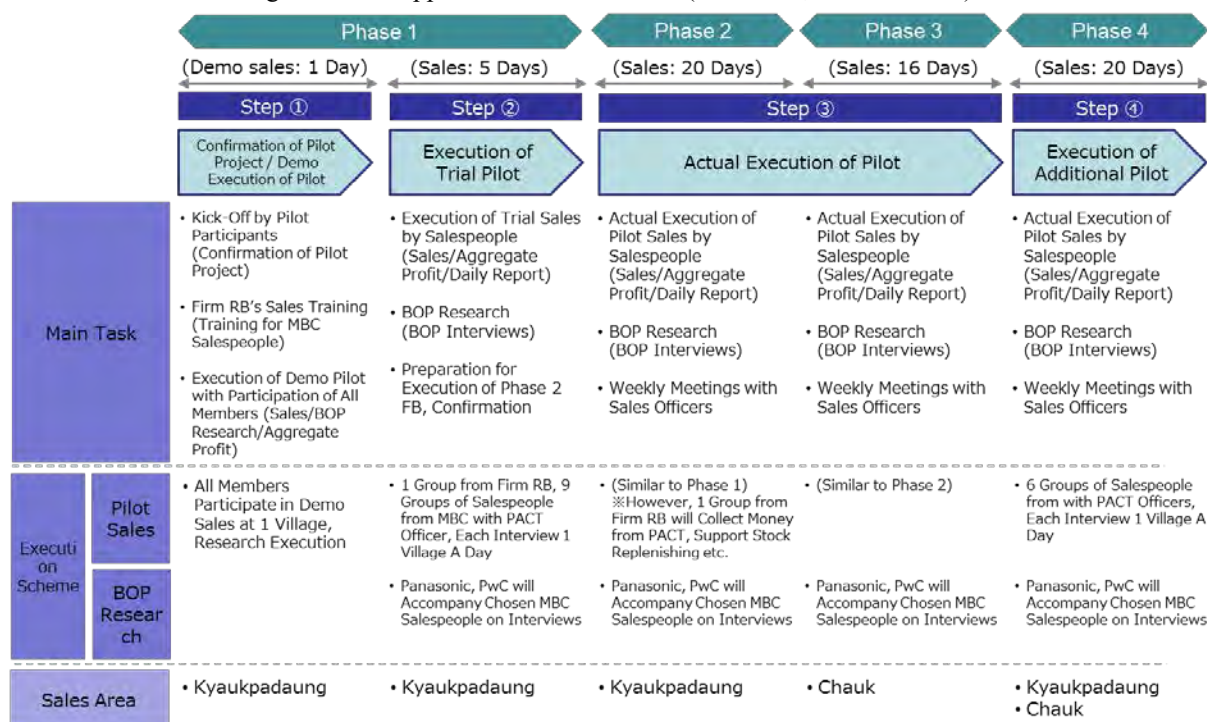
Source: Project member created

### 1.2.6 Survey Approach

The survey approach comprised three aspects: desk surveys (surveys using literature and the Internet and examinations based on various kinds of data); interview surveys (hearings with related organizations and businesses); and field surveys (pilot sales and BOP questionnaire surveys targeting BOP groups living in areas without electricity). In particular, for the field surveys, verifications were carried out centered on the sales model mentioned above in which an MFI (PACT) officer and salespeople visit villages to carry out direct sales activities [Model (i)]. In carrying out the field surveys, since a large numbers of stakeholders—Panasonic, PwC, RB, MBC, and PACT—are involved, a kick-off meeting of all those involved was held in Phase 1 to confirm the implementation plan, share product knowledge, and

thoroughly carry out sales training and demonstration sales techniques. In Phase 2, countermeasures to issues that emerged during Phase 1 were considered, leading to improved sales accuracy and survey quality. In Phase 3, as in Phase 2, beneficial field surveys were conducted with a view to commercialization while revolving PDVA based on the verification results obtained in Phase 2.

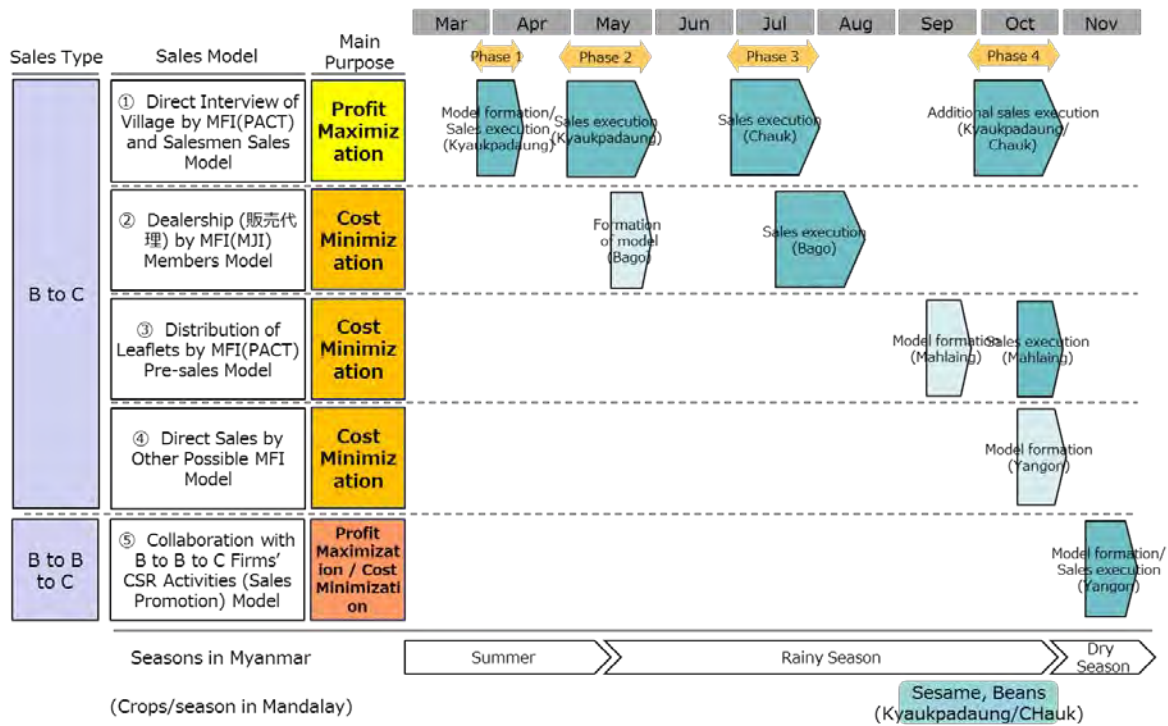
Figure 1.17: Approach of field research (Pilot sales, BOP research)



Source: Project member created

Furthermore, since the survey results obtained in Phases 1, 2, and 3 indicated a high desire amongst farmers in BOP groups to purchase products with cash during the harvest season (September–October), following the completion of Phase 3, additional pilot sales using the sales model in which an MFI (PACT) officer and salespeople visit villages to carry out direct sales activities were carried out [Model (i)] as Phase 4, realizing “maximization of sales”. Furthermore, with the aim of realizing “minimization of market costs”, a model in which MFI (MJI) members act as sales agents [Model (ii)], a model in which an MFI (PACT) distributed product information leaflets and conducted pre-sales activities [Model (iii)], and a model in which another MFI capable of performing direct sales conducts direct sales [Model (iv)] were constructed and sales verified in Phases 2, 3, and 4. On the completion of Phase 4, the possibility of realizing a B to B to C sales model utilizing companies’ CSR activities (sales promotions) [Model (v)] as a model for achieving balance between “maximization of sales” and “minimization of marketing costs” was verified.

Figure 1.18: Approach of sales model (B to C / B to B to C)



Source: Project member created

## 1.3 Verification Results

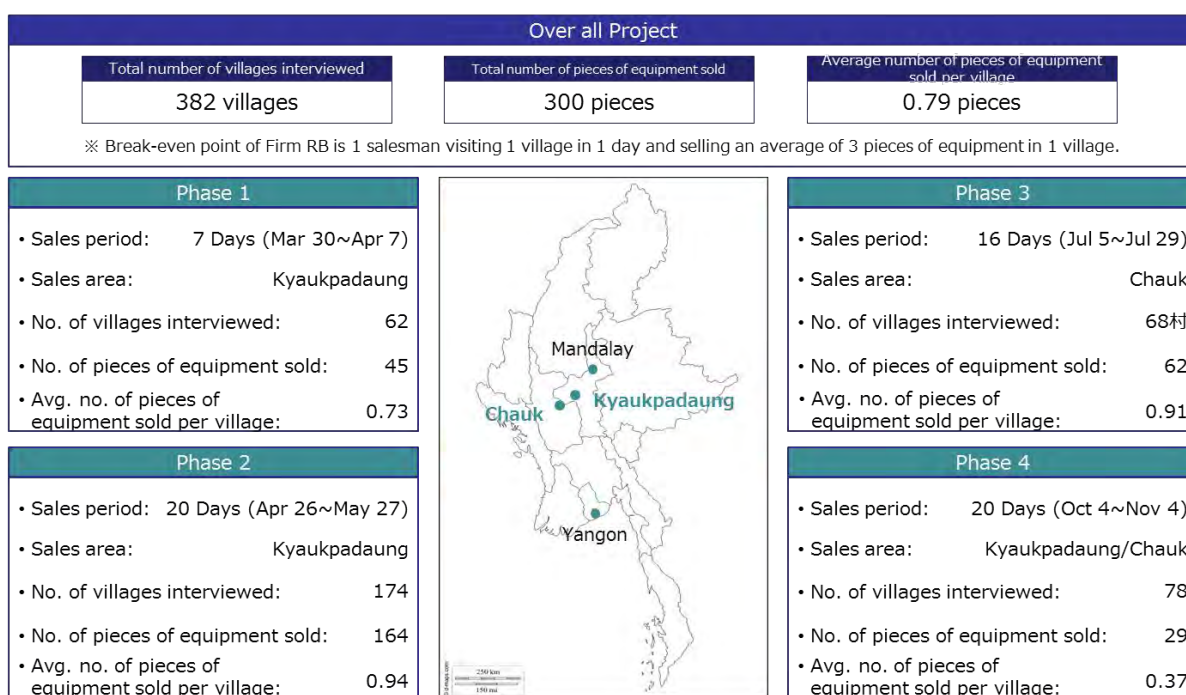
### 1.3.1 Advisability/Inadvisability of Commercialization

Since Myanmar is an important market for AIS and SOLAR STORAGE is a product that has direct value for BOP groups, AIS positioned SOLAR STORAGE as an entry product for new markets and intended to continue carrying out commercialization in the future. However, AIS plans to shift its resources to a B to B to C sales model that can be expected to produce better “sales maximization” and “marketing cost minimization”, assigning lower priority to the B to C sales model involving coordination with an MFI that was verified during plot sales. Furthermore, since this project poured effort into sales models involving collaboration with MFI, although hearings were carried out regarding sales models involving collaboration with agriculture-related businesses, major obstacles to coordination were encountered, and it was decided that at this point collaboration moving forward would be difficult. In addition, although direct verification was not carried out for the project, it became known during the course of the project that under the National Electrification Plan being pursued by the Myanmar Government, solar products are to be procured for mini-grid and off-grid areas in the future, and so it was decided to also look carefully at the possibility of a B to G to C sales model with regard to government purchases. With regard to SOLAR LANTERNS, results of market surveys and competitive research indicated that it is difficult to differentiate amongst the products themselves and there was a large amount of competition, and so in terms of business strategy, it was decided in future to adopt a policy of suspending sales of SOLAR LANTERNS and pouring effort into SOLAR STORAGE as the core product.

### 1.3.2 Reasons for Advisability/Inadvisability of Commercialization

Under the B to C sales model involving collaboration with the MFI PACT that was initially envisioned, sales rose steadily but ultimately it was not possible for sales to exceed marketing costs. Under the sales model in which an MFI (PACT) officer and salespeople visit villages to carry out direct sales activities were carried; thus the average number of products sold was 0.79 per village. This is significantly below RB's average break-even point of approx. 3 products per village, and so it was decided that commercialization of this sales model was difficult from the standpoint of profitability. Moreover, additional sales were attempted during the crop harvest season (September/October), when clients could be expected to have cash income (Phase 4), but sales results for this phase were even lower than for Phases 1, 2, and 3.

Figure 1.19: Results of pilot sales



Source: Project member created

Furthermore, verifications of a model in which MFI (MJI) members act as sales agents [Model (ii)], a model in which an MFI (PACT) distributed product information leaflets and conducted pre-sales activities [Model (iii)], and a model in which another MFI capable of performing direct sales conducts direct sales [Model (iv)] as models for lowering “marketing costs” were carried out in Phases 2, 3, and 4, but in each case there no major sales were anticipated in business terms, and it was decided that continuing implementation of the models would be difficult. For the sales model involving collaboration with agriculture-related businesses, hearings were conducted with Myanmar's largest agriculture-related

business, Myanma Awba, but although the company showed a certain degree of interest, the outcome of the hearings was that at this point, Myanma Awba is not interested in handling SOLAR STORAGE products due to various reasons, such as the small sales volume; the additional burden on product management caused by the sale of the company’s regular agriculture-related products (seeds, fertilizers, farming tools, etc.) and electrification products (SOLAR STORAGE) through the same distribution networks; and the complexity of sales opportunities due to the need for microfinancing as it would be difficult for Myanma Awba clients to purchase a product of 100 dollars or more in cash, even if the company were to handle SOLAR STORAGE products. In contrast, it was decided that the B to B to C sales model utilizing companies’ CSR activities (sales promotions) [Model (v)] was a beneficial sales model for lowering marketing costs with the aim of maximizing sales.

Figure 1.20: Analysis results of solar storage sales model

Sales Type	Sales Model	Future Continuity	Reasons for Assessment
B to C	① Direct Interview of Village by MFI(PACT) and Salesmen Sales Model	✗	<ul style="list-style-type: none"> <li>Throughout phases 1, 2, 3 and 4, 382 villages have been interviewed; 300 pieces of equipment have been sold; on average 0.79 pieces of equipment have been sold per village. This is far below RB’s break-even point of 3 pieces per village, therefore commercialization of this sales model is deemed to be difficult from the viewpoint of profitability.</li> <li>Furthermore, even though extra sales (phase 4) has been carried out based on customers’ expected income from crop harvest period (Sep, Oct), sales result have been lower than that of phases 1, 2 and 3.</li> </ul>
	② Dealership by MFI(MJI) Members Model	△ (However other models will also be considered)	<ul style="list-style-type: none"> <li>This time, as it was possible to assign a dealer running a business in the electrical storage and charging industry, and whom is also trusted by people from other villages, out of 6 pieces rented out (for free) in the 2-month trial period, 4 of them were able to be sold. As a result, although business costs were reduced and market needs were confirmed, large-scale sales were not achieved.</li> <li>Furthermore, in the future, instead of free rentals, because sales representatives will utilize the MJI loan and stock up on solar storage, the final sales price will become relatively expensive and the guarantee of the most appropriate sales representative will become an obstacle itself. Therefore, in conjunction with MJI, the formation of other sales models are in progress.</li> </ul>
	③ Distribution of Leaflets by MFI(PACT) Pre-sales Model	✗	<ul style="list-style-type: none"> <li>Pre-sales through leaflet distribution in PACT Mahlaing Township in the Mandalay Division (around half of its 130 villages are off-grid) have been carried out. Out of 15 villages where introductions via leaflets were carried out, only 3 parties bought the product. As a result, although business cost were reduced, large-scale sales were not achieved.</li> </ul>
	④ Direct Sales by Other Possible MFI Model	✗	<ul style="list-style-type: none"> <li>A Proximity representative who manufactures and sells rural irrigation products and is also a MFI expressed interest in the quality of solar storage itself and its support framework</li> <li>Although D.Light Design, a firm whose products are still being handled, has solar lanterns which are able to be sold at a cheap price and in cash, solar storage would require microfinance. This is difficult because the within current framework of Proximity, microfinance officers cannot engage in sales.</li> </ul>
B to B to C	⑤ Collaboration with B to B to C Firms’ CSR Activities (Sales Promotion) Model	○	<ul style="list-style-type: none"> <li>In Myanmar, there are many firms which actively engage in CSR activities. Firms dealing in communication infrastructure which include areas with BOP segments, telecommunications operators looking to expand their user base, financial institutions aiming to expand their operations throughout the entire country, agriculture-related firms looking to expand their operations to other regions and conglomerates which deal in construction, general contractors and real estate etc. have contributed to society by around more than ten million yen to several hundreds of million yen via their CSR activities.</li> <li>Out of the business activities of the 8 firms, many firms have considered solar storage to be of great value in contributing towards society and engaged in discussions for future CSR activities.</li> </ul>

Source: Project member created

**(1) The Sales Model in which an MFI (PACT) Officer and Salespeople Visit Villages to Carry out Direct Sales Activities**

The MFI PACT decided that SOLAR STORAGE would contribute to its policy of reducing poverty, and was exceedingly cooperative in efforts to ensure the project’s success. Accordingly, during the pilot sales period it was possible to reach normally unreachable villages through use of PACT’s network, and the fact that SOLAR STORAGE was a product endorsed by PACT, in which clients had tremendous trust, also contributed tremendously to the promotion of sales. However, the method of payment by those desiring to purchase the product became a bottleneck, and it was not possible to secure sufficient sales volume to

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enable collection of fixed payments. In concrete terms, many PACT members has already reached to maximum limit on their loan amount set by PACT, and numerous cases in which purchases could not be made as further PACT loans could not be approved were observed. Furthermore, although additional sales were attempted during the crop harvest season (September-October) when clients could be expected to have cash income, the sales volume, as at normal times, it was not possible to secure sufficient sales volume to enable collection of fixed payments. The four main reasons for this are thought to have been (i) salespeople's difficulty in accessing villages; (ii) decreases in agricultural income; (iii) increase in number of electrified villages; and (iv) villagers' purchasing of Chinese products.

#### **【Verification Results】**

- With regard to the possibility of realizing the sales model involving collaboration with the MFI PACT, working in collaboration with PACT (Kyaukpadaung Branch Office/Chauk Branch Office), pilot sales were carried out whereby salespeople accompanied PACT officers carrying out their normal duties (visiting villages/collecting repayments), and after the PACT work was finished, the salespeople introduced the products to the villages and sales took place.
  - This model involving collaboration with PACT was effective in lightening the payment burden on clients (repayments in 25 installments over one year using microfinance) as well as reducing the risk of non-collection of payments.
  - Because PACT is an MFI, it cannot sell products. For this reason, salespeople must always accompany PACT officers in order to carry out sales, resulting in high sales costs.
  - Sales results for Phases 1, 2, and 3 were a total of 271 products sold in 304 villages visited, an average of 0.89 products per village.
- With regard to types of PACT loans, hearings were conducted with PACT (Yangon Office, Kyaukpadaung Branch Office) and easing of loan regulations was discussed.
  - Altogether, there were six types of loans (Regular loans, MSE (Micro Small Enterprise) loans, Agriculture loans, Health loans, Education loans, and Extra loans), each of which had a set upper borrowing limit.
  - The type of loan necessary for purchasing SOLAR STORAGE products under this project was an Extra loan; to be eligible for an Extra loan, villagers had to have been a PACT member for more than two years and also have no problems concerning credit.
- With regard to villagers' desire/willingness to purchase products during the harvest season, a Waiting List was created, and in Phase 4 (additional pilot sales) of the survey was implemented.
  - A total of 391 villagers in 95 villages desired to purchase products in Phases 1, 2, or 3, of which 60% expressed a desire to purchase the product in September/October.
  - Phase 4 (additional pilot sales) was carried out in October, but the result was an average of 0.37 sales per village, a sales result lower than that for Phases 1, 2, and 3 (average of 0.89 products sold per village).

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- Causes for the slump in sales in Phase 4 were analyzed and four main reasons were identified.
    - (i) Salespeople’s difficulty in accessing villages

It was planned to visit 119 villages, centered on those included on the Waiting List, but this year the weather was unseasonable and the rainy season was prolonged, causing roads to collapse and unpaved roads to become mud, and so the trucks that the salespeople rode in (two-wheel drive/four-wheel drive) stalled and were unable to move forward. For this reason, salespeople were ultimately able to visit only 78 villages, a low visit achievement rate of 66%.
    - (ii) Decreases in agricultural income

Due to the unseasonal weather, the peanut harvest—villagers’ main source of income—was smaller than usual (decrease of 10% – 15 % compared to the previous year). The buying price for peanuts this year also fell, making repayments difficult for PACT members who had already taken out an Agriculture Loan with PACT, with some needing to take out additional loans from the township at high interest rates in order to partly pay back their PACT loans. Under these circumstances, it was difficult for PACT to provide villagers with new loans (loans for purchasing SOLAR STORAGE) products.
    - (iii) Increase in number of electrified villages

Some villages that had been without electricity when they were visited during Phases 1, 2, or 3 had been electrified through the installation of powerlines, and many others that were applying for installation of powerlines no longer required SOLAR STORAGE products. Furthermore, even in villages that had not been electrified, many villages were satisfied with the electricity supplied by generators.
    - (iv) Villagers’ purchasing of Chinese products

Due to the decrease in income, villagers no longer had the financial leeway to purchase new SOLAR STORAGE products and instead purchased replacements for broken parts of the Chinese solar systems (panels, storage battery, lighting device) they had been using.

## **(2) Other Sales Models**

During the pilot period, construction and verification of sales models for reducing “marketing costs” were carried out, but in each case there were no expectations for major sales and it was decided that continuing implementation of the models would be difficult.

For the model in which MFI (MJI) members act as sales agents [Model (ii)], because it was possible to select MJI members who had prosperous electricity storage/recharging businesses, were enthusiastic about undertaking sales agent activities, and were highly trusted by other villages, it was possible to sell four of the six products that had been loaned to the agent for free during the two-month trial period. Ultimately, although a market need for reducing marketing costs was identified, large scale sales were not achieved. Moreover, major obstacles to implementation of this model in the future are comparatively high final prices due to sales agents being required to purchase SOLAR STORAGE products themselves using MJI



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loans rather than being loaned the products for free, as well as the difficulty of securing appropriate sales agents.

For the model in which an MFI (PACT) distributed product information leaflets and conducted pre-sales activities [Model (iii)], PACT distributed product information leaflets and carried out pre-sales activities in 15 villages in Mahaaungmye Township (where half of the 130 villages are without electricity) in Mandalay District and three villagers purchased SOLAR STORAGE products (an average of 0.2 product sales per village), but ultimately sales were no greater than those achieved with the sales model in which an MFI (PACT) officer and salespeople visit villages to carry out direct sales activities [Model (i)].

With regard to the model in which another MFI capable of performing direct sales conducts direct sales [Model (iv)], first of all, the number of MFIs that have sales functions and licensing is extremely small. From amongst these, negotiations were held with Proximity, an MFI that is also a business that produces and sells irrigation equipment to farmers. Proximity has in the past acted as a sales agent for D.light Design, the manufacturer of SOLAR LANTERNS, and possibility of their acting as a sales agent for the project was verified. According to Proximity staff, the D.light Design SOLAR LANTERNS that Proximity had handled in the past had sold a total of 40,000 products, but many of the products had been faulty and they no longer handled the D.light Design SOLAR LANTERNS. They were therefore extremely interested in the Panasonic SOLAR STORAGE products in terms of the product quality and support system. However, although the D.light Design SOLAR LANTERNS were priced in a low price range, enabling villages to purchase them with cash, the SOLAR STORAGE products required microfinance in order for villagers to be able to purchase them, and so ultimately it was difficult to implement this model as Proximity's microfinance officers are unable to conduct sales under their current system.

In contrast, it was decided that the B to B to C sales model utilizing companies' CSR activities (sales promotions) [Model (v)] was a beneficial sales model in aiming to reduce marketing costs and maximize sales. In Myanmar, there are many companies that proactively undertake CSR activities. Telecommunications companies aiming to strengthen telecommunications infrastructure in rural areas, including BOP groups, as well as their customer base; financial institutions seeking to increase their customer base that have established branches nationwide; agriculture-related businesses that are expanding their activities, even in rural areas; and large Zaibatsu-related conglomerate enterprises carrying out construction, general contractor, and real estate activities—these companies contribute tens of millions of yen annually to Myanmar society through their CSR activities. For this project, the results of client satisfaction surveys carried out as additional verification were compiled and a sales video for corporate marketing was created, and marketing hearings were held with a total of eight companies. From the survey results and sales video, many of the companies decided that SOLAR STORAGE products have high social value and the company would actively consider distributing SOLAR STORAGE products as part of their CSR activities in the next fiscal period.

In addition, although direct verification was not carried out under this project, with regard to B to G to C

sales, under its National Electrification Plan, the Myanmar Government intends to invest 40 million dollars—around 6% of total investment of 700 million dollars—into SHS, mini-grid products, and off-grid products for mainly mountainous areas where electrification is difficult, and so it was decided to pour effort in future into tendering bids for government procurements.

### 1.3.3 Other Verification Items Aimed at Construction of Business Models, and Results

As mentioned in “1.3.2 Reasons for Advisability/Inadvisability of Commercialization” above, four points were verified and determined to be issues for the construction of business models under this project outside verification of each of the sales models: (i) Are there no misunderstandings regarding awareness of the business environment or needs?; (ii) Is it possible to construct a maintenance system with the cooperation of local dealers?; (iii) Is it possible to set prices in accordance with local needs?; and (iv) Can the model be expected to contribute to the resolution of local development issues?

Figure 1.21: Other verification items and results

Items for verification	Item ① Are there any problems with the awareness of the work environment and its needs?	Item ② Is it possible to create a collaborative maintenance framework with local dealers?	Item ③ Is it possible to set prices suitable for local needs?	Item ④ Is it possible to expect contributions to the local development business solution?
Results of verification	<p style="text-align: center;">○</p> <ul style="list-style-type: none"> <li>Although electrification of off-grid regions is in progress, needs for high-quality electrical power and lighting are not yet completely fulfilled</li> <li>However, needs for television viewing are present and the ownership of solar panels which enable television viewing is improving</li> </ul>	<p style="text-align: center;">○</p> <ul style="list-style-type: none"> <li>Ongoing review of development of frameworks at 2 Panasonic service centers in Myanmar</li> <li>However, as customers in off-grid villages do not have access to major cities, collection of faulty goods is envisaged to be carried out in collaboration with MFI</li> </ul>	<p style="text-align: center;">○</p> <ul style="list-style-type: none"> <li>Reviews towards present products have been very positive (e.g. price-quality balance is good); consumers feel that cost-performance is high</li> <li>Furthermore, as for the need for low-cost products, development for reduced-function, lower-priced products has been started</li> </ul>	<p style="text-align: center;">○</p> <ul style="list-style-type: none"> <li>Electrical supply via solar storage has contributed well to local needs, therefore satisfaction level of buyers is also high</li> <li>Buyers are extremely pleased with the brightness of the lights; children’s time spent on studying has also increased drastically</li> </ul>

Source: Project member created

#### (1) (i) Awareness of Business Environment and Needs

With regard to market needs for SOLAR LANTERNS, while it was possible to partially confirm that retail stores in townships carried SOLAR LANTERN products, virtually no scenes of the products actually being used in farming areas without electricity could be confirmed. Furthermore, for the BOP questionnaire question regarding methods for securing electricity sources, 59% of respondents said that they used a combination of solar panels and car batteries, but in contrast, only 1% said that they used SOLAR LANTERNS, indicating that in reality SOLAR LANTERNS are virtually never used. With regard to the competition environment, retail stores in Mandalay stocked many low-priced SOLAR LANTERNS with the same functions as Panasonic products, and it was not possible to confirm the predominance of

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Panasonic solar lights.

In contrast, with regard to market needs for SOLAR STORAGE, it was determined that there was a certain degree of market needs due to the fact that there still exist many areas without electricity that have yet to have powerlines installed; the cost of installing powerlines/transformers is partly born by villagers; many actual purchasers are in comparatively low-income groups, even within BOP groups; and there is already a sales history of one SOLAR STORAGE per village on average. Furthermore, it was possible to confirm the existence of clients who require high functionality from SOLAR STORAGE products, and it is anticipated that in future there will be a high need for large-volume SOLAR STORAGE, which enables TV use. However, when the villages visited during Phases 1, 2, and 3 were revisited during Phase 4, some villages that had been without electricity were found to have had powerlines installed, confirming that the business environment can change in a very short amount of time. With regard to the competition environment, no one-package products with functions similar to Panasonic's SOLAR STORAGE products could be confirmed. However, more than half the people in BOP groups living in areas without electricity have solar panels and car batteries, thereby securing a certain amount of electricity, and so it was decided that there was a high possibility of these electricity sources competing with SOLAR STORAGE.

#### **【Verification Results】**

- With regard to the market situation and competition situation for SOLAR LANTERNS, hearings were conducted with retail stores (household appliance stores) in Mandalay Township and Kyaukpadaung Township, and BOP questionnaire surveys were conducted.
  - For the BOP questionnaire question regarding methods for securing electricity sources, 59% of respondents said that they used a combination of solar panels and car batteries, but in contrast, only a low 1% said that they used SOLAR LANTERNS.
  - Numerous competitor products similar to Panasonic's SOLAR LANTERNS and being sold; although their functions are virtually the same, many of these products are low-priced, making it difficult to achieve differentiation.
  
- With regard to the market situation and competition situation for SOLAR STORAGE, hearings were conducted with retail stores (household appliance stores) in Mandalay Township and Kyaukpadaung Township, and BOP questionnaire surveys were conducted.
  - For the BOP questionnaire question regarding methods for securing electricity sources, a high 59% of respondents said that they used a combination of solar panels and car batteries.
  - Although there were no one-package products with functions similar to Panasonic's SOLAR STORAGE products, but the combination of solar panel + inverter + car battery increases panel power output to 80W, sufficient to enable TV viewing.
  
- With regard to the number of villages in Kyaukpadaung Township without electricity (areas where powerlines have not been installed) and electrification status, hearings were conducted at PACT's

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Kyaukpadaung Branch Office and Mandalay Electricity Supply Corporation (Kyaukpadaung Branch Office),

- The total number of villages in Kyaukpadaung Township was 390, of which 290 (75%) were without electricity (had not had powerlines installed) and so there is a large market for electricity and lighting.
  - Although the Myanmar Government bears the cost of electricity transportation from the power generation plant to distribution transformers within Kyaukpadaung Township, the cost of installing powerlines over the last mile (powerlines/transformers) is born by villagers, and since this is expensive, there are high needs for solar panel home electricity generation.
- With regard to the market needs of BOP groups in areas without electricity, surveys were carried out through pilot sales.
  - Sales results for Phases 1, 2, and 3 were a total of 271 products sold in 304 villages visited, an average of 0.89 products per village. Of these, a large number of purchases were made by people in especially low-income BOP groups, with a large number of villagers—391 in 95 villages—expressing a desire to purchase the products during the crop harvest season (September/October) if they had cash income at that time, indicating high product purchasing needs.
  - With regards to purchasers desire to purchase new products, a high 60% or so of villagers required high functionality (efficiency) products rather than low-priced low functionality products. Purchasers' highest requirements for household appliances were for TVs, following by rice cookers and refrigerators.

## **(2) (ii) Construction of Maintenance Systems in Cooperation with Local Dealers**

We are aware that the construction of maintenance systems is necessary from the perspectives of differentiating our products from those of competitors and building brand relationships with clients, and it was decided that construction of a maintenance system to be provided by existing local Panasonic repair centers is possible. However, models such as the one used in this project, whereby salespeople directly visit BOP groups living in areas of Myanmar without electricity are a first-time experiment for Panasonic and differ greatly from Panasonic's existing maintenance systems, which involve Panasonic repair centers centered in cities. For this reason, in consideration of the fact that clients living in villages without electricity do not have access to large cities, it is envisioned the MFI will provide support with regard to receiving defective products, and it is planned that repair services will be provided free-of-charge in the case that a product breaks down during the warranty period, and for a certain fee in other cases. Furthermore, included with each products is an instruction manual that has a large number of illustrations to enable clients who cannot read to understand how to use the product, and innovations have been added to make the instruction manual easy to understand. For this reason, there have not been any major inquiries from clients thus far.

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【Verification Results】

- With regard to construction of a maintenance system, discussions were held with AIS, PAP, and RB.
  - Until a maintenance system becomes established, inquiries from clients will be handled with the cooperation of PACT with communication flow in the order of PACT→RB→PAP. In the future, repair manuals and training manuals will be prepared centered on Panasonic repair centers, which are overseen by PAP.

**(3) (iii) Possibility of Price Setting in Accordance with Local Needs**

With regard to the main purchasers of SOLAR STORAGE in Kyaukpadaung Township, one of the areas where the project was carried out, there was a notably high rate of purchase amongst low income groups BOP2 (living on annual household incomes of approx. 1,500–3,000 dollars) and BOP3 (living on annual household incomes of less than approx. 1,500 dollars) rather than BOP1 (which live on annual household incomes of approx. 3,000–10,000 dollars), which was the target group initially envisioned for SOLAR STORAGE sales. A large percentage of purchasers said that their reason for purchase was “Good product functionality”, while many non-purchasers said their reason for not purchasing the product was “Not necessary as already have a similar product”. Purchasers’ satisfaction with SOLAR STORAGE was extremely high and they felt that “Cost performance is also good”, indicating that actually using the product convinced purchasers that it was convenient to use and worth the high price. Since people in BOP2 and BOP3 groups had previously been unable to secure an electricity supply, it is thought that they purchased the products with an understanding of the “Excellence of the product’s functions”, and there was also a tendency for such purchasers to seek “high functioning/high cost SOLAR STORAGE that enables TV usage” as new products for the future. However, with regard to needs for low-priced products, development of new products with lower functions and prices is currently being carried out, and so it was decided that the current price setting for SOLAR STORAGE was not causing a problem.

【Verification Results】

- With regard to product price setting, BOP questionnaire surveys and client satisfaction surveys were carried out.
  - Regarding purchasers’ monthly household incomes, a relatively high percentage of purchasers were in the “Low-income BOP3 group” (55%) or “Middle income BOP2 group” (30%) and a high approx. 70% of purchasers said that their reason for purchase was “The product has good functions”. Furthermore, with regard to purchasers’ desire to purchase new products, a high approx. 60% of purchasers said that they “Require high-functionality products”.
  - With regard to non-purchasers’ reasons for not purchasing the product, a very high more than 90% of non-purchasers said that the product was “Not necessary as already have a similar product”, while only a low 3% said that the “Price is high” or “Function is bad”.
  - Amongst purchasers, the percentage of respondents who said that “I think cost performance is extremely good” or “I think cost performance is good” was an extremely high 90% or higher.

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#### **(4) (iv) Contribution to Resolution of Local Development Issues**

In implementing this project, we are conscious of aiming to provide a stable electricity supply to agricultural areas without electricity through the sale of high-functioning SOLAR STORAGE as an approach to resolving development problems faced by the area in question. In Kyaukpadaung Township, where pilot sales were carried out, some 75% of villages are without electricity, and so it was decided that supplying electricity and lighting would contribute greatly to resolving local development issues. Furthermore, compared with non-purchasers, a large percentage of SOLAR STORAGE purchasers are dissatisfied with their current situation with regard to securing an electricity supply and are satisfied with using SOLAR STORAGE, and so it was decided that it would be possible to contribute to the resolution of development issues through the purchase of SOLAR STORAGE products.

#### **【Verification Results】**

- With regard to the number of villages in Kyaukpadaung Township without electricity (areas where powerlines have not been installed) and electrification status, hearings were conducted at PACT's Kyaukpadaung Branch Office and Mandalay Electricity Supply Corporation (Kyaukpadaung Branch Office).
  - The total number of villages in Kyaukpadaung Township was 390, of which 290 (75%) were without electricity (had not had powerlines installed) and so major contributions can be made to resolving local development issues by supplying electricity and lighting.
- With regard to contributions to the resolution of local development issues, BOP questionnaire surveys and client satisfaction surveys were carried out.
  - Dissatisfaction with the current situation for securing electricity was higher amongst SOLAR STORAGE purchasers (35%) than non-purchasers (11%).
  - All SOLAR STORAGE purchasers use the product "Every day", with an extremely high 80% of purchasers using the product for "Four hours or longer per day". In addition, the percentage of purchasers who were either "Extremely satisfied" or "Satisfied" with the product was extremely high at over 90%.
  - Approx. 80% of clients said that they felt "Children's study time has increased" compared with before SOLAR STORAGE was used, with a high approx. 35% saying that study time had increased by "Three hours". Moreover, approx. 50% of clients said they felt that "Work hours had increased", with a high 20% saying that work time had increased by "Two hours" or "Three hours".

#### **1.3.4 Countermeasures to Issues that Remain for the Future**

Countermeasures to issues remaining for the commercialization of SOLAR STORAGE in Myanmar moving forward were divided and categorized as B to C sales models, B to B to C sales models, or B to G to C sales models. As mentioned above in "1.3.1 Advisability/Inadvisability of Commercialization",

although resources will be poured into B to B to C sales moving forward, models will also be constructed with the aim of continuing to expand sales together with MJI, which provided enthusiastic cooperation for pilot sales. Moreover, with regard to B to G to C sales—for which direct verifications were not carried out under this project—while pouring effort into tendering bids for government procurements under the Myanmar Government’s National Electrification Plan, we intend to work in collaboration with PwC to lobby the Myanmar Government before bidding on projects commences to give an advantage to the diffusion of Japanese products in procurement guidelines.

Figure 1.22: Countermeasures to issues and schedule

Sales Model		B to C Sales Model	B to B to C Sales Model	B to G to C Sales Model
Issues		<ul style="list-style-type: none"> <li>MFI's negotiations with MJI for realization of sales collaboration</li> </ul>	<ul style="list-style-type: none"> <li>Final negotiations with individual firms for realization of B to B to C sales promotion</li> </ul>	<ul style="list-style-type: none"> <li>Preparation for bid tender to Myanmar government for realization of B to G to C sales promotion</li> </ul>
Solutions		<ul style="list-style-type: none"> <li>Identification of issues such as sales price, buyer's debt etc.</li> <li>Formation of loan product design with MJI as the main party (sales to MJI microfinance users within 2017, aim to sell from microfinance users to non-users)</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of final negotiations regarding price and quantity with firms which have started engagement in listing up and negotiations</li> <li>Listing up of other potential clients, assessment of individual firms' CSR activities and needs</li> <li>Creation of contacts list of individual firms' CSR representatives</li> </ul>	<ul style="list-style-type: none"> <li>Pay attention to announcement for procurement of bids for solar products by Myanmar government for national electrification project</li> <li>Collaborate with JICA; lobby to the government before the announcement so as to ensure Japan-manufactured products are in an advantageous position</li> </ul>
Schedule	FY16 Q4 <2017 Jan-Mar>	<ul style="list-style-type: none"> <li>Start of MJI operations, monitoring of sales activities towards microfinance users</li> </ul>	<ul style="list-style-type: none"> <li>Start approaching blue-chip companies which have been identified in FY16 Q3 &lt;2016 Oct-Dec&gt;</li> </ul>	<ul style="list-style-type: none"> <li>Closely investigate contents of government's budget plan</li> </ul>
	FY17 Q1 <2017 Apr-Jun>	<ul style="list-style-type: none"> <li>Analysis of sales activities, consideration of area expansion</li> <li>Formulation of sales plan for users to non-users</li> </ul>	<ul style="list-style-type: none"> <li>Continue business negotiations with approached firms</li> <li>Hold business negotiations with firms with possibility of materialization</li> <li>Map results of business negotiations</li> <li>Start delivery of goods to firms agreeable to the contract</li> </ul>	<ul style="list-style-type: none"> <li>Acquire and act on outline and information of to-be-announced government tender</li> </ul>
	FY17 Q2 <2017 Jul-Sep>	<ul style="list-style-type: none"> <li>Execution of sales tests for users to non-users</li> </ul>	<ul style="list-style-type: none"> <li>Continue delivery of goods to firms agreeable to the contract</li> <li>Analysis of reasons for agreement/non-agreement to the contract, formulate business plans for next FY's negotiations</li> </ul>	<ul style="list-style-type: none"> <li>Respond to bid tenders</li> <li>Discuss collaboration with JICA</li> </ul>
	FY17 Q3 <2017 Oct-Dec>		<ul style="list-style-type: none"> <li>Start approaching prospective firms based on business plan</li> </ul>	
	FY17 Q4 <2017 Jan-Mar>	<ul style="list-style-type: none"> <li>Start of actual sales from users to non-users</li> </ul>	<ul style="list-style-type: none"> <li>Continue negotiations with prospective firms</li> </ul>	<ul style="list-style-type: none"> <li>Start negotiations with government regarding tender of bids in the next frame</li> </ul>

Source: Project member created

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## 2. Reference

### 2.1 Field survey

#### 2.1.1 Pictures

Project member visited a retail store in Mandalay, Kyaukpadaung Township and researched competitor products.

Figure 2.1: Hearing to Kyaukpadaung retail stores



Source: Project member created

Figure 2.2: Solar panel displayed in front of the store



Source: Project member created

We conducted the whole kick-off meeting and demonstration at pilot sales phase 1.

Figure 2.3: Sales training from RB to MBC



Source: Project member created

Figure 2.4: Meeting with PACT Kyaukpadaung branch



Source: Project member created



Figure 2.5: PACT Kyaukpadaung branch



Source: Project member created

Figure 2.6: Demonstration with all project member



Source: Project member created

RB and MBC salespeople divided into their respective teams and carried out with visiting one village per day with PACT officer.

Figure 2.7: Non-electrified village in Kyaukpadaung



Source: Project member created

Figure 2.8: Solar panels used in rural areas



Source: Project member created

Figure 2.9: Sales Presentation by RB Salesman



Source: Project member created

Figure 2.10: Discussion to buy within PACT member



Source: Project member created

Figure 2.11: MBC Salesperson's Sales Presentation



Source: Project member created

Figure 2.12: Install solar panel at purchaser's house



Source: Project member created

Panasonic, PwC, RB and MBC conducted preliminary meetings at the beginning of each phase.

Figure 2.13: Preliminary meetings 1



Source: Project member created

Figure 2.14: Preliminary meetings 2



Source: Project member created

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Although additional sales were attempted during the crop harvest season (September-October) when clients could be expected to have cash income, the sales volume, the climate change occurred and the road condition was too bad to access to villages.

Figure 2.15: Naturally occurring rivers even on arterial roads



Source: Project member created

Figure 2.16: Puddles are frequent on unpaved roads to the village



Source: Project member created

Figure 2.17: Dirty dirt road appeared



Source: Project member created

Figure 2.18: Causing roads to collapse and the truck stacked



Source: Project member created

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We visited solar storage purchaser's home and non-purchaser's home in the evening, and researched actual use scenes.

Figure 2.19: Non-purchaser's dinner by candle



Source: Project member created

Figure 2.20: Purchaser's dinner by solar storage



Source: Project member created

Figure 2.21: Children study by solar storage



Source: Project member created

Figure 2.22: Purchaser work as side business by solar storage



Source: Project member created

Figure 2.23: Purchaser pray in front of a Buddhist altar by solar storage



Source: Project member created

Figure 2.24: Purchaser take care of livestock by solar storage



Source: Project member created

Solar storage product and product leaflets.

Figure 2.25: Solar storage product



Source: Project member created

Figure 2.26: Product leaflets



Source: Project member created

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### 3. Figure and Table

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### 3.1.2 Table

Table 1.1: Electricity access rate in ASEAN countries

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## **4. Source**

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