Collaboration Program with the Private Sector for Disseminating Japanese Technology for Motorizing Small Boat with Low Price Gasoline Engine in Tamil Nadu, India Final Report

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Japan International Cooperation Agency

Honda Motor Co., Ltd.

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CONTENTS

List of abbreviation

No.	ABV.	
	D-LTB	Diesel Engine Long Tail Boat
	E/G	Engine
	FAD	Fish Aggregation Device
	FMS	Fisher Men Society
	FRP	Fiberglass Reinforced Plastic
	G-LTB	Gasoline Engine Long Tail Boat
	HSPP	Honda Siel Power Products
	LTB	Long Tail Boat
	NGO	Non-Government Organization
	OHV	Over Head Valve
	SIFFS	South Indian Federation of Fishermen Societies

Chapter 1. Overview of the program

1-1 Purpose and Background

Honda Motors Co., Ltd. (Honda) has been operating a manufacturing and sales of products equipped with a small-scale general power engine in India under its local branch, Honda Siel Power Products (HSPP) since 1980s. Honda has been committed to a creation of employment opportunities for the locals and a technology transfer in the field of generators with engine. However, it has been challenging was to enter other market in India, besides generators. HSPP conducted a short-term research which proved that there is an existing demand on gasoline engine for a long tail boat (LTB) and it could be one possible solution for its further market expansion.

Applying lessons learned from Honda's past experiences in the market of a gasoline engine for LTB in other countries, a hypothesis for a market in India was established, i.e. a business model to sell a gasoline engine for LTB through a microcredit scheme targeting local fishermen. Not only as a Honda's business opportunity, it is also expected to increase in fish catches by implementing a small-scale power vessel in fishery, leading a more active income generating activity and improving their quality of living standard consequently. To apply a microfinance scheme, South Indian Federation of Fishermen Societies (SIFFS) acts as a provider of microcredit so fishermen in target areas could adopt a Japanese fishing model for sustainable coastal fishery.

Through the project, Honda aims to examine a business model to accomplish both poverty alleviation and business sustainability, whereas manufacturing and supplying a new product in fishery.

1-2 Technology

a) Proposed Technology and Products

Technology: Motorization technique installing a small-scale general gasoline engine

Product: A set of products for a Gasoline Engine Long Tail Boat (G-LTB)

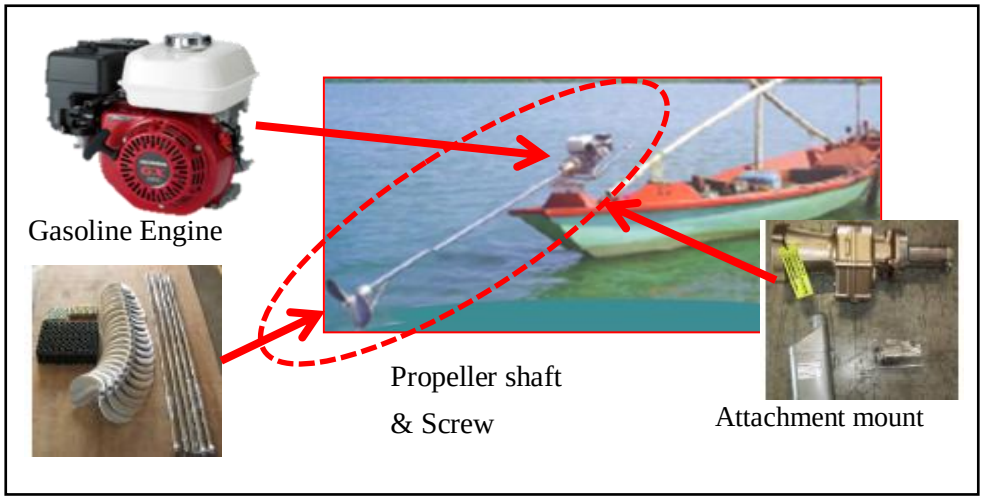


Figure1 : G-LTB set

Summary: A G-LTB set includes: 1) a small-scale gasoline engine for LTB with 5.5 horsepower (Product name: GX160); 2) an attachment to install it to LTB; 3) a propeller shaft; and 4) screw. The set is proved to minimize a cost to motorize LTB with a gasoline engine.

A gasoline engine in general could eliminate its noise and vibration when operating, and also could reduce a physical burden of an operator because it is easy to manage and maintain. It reduces amount of CO2 emission compared to a diesel engine. Regarding an attachment in the set, it has been under development to enhance is durability and cost efficiency by producing it locally with stainless materials. The motor also requires a less initial investment cost than other similar products available in India, while running cost is about 50-70% of a diesel engine or other outboard engine as well.

b) Safety

The GX series of small-scale gasoline general engine, including GX160, are globally adopted as a professional use due to its high durability and functional reliability. It is adequate for operation on the water as well in terms of its high starting performance and less maintenance cost. Although deep understanding about safe use of the engine and establishment of a proper maintenance system are a key to use the engine effectively, we has been serving its customers well by providing its maintenance services and holding a workshop for its safe use.

1-3 Program component

a) Summary of the program

The four objectives below are addressed on to improve livelihood in a fishermen community and establish an economically and socially sustainable business model of Honda:

- Identify a local adoptability of the G-LTB set
- Examine an effective use of microcredit by SIFFS as a financing scheme to target customers
- Study a feasibility to adopt a resource-controlled fishery under a microcredit scheme by SIFFS
- Identify any structure for a possible collaboration between SIFFS and HSPP

b) Target

- Target demographic: fishermen owning a manual boat and/or local people who are currently not a fisherman but willing to be engaged in fishery in the future in Tamil Nadu
- Characteristics of the demographic: small-scale fishermen living under the national poverty line in the coastal Tamil Nadu
- Target market: Indian market of a non-powered vessel in coastal areas
- Size of the target market: Approximately 160,000 vessels; 110,000 for existing non-powered vessel and 50,000 for expectedly purchased vessels

c) Operational structure

Honda develops a G-LTB set and coordinates the program overall, whereas HSPP assists and monitors the program site. For further business development, HSPP is expected to share information obtained through the program with SIFF and to examine a possible system for SIFFS to supply a G-LTB set with Honda's microcredit scheme, i.e. installment sales. External experts in fishery from IC Net are also involved and support to introduce a maintenance method for the G-LTB set and to implement Japanese way of resource-controlled fishery. Though the program, it is targeted to develop a community so that a significant number of the locals could understand its proper and safe use of a LTB and the community itself could manage surrounding marine resources for sustainable fishery. All the information obtained through the project is planned to share with the state government of Tamil Nadu, suggesting a higher commitment to financial assistance toward fishermen based on results from this program.

Chapter 2. Program Activity

2-1 Accomplishment

The program focuses on the following areas in Tamil Nadu State as a program site.

- Northern region: Pulicat and Ennor in Thiruvallur District, adjacent to Andra Pradesh State)
- Central region: Taranbangadi in Nagappattinam District
- Southern region: Colachel in Kanniyakumari District, next to Kerala State

During the terms of the program, the field researches were conducted as follows:

a) 1st filed research

October 22nd, 2015 – November 5th, 2015

- Implementation testing of the G-LTB set in Kolachel, a southern part of Tamil Nadu, targeting two members of SIFFS as a monitor: The G-LTB set was installed onto their own boat, its local adoptability in terms of its functions was examined and a recording method of fish catches was introduced
- General research on a fishery community in Nagapattinam in central part of Tamil Nadu and Chennai in northern part of Tamil Nadu for monitor selection; In this area, it was decided that monitors are to be elected not by SIFFS but by local dealer of Honda and FMS.
- Observation of its production model and capacity at local boat manufacturing factories

b) 2nd field research

January 17th, 2016 – February 10th, 2016

・ Implementation and its monitoring of eight sets of G-LEB launched: four sets in Nagapattinam, and the other 4 sets in Thiruvallur

・ Seminar conducted regarding resource-controlled fishery and diversification of fishing methods

・ Training session hold by HSPP for an engine maintenance skill directly targeting fishermen to encourage them to understand its benefits and effective use

c) 3rd field research

May 8th, 2016 – May 15th, 2016

・ Monitoring of use of the eight G-LTB sets installed during the 2nd research

・ Suggestion for an improvement in date collection of fish catches

・ Observation of several business models implemented in the 2nd research, such as installment sales method

・ Monitoring of technological adoptability by the locals of a G-LTB set

d) 4th field research

August 2nd, 2016 – August 20th, 2016; the final field research

・ Final observation of its technological adoptability by the locals of a G-LTB set

・ Consideration of challenges and possible solutions related to the proposed business model with microcredit scheme and installment sales method

・ Final reporting to Tamil Nadu Fishery Department about results of the program and suggestions to further development in fishery

2-2 Current Situation in Fishery

In Tamil Nadu, approximately 950,000 people are engaged in fishery or other related industries. In 2014-2015, the total fish catches in Tamil Nadu were about 700,000 tons, including 460,000 tons in marine fisheries and 240,000 tons for inland fisheries. However, according to the report, "Marine Fisheries Management in India with special reference to Tamil Nadu[1]" in September 2013, its resource potential in fishery is estimated at about 4,420,000 tons, indicating its current fish catches exceed the actual potential by 50%. Even though there are still unutilized fishery resources available, overfishing has been accelerated and the fishery production is estimated to reach its limit, regardless of automation and motorization in fishery. Given its current condition, the state government urges to limit over-investment in fishery inputs and vessels and implement resource-controlled management system in fishery. On the other hand, it is also claimed to develop an effective way to use 200,000 tons of unutilized marine resources.

[1] H. Mohamed Kasim:http://www.slideshare.net/hmkasim/marine-fisheries-management-in-india-with-special-reference-to-tamil-nadu

2-3 Research on Market Size

A non-powered vessel, commonly called “Catamaran”, is considered as the smallest vessel in India and regarded as one of the target market of the program. Since it is expected that some fishermen owning a motorized vessel would reinstall a G-LTB set, a part of the motorized vessel market is targeted as well. According to the previous researches, it is clear that majority of the fishermen owns D-LTB especially in central and northern parts of Tamil Nadu. It is, therefore, critical to convince the fishermen in Tamil Nadu of a competitive advantage of G-LTB and shift their engine preference from D-LTB to G-LTB, which could potentially lead 34% share of the motorized vessel market in India.

Additionally, it was indicated that there is a possible increase in the demographic; those who used to be converted into an employed crew in a middle-scale vessel from an individual small-scale fisherman would be turning back to an individual fisherman owning Catamaran FRP. Based on the information obtained through field researches, there is a tendency that a crew of a middle-sized trawl fishing boat becomes an owner of a non-powered Catamaran engaged in fishery after saving money while working as a crew. It is also reported that a market price of a catamaran in a target boat manufacturing factory is 33,000 IDR/boat. This investment amount in addition to the cost for a G-LTB set is considered as affordable for most of the individual fishermen in Tamil Nadu, if microcredit or installment sales available. Since there is also high potential that a fisherman could recoup this initial investment and make a positive revenue, it is predicted that the market size of a G-LTB could grow more rapidly than the statistical analysis estimates.

2-4 Comparative Analysis of a G-LTB Set

a) Comparison among three types of engines

Table 1 describes differences in a sales price, energy efficiency, maintenance cost and running cost among a diesel engine for LTB, an outboard engine and a G-LTB set. A G-LTB set has a competitive advantage in a sales price, energy efficiency and maintenance cost compared to a diesel engine for LTB and outboard engine, while a G-LTB set is superior to a diesel engine for LTB in terms of its lightness.

A G-LTB set also can be equipped with an alternator to enhance capacity of a vessel engine, which cannot be done to an outboard engine.

Table1: Cost of power source for LTB (Unit : Indo Rupee)

Product	Price	fuel cost/year	Maintenance cost / year	Running cost / year
Honda GX 160LTB	30,000	23,400	1,818	25,218
Outboard motor (made in Japan)	66,000	33,800	3,636	37,436
Diesel Engine for LTB	45,000	49,500	2,424	51,924

A G-LTB set also can be equipped with an alternator to enhance capacity of a vessel engine, which cannot be done to an outboard engine.

Chapter 3. Research results

3-1 Analysis of Change in Income

Collaborating with SIFFS and fisherman's cooperatives, 10 monitors were selected among fishermen in target areas. Statistically significant data was obtained only from 6 monitors out of 10 at the end, including one from the southern region of Tamil Nadu, two from the central region, and three from the northern region. Also the timing to implement a G-LTB set differs by region due to a matter of arrangement by a cooperative. As a research methodology, comparative analysis was applied to observe any change in income generated from fishing activities between a non-powered and motorized vessel. Specifically, a monthly average per-capita fish catches with a motorized vessel are compared with a maximum monthly per-capita fish catches with a non-powered vessel. It is noted that the fish catches in value with a non-powered vessel exclude fuel costs and any other income generated by non-fishery activities. The price of a boat itself was set as 35,000 IDR.

Table2: Time series change of each subject's income

1)Income increase by LTB
2)Recovery months for charge of pro **as of 31st July 2016**

			①	③	④	⑤	⑥	⑨
Name			RATHINARAJ	VELU	R. NARAYANAN	R. SUKUMAR	T. ANJAPPAN	KUPUSAMY
Village			KOLACHEL (South)	PULICAT (North)	ENNORE (North)		THARAGAMPADI (Mid)	
Monitor starting Date			28 Oct.,2015	28 Mar.,2016	3 Feb., 2016	3 Feb.,2016	1 Mar., 2016	19 Mar.,2016
Monitoring months			6	4	6	6	5	4
(C) Monthly Income with LTB *After deducted fuel expense		1st month	20,881	15,985	1,310	12,080	24,175	14,750
		2nd month	56,194	11,920	3,520	18,940	53,630	32,900
		3rd month	89,985	14,630	4,170	12,200	78,040	30,410
		4th month	53,374	15,710	11,080	28,120	33,790	31,240
		5th month	44,376		11,290	23,220	25,540	
		6th month	119,899		12,070	18,870		
		7th month						
Monthly Income(Net)								
1)	**Before LTB**	**Max (a)**	**43,000**	**9,000**	**1,000**	**5,000**	**9,000**	**7,000**
		Mini	38,000	8,000	0		8,000	6,000
	After LTB	**Average (b)**	**64,118**	**14,561**	**7,240**	**18,905**	**43,035**	**27,325**
		Max month	**119,899**	**15,985**	**12,070**	**28,120**	**78,040**	**32,900**
		Mini month	**44,376**	**11,920**	**3,520**	**12,080**	**24,175**	**14,750**
	Monthly income UP Ratio **(b)/(a)**		**149%**	**162%**	**724%**	**378%**	**478%**	**390%**
	Monthly income UP amount **(b)-(a)**		**21,118**	**5,561**	**6,240**	**13,905**	**34,035**	**20,325**
2) (c)-(a) Affordable Income =Increase income comparing with low boat max		1st month	-22,119	6,985	310	7,080	15,175	7,750
		2nd month	13,194	2,920	2,520	13,940	44,630	25,900
		3rd month	46,985	5,630	3,170	7,200	69,040	23,410
		4th month	10,374	6,710	10,080	23,120		24,240
		5th month	1,376		10,290	18,220		
		6th month	76,899		11,070			
		7th month						
		Reach 35000	**3 months**	**(7 months)**	**6 months**	**4 months**	**2 months**	**3 months**

***Product total price:Rs35,000.-**

A repayment period of 35,000 IDR, an investment cost of a G-LTB set, is simulated based on the average income. To make the simulation realistic, it is assumed that the maximum

monthly income is an equivalent for a necessity mount for living per household and the additional amount of income generated after motorization is considered as an extra income. By conducting a simulation, it is examined that the possible range of a repayment period is from two months to seven months. In other word, supplier of a G-LTB set could recoup a payment from a customer within two to seven months in case that an installment sales is applied with no interest imposed.

The followings are benefits of implementing a small-scale motor based on the interviews to monitors:

- More frequent and stable fishing became available since a boat can move forward against waves.
- More stable income generation was accomplished by fishing at multiple points with a motorized vessel, whereas only one fishing per day conducted with non-powered vessel due to a physical limitation of a crew.
- Higher accessibility to further fishing spots with a motorized vessel allowed to catch high market value seafood
- Self-managed fishing activity was availed to conduct on one's own because of its affordability of a boat allowing an individual to own a boat

No limitation on a fishing period is imposed since a motorized vessel, such as one with a G-LTB set, has normally no more than 10 horsepower.

3-2 Feasibility Study on Financial Scheme

a) Microcredit offered by SIFFS

SIFFS has established another independent fishermen's cooperative besides FMS. In this cooperative, only its member can obtain microcredit. Repayment is made per sales to a middle man as follows: at least 10% for the total sales as a repayment of credit, 2% for an administrative cost for the cooperative, 2% for one's own savings, and 1% for SIFFS as a transaction cost. It is proved that a fisherman could finish a repayment without any problem in one year under this condition.

In case that a fisherman does not own a vessel and is willing to pursed fishery related inputs with microcredit, it is proved to meet a repayment policy of SIFFS: one could repay a loan for purchasing a vessel, a G-LTB set and other fishery inputs in full within two years.

Table 3 shows a market price, durable period and depreciation amount of each product.

Table3: Price list for equipment for G-LTB fishing

Item	Price of Product	Life time of Product	Depreciation
LTB	25,000 Rupee	10Year	2,500 Rupee/ Year
G-LTB set	35,000 Rupee	2 Year	17,500 Rupee/ Year
Fishing Net	10,000 Rupee	1 Year	10,000 Rupee/ Year
SUM	70,000 Rupee		30,000 Rupee/ Year

Regarding its durable period, its annual depreciation amount is calculated as 30,000 IDR. It indicates that even new fisherman could repay a loan if he/she earns more than 2,500 IDR per month, which is reasonable given its expected fish catches and revenue in Tamil Nadu.

b) Installment Sales by a Dealer of Honda Products

6 out of 10 monitors signed an installment sales contract and examined if it is manageable. Table 4 explains that all of them were able to repay a loan in full timely. To apply it in an actual situation, it has to be considered to include some interests and administrative costs additionally, depending on a content of service actually provided. A repayment plan along with fish catches of a loanee could be adopted, making it more feasible to repay like microcredit by SIFFS.

Table 4: Return from Subjects

＜Repayment Result＞
Product total price:Rs35,000.−
Down Payment:Rs11,000.−　　Monthly payment:Rs6000 x 4 times

Name		T.K.RAMESH	VELU	R. NARAYANAN	R. SUKUMAR	T. ANJAPPAN	KUPUSAMY
Village		PULICAT (North)		ENNORE (North)		THARAGAMPADI (Mid)	
Date monitoring start		4 Feb., 2016	28 Mar.,2016	3 Feb., 2016	3 Feb.,2016	1 Mar., 2016	19 Mar.,2016
Down Payment		11,000	11,000	11,000	11,000	11,000	11,000
Monthly Repayment							
1st	Month	MARCH	APRIL	MARCH	MARCH	FEBRUARY	FEBRUARY
	Amount	6,000	6,000	6,000	6,000	6,000	6,000
2nd	Month	APRIL	MAY	APRIL	APRIL	MARCH	MARCH
	Amount	6,000	6,000	6,000	6,000	6,000	6,000
3rd	Month	MAY	JUNE	MAY	MAY	APRIL	APRIL
	Amount	6,000	6,000	6,000	6,000	6,000	6,000
Final	Month	JUNE	JULY	JUNE	JUNE	MAY	MAY
	Amount	6,000	6,000	6,000	6,000	6,000	6,000

Fishery inputs such as an engine require a frequent maintenance due to broken and decrepit functions, and therefore extra budget should be taken into consideration in each household income.

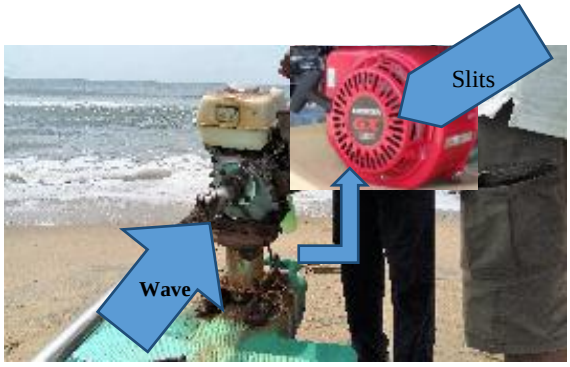
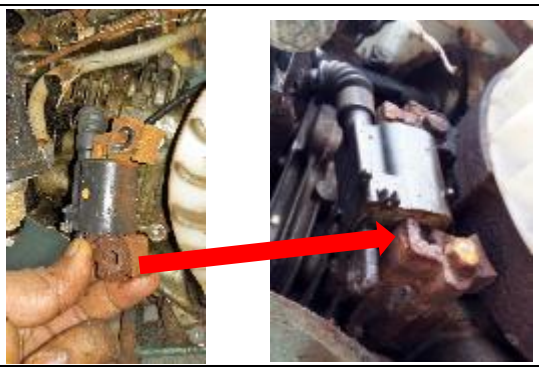
3-3 Analysis on Effectiveness of a G-LTB Set

A G-LTB set is easily rusted due to waves when running, and therefore it tends to shorten its period in operation compared to a case when running on shore. Given this uncertainty in an operation period, protections against rust which is applicable on site have been introduced to secure a two-year period of its operation. This method has already been applied to some of a G-LTB set, proving an enhancement of its durable period.

a) Effectiveness as a Marine Engine

The minimum conditions to function GX160, a marine engine in a G-LTB set, are described as follows:

Table 5: Issue and Measures

Issue	Measures
	
Being holed and rusting by sea water	Local factories sell a muffler and a spring made by stainless-steel. The price is affordable and quality is enough though they are not official products
	
In case wave comes ahead from Mount of current G-LTB se, wave makes splash and sea water gets in LTB engine through slits on recoil starter cover. The sea water causes rust on any parts in the engine.	Essential measures for rusting is to prevent splash of sea water caused by mount. It is very effective measure, which is a change of mount shape. For instance, making space in mount which sea water goes through. you make mount by stainless steel angle materials for the purpose. This measure reduces rusting on recoil starter ratchet, coil spring etc. because less splash of sea water.
	
Rust on mount of ignition coil is growing and then it makes thin plat to peel off and ignition coil has malfunction such as difficulty of generating high voltage.	You paint anti-rusting paint (shown as blue paint in the photo) on ignition coil, fly wheel and so on before handover to user. the paint prevents rusting. Periodical maintenance is recommended that user repaint on it.

On-site remodeling can be conducted easily by a used and cost only less than 1,000 IDR. It is, therefore, recommended to enhance durability, as long as it does not affect on an engine itself.

b) Effectiveness as an Engine for a Fishing Vessel

Fishing vessels in general require installing an engine to eliminate any obstacle factor when operating as much as possible, in addition to a regular function of a marine engine. Through a field observation, interviewing and workshops in a fishery community, it was examined that fishermen and dealers could handle most of the obstacle factors not only during the operation on the water but also when departing and returning to a port.

3-4 Seminar about marine resource management and diversified fishing methods

Seminars are conducted focusing on one of the program objectives, to adopt a proper marine resource management and test a possible structure of the management. The current situation described below indicates that the contents of the seminar were consistent to its ongoing actions in Tamil Nadu for its fishery development. It was also observed that there was a high potential to establish a structure for a marine resource management through public-private collaboration, especially between the state government and FMS, given that a current policy related to an application of an alternative fishery, such as off-shore fishing, has been implemented to encourage more resource-controlled fishing methods.

- State policies addressing on marine resource management have been implemented considering its current over-exploitation of coastal fishing resource
- A FMS exists all over in India
- Well-organized landing harbors allow to collect a date, such as fish catches, properly and effectively
- Quality of date collection of fish catches would be improved if more NGOs could manage those dates adequately like SFFS

Topics of the seminar targeting fishing communities cover coastal marine resource management in Japan, proper methods for sustainable fishery and remodeling technique of a middle-sized fishing vessel for off-shore diversified fishing. Especially the importance of a resource management initiated by fishermen and fishing method diversification captured a much greater deal of attentions from participants than expected, since an on-site seminar like this has hardly been conducted before.

At a seminar for the ministry of fisheries and an off-shore fisherman's cooperative, participants seemed to be the most interested in an economically efficient remodeling method of a trawl a vessel to a tuna-fishing vessel as well as Fish Aggregating Device (FAD). According to the reaction and feedback from the participants, those seminars are considered to be a critical and effective activity to pursue the program objectives.

Photo 1 : Participants at Nagapattinam

a) Tamil Nadu Fisheries University NADU
On 22nd Jan. 2016 in Nagapattinam

b) Seminar1 for monitoring subjects
On 23rd Jan. 2016 in Nagapattinam

c) Association of Deep Sea Going Artisanal Fishermen (ADSGAF)
On 28th Jan. 2016

d) SIFFS and FMS under SIFFS
On 29th Jan. 2016 (FMS: Kadal Meenavar Munetram Sangam Society)

e) Seminar2 for monitoring subjects
On 2nd Feb. 2016 at Chennai

f) Seminar3 for monitoring subjects
On 3rd Feb. 2016 at Pulicat

g) Fisheries Department of Tamil Nadu
On 5th Feb. 2016 at Chennai

h) HSPP Manager Meeting
On 8th Feb 2016 at Chennai

Photo 2: Seminar at Pulicat

Chapter 4. Business Plan

4-1 Collaborative Model with a NGO

SIFFS, a collaborator especially for monitoring and relationship-building with fishermen and fisherman's cooperatives in this program, has the highest potential to be a future partner. As an NGO, it has been committed to improve livelihood in a fishing community in Tamil Nadu, through manufacturing fishing vessels, supplying and maintaining outboard engines, holding financial literacy trainings for effective use of microcredit and community savings.

Through this program, it can be said that its technical and cost effectiveness of vessel motorization was proved. Since it was stated by SIFFS that it has understood well about positive impacts of a gasoline engine and a G-LTB set, it will be considered to collaborate with SIFFS especially for inclusion of microcredit scheme into the program more effectively in a long term.

Moreover, some rooms for improvement in a G-LTB set were identified through the program. One of the local enterprises which produces stainless parts for a diesel engine for LTB also decided to have a sales and maintenance contract with HSPP. This partnership is expected to be very crucial especially for higher local technological adoptability of a G-LTB set, since the enterprise is experienced enough in protection techniques against rust given its local condition.

4-2 Expected Socio-economic Impact

a) Society and Culture

Improvement in economic disparity:

Microcredit and installment sales schemes in the program could alleviate poverty among fishermen and remedy economic disparity between urban and coastal areas, as a direct impact.

Lessening of urbanization:

In a longer term, creation of better livelihood described above could decelerate population transfer from a fishing community to an urban area as a indirect impact.

b) Economy

Development and wider-application of motorization in fishery with a G-LTB set leads further technological development in both fishery and product remodeling. Consequently, the fishery industry and its related businesses, especially local SMEs in the field, are boosted up, indicating its further economic stability and technological development to be brought.

c) Environment

Honda may contribute to reduce pressure on coastal fishing resource if it makes application products of gasoline engine for middle class fishing boats. The products will let these fishing boats go to deep sea fishing and develop variety of new fishing methods.

d) Governance

Currently, there are some fishermen with a non-powered vessel who tend not to belong to FMS. Microcredit scheme is designed to monitor a loanee effectively for a successful repayment plan, and therefore it allows them to purchase LTB and consequently to participate in FMS with a motorized vessel. Higher number of motorized fishermen as a member of FMS indicates that FMS could collect a better quality of data regarding fish catches, types of fish

caught market prices, leading precise fish catches by fish variety. The prevalence of a G-LTB set, therefore, could indirectly improve its monitoring system of fish catches for better marine resource management.

4-3 Challenge for Business Development

We has run our business basically by ourselves. We, however, realized that business should be run along with local people, local NGOs and local governments, especially in an area where many cultures is mixed and diversity is very important so that cooperative work with these parties will be the key to improve and enhance our business. Through our business, we are trying to make customer people happier, world better and we have learned a lot of lessons and had important experiences during this project.

It is also inevitable to respect local sets of value in India for a successful business expansion as Japanese company. Local NGOs and municipalities, therefore, would play a critical role in this business model to establish a relationship with a fishing community in India, and we are eager to continue developing a better operating structure with them.