GUIDELINES FOR IMPROVING KNOWLEDGE SHARING AMONG FISHERIES

INTERNATIONAL POLE & LINE FOUNDATION

IPNLF
FOR ONE-BY-ONE FISHERS

These guidelines have been prepared for the International Pole & Line Foundation (IPNLF) by its Scientific & Technical Advisory Committee (STAC) as directed by the outcomes of the 4th annual convening of the STAC. It is hoped that these guidelines will be a valuable tool for one-by-one fisheries globally, looking to develop such knowledge sharing initiatives to enhance the responsible development of the sector.

This document can be cited as:
IPNLF (2018) Guidelines for knowledge sharing among fisheries, Scientific & Technical Advisory Committee, 16 pages

Cover photo: The first cohort of students (pole-and-line skippers) receiving training at the Fishermen's Community & Training Centre in the Maldives in 2013. Photo © IPNLF

TABLE OF CONTENTS

ABREVIATIONS USED IN THIS REPORT

AP2HI Asosiasi Perikanan Pole & Line dan Handline

FCTC Fisherman's Community & Training College

FIP Fishery Improvement Project

IPNLF International Pole & Line Foundation

HL Handline

MDPI Masyarakat dan Perikanan Indonesia

MSC Marine Stewardship Council

MRC Marine Research Centre, Maldives

NGO Non-governmental organisations

PL Pole-and-line

RFMO Regional Fisheries Management Organisation

STAC Scientific & Technical Advisory Committee

SWOT Strengths, weaknesses, opportunities, threats

ToT Training of Trainers

INTRODUCTION

Of all the areas of human activity, from the very beginnings of existence, agricultural and fisheries practices are arguably where the benefits of knowledge sharing have been most prominent. At an individual level (e.g. farmer to farmer, fisher to fisher, older generation to younger generation) and at broader levels (e.g. village to village, community to community, company to company) – the transfer of skills, techniques and experience has been fundamental to addressing problems and expanding harvest success. Promoting and facilitating knowledge sharing in fishing technologies and fisheries practices, for improved efficiencies and sustainability, is core to the International Pole & Line Foundation's (IPNLF) activities.

IPNLF works with pole-and-line, handline and troll (collectively called one-by-one) tuna fisheries around the world. These artisanal fisheries are typically small-to-medium-scale, and the fishing methods practiced, by which fishers use one hook and one line to catch tuna one at a time, are centuries old, and passed down through generations. One-by-one tuna fishing techniques are practised globally, and although the basic 'one-by-one' method remains the same, there are distinct variations in the techniques used in different geographies. For example, pole-and-line fishers in the Maldives fish from a standing aft of the dhoni (vessel), landing their catch on a wide deck area whereas pole-and-line fishers in Indonesia fish from a seated position on the bow of the vessel, and the landed catch is collected at the bottom of an angled deck (see Figure 1). Given this variation in technique between fisheries, IPNLF recognises the opportunity and potential for fisheries to learn from one another in order to improve key fishing practises, such as fish finding techniques, safety at sea, fish handling etc.

This document provides guidance for organisations on the delivery of knowledge sharing initiatives in one-by-one tuna fisheries. These guidelines were authored by IPNLF's Scientific & Technical Advisory Committee (STAC) with the intention that they will also be useful for stakeholders throughout the one-by-one tuna supply chain, as well as participants of other fisheries, and in other sectors of agriculture.

Figure 1. Demonstration of the different styles of pole-and-line tuna fishing: top image shows Maldivian fishers located at the back (aft) of the vessel fishing at the back of the vessel (Image © IPNLF); bottom image shows Indonesian fishers sat on the front (bow) of the vessel (Image © Paul Hilton & IPNLF).

THE GUIDELINES

The following guidelines identify six steps that should be considered before implementing a knowledge sharing initiative: assess, identify, plan, indicators, longevity and communication. These guidelines are provided as recommended best practice for knowledge sharing among fisheries, but is done in recognition that, depending on the nature of the fishery, the providers and the target recipients of the knowledge, some points will be more relevant than others:

1. ASSESS, identify and prioritise the knowledge/training needs

(i) Assess, by identifying the assets (strengths) of the potential knowledge provider fishery and the needs (weaknesses) of proposed recipient fishery, where the knowledge sharing 'best fits'. This can be done as a form of SWOT (strengths, weaknesses, opportunities, threats) analysis. See the suggested structure in Table 1;

(ii) Ensure the knowledge/training to be shared is considered high priority by the proposed recipients – at levels of fisher group (e.g. fishing community), fishing association, fishing company, local government, regency government, provincial government, and national government;

TIP: *Note that there may be important subjects for training that fishers may not readily identify as being important to the future of their fishery. Examples could include training in endangered, threatened and protected (ETP) species handling/release and other matters in respect of ETP bycatch, and MARPOL (International Convention for the Prevention of Pollution from Ships) pollution regulations. Therefore, considerations of training may need to be broader than those suggested by fishers and associated industry.*

(iii) Assess how well the proposed knowledge sharing/training meets priorities for key stakeholders, including all sectors of fishing industry, the different levels of government, and international management bodies (e.g. regional fisheries management organisations (RFMOs);

TIP: *As part of the assessment process, it is important to recognise why and how local, traditional fisheries do what they do and to show respect for those hard-earned lessons. This builds mutual respect and can help to increase the levels of engagement in the initiative. In this way, the training curriculum is mutually formed.*

Table 1. A suggested structure of a 'SWOT'-like assessment for the proposed knowledge sharing to identify the 'best fits' for knowledge sharing.

	Assets	Needs	Opportunities	Potential risks	Degree of best fit
Fishers/ stakeholder group in need of knowledge	What practices, gears, expertise already exist that can be used in improvements?	What is the primary need(s), problem(s)?	What are the opportunities for receiving the knowledge/training?	What are the funding considerations? What could impact on the uptake of the knowledge delivered?	Fair/Good/ Very Good
Fishers/ stakeholder group as providers of knowledge	What additional needs are there to achieve the successful knowledge sharing?	What personnel, expertise, practices can be provided?	What are the opportunities for providing the knowledge/training?	What could impact on the success of the provision of the knowledge?	Fair/Good/ Very Good

2. IDENTIFY the partners on both sides and achieve consensus of objectives

(i) Identify the **objectives** of the knowledge sharing, and establish agreement between those who will receive the knowledge/training and those who will be involved in providing it;

(ii) Identify all the planned positive **outcomes**/benefits to the recipients of the knowledge/training and also to those providing it;

(iii) Identify the best-placed **personnel**/agencies to deliver and coordinate the knowledge/training.

TIP: *The selection of a trainer(s) is critical to the effectiveness of the training programme. While not necessary, it can be very effective to engage a trainer(s) who has experienced the given fishery first-hand, or who has had personal experience with a new or different*

fishery, thus giving the trainer(s) greater credibility with the trainees. This can greatly enhance how receptive and attentive trainees are to the course and the subject matter.

(iv) Consider carefully the appropriate receivers of the knowledge/training.

TIP: *Often, longer term, committed participants in the fishing industry are a 'better investment' for knowledge sharing than those who are likely to be short-term 'transients' (including those who do not see fishing as their long-term career choice). In some situations, the vessel owner or manager should also be present, in addition to the skipper and officers. For example, on receiving training in best practices for bycatch or endangered threatened and protected species release, the skipper may agree to adopt the practices but may not be at liberty to change the operations policy without agreement and direction from the vessel owner or company manager. Ideally, they need to be exposed to the same ideas at the same time and in the same room. To achieve maximum acceptance by the recipients, the capacity development should complement existing fishing practices wherever possible, and not be a complete change i.e. it should be value adding, as much as possible.*

(v) Assess the potential for two-way exchanges between fisheries. Also assess the potential for inputs from sources/expertise external to the fisheries (e.g. from expert consultants).

3. PLAN a strategy of knowledge sharing/training

(i) Determine **where** the training is best 'delivered': to a larger group of recipients *in situ* in their home country by the knowledge provider(s), or have a smaller group of the recipients travel to the country of the knowledge providers to receive the training. It is assumed that in most cases the knowledge will be shared between fisheries in different countries, rather than between fisheries within a country. Of course, there may be cases of the latter situation.

TIP: *There are positives and negatives of both these options, and the appropriate choice is often governed by available budget. It is generally more cost effective (in terms of*

maximising the number of beneficiaries) to have the training 'delivered' by providers(s) in the recipients' home country. However, in cases of sharing knowledge on fishing techniques involving specialised fishing gears, providing training in the home country of the recipients may not be practical.

(ii) Determine **when** the training is best delivered;

TIP: *The ability of fishers to participate in training courses/activities on land may be limited due to their time commitments at sea. In such situations, having a trainer(s) on board and delivering the training in-situ at sea during the fishers' normal fishing trips is likely to be the best option. Cultural awareness is important; consider the importance of local holidays, religious holidays and cultural practices when scheduling trainings. The recipients' social and religious customs also need to be accommodated in any proposed changes e.g. observance of prayer times that may require breaks from fishing operations. Be mindful of gender sensitivities and ensure training reaches both men and women as necessary.*

(iii) Establish **how** the training will be delivered: classroom training, field training, or combination of both and if it is to be a one-time knowledge sharing event over days, or a staged process through multiple 'instalments' of knowledge sharing/training over weeks, months or years. Explore the most appropriate extension **tools** for knowledge sharing/training (posters, manuals, DVDs, on-line videos, social network sites, uploading to existing websites);

TIP: *For classroom training, give careful consideration to projection set-up, including a good quality data projector, a room that can be darkened, adequate seating, and of high importance in tropical regions, effective air-conditioning or fans. Training should be delivered in the appropriate language (in the local language of the trainees wherever possible) and training materials translated and ideally condensed into a "one pager" document or poster, for distribution and posting on vessels where appropriate.*

(iv) Explore options for incentives to achieve maximum participation e.g. **rewards** for those who participate and apply their new knowledge/skills.

TIP: *In classroom training, 'door prizes' are one effective incentive, where each attendee is given a ticket and prizes are drawn throughout the session (e.g. fishing gear, T-shirts, hats).*

(v) Have a well-defined **budget** and source(s) of funds e.g. NGO contribution, contributions from other agencies (see Annex 2), including those in-kind.

TIP: *Covering trainees for things such as snacks and meals, or loss of fishing time/work time, needs to be carefully considered – to be fair to the participants but not taken advantage of, or setting a precedent that will be difficult to maintain financially.*

4. Establish agreed performance INDICATORS

(i) In the sharing of knowledge planning, agree on **methods of assessment** for determining how well the knowledge transfer/training is delivered and how well the knowledge transfer/training is received.

TIP: *This can be assessed through a questionnaire on completion of the transfer/training, and via follow-up assessments e.g. accompanying fishers to sea and observing the applications of new knowledge. Depending on the length of the training, it may be more effective to ask trainees to complete a questionnaire on the day before the conclusion of the course, as they are often quick to depart at training's end.*

(ii) Establish realistic **benchmarks** for assessment, both for during and post-knowledge sharing (as opposed to unrealistic benchmarks that are destined not to be achieved);

(iii) Ensure adequate **feedback** to all those involved in the knowledge sharing/training event, on both sides – including the direct participants, the indirect beneficiaries (e.g. local industry, local government), and funding supporters. Feedback delivered by the direct beneficiaries of the training is a powerful tool for reviewing effectiveness of the project and for communication (see 6).

5. Include a LONGEVITY strategy

(i) Wherever possible, incorporate **Train-the-Trainer** programmes so that the trained trainers can continue training others in their fisheries/communities;

(ii) Wherever possible, establish regular '**refresher**' exchange programmes (every 6 months, annual, bi-annual etc.) rather than 'once-off' training.

TIP: *Regular exchanges and repeat training can be costly, and therefore explore all means of cost effective exchanges e.g. by Skype or other forms of video conferencing, instructional DVDs, web-based videos, social media etc.*

(iii) Explore **support programmes** (scholarships, short term grants), through IPNLF, but also through other potential sources (e.g. industry, government, NGO, philanthropic).

6. Utilise COMMUNICATION channels to publicise the knowledge sharing/training event(s)

(i) Create formal materials to be distributed via **print** including: a report(s) on completion of the knowledge sharing event and a manual(s) as an extension tool to reinforce the training for those who participated and for others who follow;

(ii) Utilise **digital** routes of communication e.g. online exposure on websites in the form of blogs and articles, email communication via digital newsletters and social media platforms;

(iii) Aim to support post-communications with **visual documentation** of the knowledge exchange activities (videos/photographs), as visuals are a powerful means of engaging, as well as being useful for future training;

(iv) Engage **PR/media** for maximum 'exposure' of local participants (e.g. local fishers, local fishing association, local fishing company, local government), in addition to those who provided the knowledge/training;

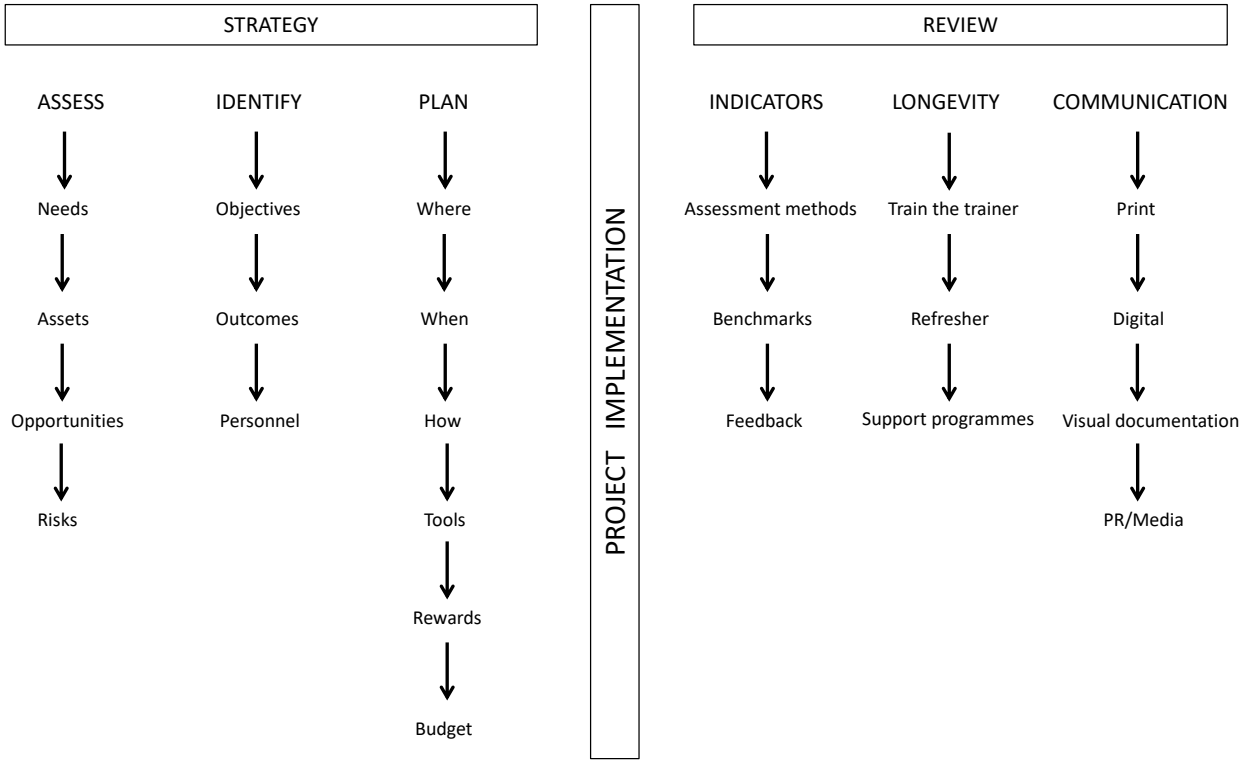

Figure 2 Schematic summarising and demonstrating the key processes suggested in these guidelines for planning a knowledge sharing initiative.

ACKOWLEDGEMENTS

IPNLF would like to thank the lead author of these guidelines, Craig Proctor, Fisheries Scientist at CSIRO Marine Laboratories in Hobart, Australia and IPNLF STAC Member; co-author Juliette Tunstall, IPNLF's Communications Manager; STAC members for their insights and input; and David Itano for providing invaluable feedback.

ANNEX 1

IPNLF Case Study

As an organisation working across one-by-one tuna fisheries and supply chains in various locations, IPNLF promotes and supports cross-sector knowledge sharing and collaboration.

Key milestones in IPNLF's knowledge sharing activities to date include the establishment of the Fishermen's Community & Training Centre (FCTC) in the Maldives in early 2014. This initiative was supported by Swiss Engagement Migros in collaboration with the Maldives Fishermen's Association, Marine Research Centre (MRC) of Maldives and the Maldives Ministry of Fisheries and Agriculture. FCTC instructors, both at the Centre and travelling throughout the Maldives, teach current and future fishers on a range of subjects, including postharvest handling, improved recording of catch and fishing effort, marine ecology and safety at sea. FCTC hosts a National Skipper Training Curriculum, providing courses aimed at improving the sustainability and efficiency of the Maldives' pole-and-line tuna fishery and ensuring the industry's viability for future generations.

Building on the successes of FCTC, the Train the Trainers programme was extended to Indonesia, as a collaboration between IPNLF, Migros, Indonesia's Ministry of Marine Affairs and Fisheries, Asosiasi Perikanan Pole & Line dan Handline Indonesia (AP2HI), Masyarakat Dan Perikanan Indonesia (MDPI), and the MRC of the Maldives. Representatives from pole-and-line fishing companies and tuna processing companies were trained in the topics of sustainable fisheries, product quality and handling, livebait holding and handling, safety at sea, and the MSC standard and certification process. The aim is to empower fishers by providing them with the skills and knowledge to improve their fisheries' social, economic and environmental sustainability.

The following summarised case study provides a working example of how the guidelines were used in the development of the ToT programme in Indonesia.

1. ASSESS

Stakeholders involved	Needs	Assets	Opportunities	Risks	Degree of fit?
IPNLF/AP2HI	Closer working relationship with fishers to progress the fishery improvement project (FIP)	Marine Stewardship Council (MSC) expertise: qualified staff and consultants, with experience in developing training manuals and curriculum	Achieve organisational and FIP objectives by building in-country capacity	Lack of interest and uptake by AP2HI Member companies	Good
AP2HI Member companies	Training in sustainable fishing practices to meet the MSC certification standard	Connection to over 500 pole & line (PL) and handline (HL) fishers	Improving sustainable fishing practise on issues regarding quality, safety at sea, data collection - bringing the PL and HL tuna fishery closer to MSC certification	Lack of interest from fishers	Good

2. IDENTIFY

Objectives: To equip personnel within AP2HI member companies with the knowledge and materials to deliver training on sustainable fishing practices, handling best-practices, market trends and requirements, safety at sea, eco-labelling and data reporting.

Outcomes: 10 trainers as well as 500 fishers trained in sustainable fisheries practice; product quality and handling; bait handling; safety at sea and the MSC standard and certification process.

Personnel: AP2HI, IPNLF staff and Scientific & Technical Advisory Committee to deliver training; IPNLF and AP2HI to coordinate training; AP2HI member company managers and sustainability coordinators to receive training.

3. PLAN

Where: Initial training held in *in situ* in Bitung, Indonesia bringing AP2HI Member company representatives together. Later training sessions held local to fishery landing sites to minimise travelling for fishers participating in the scheme.
When: Initial training held in low season (December-March) for fishery representatives. Fisher training session delivered on land in low season.
How: Series of classroom training sessions over course of 2-3 days. Lecture style with interactive activities and review tests.
Tools: Curriculum, training materials, manual.
Rewards: No incentives provided.
Budget: Supported by IPNLF Member Migros and the Gordon & Betty Moore Foundation.

4. INDICATORS

Assessment: Success of knowledge sharing was measured through an exam that all trainers completed following the training sessions.
Benchmarks: Programme benchmarked by the number of fishers trained as a result of the programme. The pilot programme target was to train 10 trainers and 500 fishers, but the ambition was to create a programme that was sustainable in the long-term.
Feedback: Evaluation questionnaires were developed within the programme for participants to help review and refine all elements.

5. LONGEVITY

Train the trainers: Included.
Refresher: No refresher scheme was incorporated into the pilot programme due to funding limitations. The intention is to expand the programme and include refresher activities.
Support programmes: Due to the large scale this knowledge sharing activity was implemented on, no support programmes were explored for this pilot. AP2HI continue to conduct fisher training as part of their capacity building programme.

6. COMMUNICATION

Print: Many print materials were created for this initiative including, manuals, posters, training protocols.

Digital: Printed materials also available in digital format. IPNLF also promoted the activities on its website through blogs and news articles, and via its newsletter.

Videography/photography: Images were captured during the training sessions to support communications.

PR/Media: No direct media engagement on this initiative.

ANNEX 2

Budget scenarios to support exchange programmes