

TECHNICAL PAPER 7.

DEVELOPING AN AT-SEA FISHERY OBSERVER PROGRAMME FOR DEVELOPING COUNTRIES

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INTRODUCTION

This is an overview of how a low-cost fishery observer programme could be designed to suit the needs of developing countries. Such an observer programme can incorporate not only the features of biological and catch data collection for stock assessment purposes, but also provide information on compliance with fisheries laws for enforcement purposes. A system can be developed to work in a sustainable, low-cost manner, using and training locally available personnel. This paper focuses on aspects related to the typical framework within which developing countries have to operate when they want to establish an observer programme.

BACKGROUND

Fishery observers should be deployed to observe, record and report. They should always be differentiated from fishery inspectors or other law enforcement officers, such as navy, Coastguard or police, as they should have no enforcement powers. This is very important for the integrity of the observers and the programme.

In summary the aims of such a programme could include:

- To monitor the compliance of domestic and foreign fishing fleets with the national fisheries laws and regulations.
- To gather biological information and information on fishing techniques and gear.
- To promptly report pollution events to the proper authorities.

DEFINING YOUR NEEDS

Identifying and defining your needs is a vital operation that you must address before you design or implement an observer programme. Once questions such as “How many vessels need observers?” and “What type of information is required?” have been answered, you can then assess the type of framework you require. This outline framework will include the cost, recruitment, training and management requirements to support your identified needs.

EVALUATING FEASIBILITY

Following the initial mapping-out of needs and requirements, you will need to evaluate the feasibility of developing and sustaining such a programme. Do you have the necessary resources to run and utilize the programme? At this point, all stakeholders should be brought together to

discuss the programme and determine the possible obstacles to an effective and efficient observer programme.

Factors that should be considered when assessing the feasibility of an observer programme include:

- **Cost** Even in a low-cost programme, you will need enough money to employ and train the observers. One option is to transfer the cost onto the vessels via a levy or fee. This is a very common system, and can be either directly applied to the vessels carrying observers or it can be spread across the whole fleet at a flat rate per vessel. Whatever system you choose, be sure that there will be enough money to cover salaries, equipment and training costs.
- **Observer salaries** The salary should not be so low as to encourage corruption, but should be in line with other similar jobs in the country. It is worth considering if you want to pay the observers only when at sea or also when on land waiting to be deployed. It is possible to have a basic small monthly salary, topped up with a daily at-sea allowance. This gives observers a better social and economic position and as long as the monthly salary is not too high it will not encourage them to stay on shore. Payment of salaries and sea allowances should, if possible, be paid on a monthly basis even when the observer is at sea; this gives peace of mind to observers who leave dependent families at home.
- **Technology** In order to keep the programme at a sustainable cost, the real need for high technology equipment should be considered before investing in any such equipment. Electronic scales, electronic measuring boards and portable computers are some of the electronic equipment that observers may want, but none of them are essential; observers usually do require some boots and overalls, a fish basket, a knife, a basic measuring board, and a clip board for their forms. The programme will no doubt need at least one computer to enter, organize and analyse data, but it is unlikely that the observers will need any high technology equipment unless performing some special scientific work.
- **Use of data generated** When the programme is designed, it is necessary to take into consideration the personnel that are going to use the data generated. It could be that a decision to collect scientific or compliance data was taken at a senior level, and the scientists or inspectors that are expected to utilize this data also require training. Also, when defining needs for data types and formats, close cooperation with the end users is required.
- **Motivation** The observers need to be respected. They will not perform if they feel neglected by the fisheries authorities. Appropriate reactions on reports as well as good communication are necessary factors in creating a good programme. Explanations of why the different tasks are performed, together with a basic course in fisheries management, are necessary for the observers to obtain a more holistic picture of their work and its place in the greater scheme.
- **Corruption** The observers are most of their time working in intimate contact with the fishing industry. It is obvious that they can easily be exposed to corruption. This issue is closely connected to motivation. A good team spirit is necessary, as well as a feeling of being backed up by the authorities. Ways to reduce corruption include deploying two observers on each vessel; providing uniform work clothes; reacting appropriately to harassment of observers; designing manuals and forms for reporting; and arranging regular workshops where information and relevant issues are discussed between all stakeholders. Always respond professionally and strongly when any form of corruption is brought to your notice.

- **Training and recruitment** You cannot expect the observers to perform unless they have been trained to do so. You have to review training needs on a regular basis to keep the programme up-to-date and to ensure the desired output. This training will take various forms according to circumstances, and could be a course of a few weeks up to a whole year, depending on the tasks the observers are expected to perform, and the entry level into the profession.
- **Safety** The observers need to be equipped with basic safety gear and training. Life at sea is tough. You have to care about their lives. They will not care about your worries while you do not respect their situation.

OBSERVER STRUCTURE AND TRAINING

The structure and its philosophy

The observers recruited should have a minimum of a basic school education. You need to identify the type of information that is needed and the importance and quantity required. You have to make sure that the observers are capable of producing a reliable output based upon basic school education and short vocational training courses. It is essential to keep the programme simple and basic to make sure that you develop the programme realistically.

Recording of violations and basic random catch sampling is vital to all observers, but the need for more advanced biological information is not essential for the whole group. It is therefore possible to develop a training plan that suits this. A tiered system related to the different tasks and training needs of the observers could, for example, be developed, and this could provide for standard, intermediate and advanced levels of training as appropriate.

Training

The training programme can facilitate competency-based module training, with on-the-job training between the respective levels. This system also allows the management team to select only capable and suitably motivated observers to move on to the next grade. Training of trainers is often an important element if the training will be provided in-house. Again, simple courses and a modular system can assist in this.

Observer manuals

All observers should also have a comprehensive observer manual that covers all aspects of their work, including code of conduct, role and duties; confidentiality; rights and responsibilities; how to use the relevant Acts and related Regulations; navigation; safety at sea; and many other areas. In addition, they may require further manuals related to any intermediate and advanced level of training.

THE OBSERVER'S TERMS OF REFERENCE

Experience has shown that a career structure is important for the observers. In less developed countries, observers stay in their jobs for many years. You can turn this into to advantage by utilizing their accumulated experience. One way to do this is to implement a rank or grade system, with increasing responsibilities. The following is an example of how such a system could be designed.

The Standard Observer Level

All observers should be trained and work to this level, and for this they should be able to complete the following tasks:

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- (i) Record and report data and other relevant information on vessels' compliance to fisheries law. Prepare a summary of this information and present oral and documented evidence in a Court of Law.
 - (ii) Record and report set-by-set information.
 - (iii) Collect random samples from catches.
 - (iv) Identify all common species in the catch and check the vessel logbook on a daily basis
 - (v) Collect, label and preserve all specimens as requested.
 - (vi) Measure the commercial species and record the information on the appropriate forms.
 - (vii) Record and report on the technical characteristics of the fishing gear being used.
 - (viii) Collect technical data relating to the processing of the catch.
 - (ix) Monitor operations on the trawl deck and in the processing room for catch discards fish.
 - (x) Monitor and report on the dumping of harmful and polluting material into the ocean.
 - (xi) Produce a trip report for each trip.

The Intermediate Observer Level

The next level of training includes the following additional tasks:

- (i) Full calculation of catch composition by weight and percentage using sampling methods.
- (ii) Identification and measurements of any by-catch.
- (iii) Biological recordings, including the sex ratios of commercial fish.
- (iv) The collection of otoliths from finfish.
- (v) Determination of the accuracy of data being collected, through the observation of navigational and fishing aids onboard the vessel.

The Advanced Observer Level

The tasks of the most advanced level of observer are related to the specific training they receive from the scientists. They may include projects such as collecting stomach contents, parasite collections, discard-monitoring projects, seal interaction projects, etc. They should also act as trainers for the other grades of observers.

THE MANAGEMENT SYSTEM

Management of the observers should be the responsibility of the relevant fisheries authorities, parastatal organizations or a private-sector company, which supervise, deploy, debrief and discipline observers. Information, in the form of trip reports and data forms, should be collected during debriefings and checked by the management team.

- The scientific data should be entered into a database for storage and easy access by researchers.
- Violation reports should be dealt with by the law enforcement organization that determines the appropriate action to be taken. If required, an observer should appear in court as a witness.

If a private company is used to deliver services of observers, the following issues should also be addressed:

- (i) **Terms of reference** Make sure that the specification of terms of reference is as accurate and detailed as possible. Include tasks that may become relevant in the future.
- (ii) **Contract** Start with a one-year contract and perform a thorough evaluation before extending the contract. You should operate on 3-5 year contracts after the first

(probationary) year if the fisheries management organization is satisfied. This will create a better environment for planning and employment.

- (iii) **Performance measures** Define performance measures that the company can be evaluated upon. This should also be communicated to the company and create the basis for both short-term and long-term evaluations of performance.

CONCLUSION

It is important to determine what your needs and requirements are vis-à-vis an observer programme. It is also necessary to analyse whether it is feasible to establish a programme with the ambitions identified through your needs analysis, including necessary funds, human resources and training programmes.

You need to have a dynamic element in the programme, where motivation and communication are given priority. A fishery observer has to operate in a difficult situation, where corruption and threats are common. It is important to address these issues seriously and openly to ensure a good and efficient programme.

An observer programme does not have to be expensive. A few well-trained observers could significantly strengthen both the monitoring, control and surveillance organization and stock assessment through basic data collection. The operation can apply equally to commercial and artisanal fisheries, where monitoring can be carried out at the various landing sites.

