

Training Crew, Technicians, Office Staff of Developing Countries in Marine Operations

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Background

- Norway has operated in developing countries in Africa, Asia and Latin America since 1975, and the third purpose built research vessel named «Dr. Fridtjof Nansen» was delivered in 2017 and is currently working in the Indian Ocean.
- The main tasks are mapping and monitoring of fish stocks and lately the effects of climate change in addition to training of local scientists and science technicians.
- A limited effort has been occasional training of local RV crew.
- For many years we also trained Namibian apprentices on deck and in the engine room, but this effort stopped some years ago.
- IMR is often asked, either through Norad, FAO or directly by developing countries to help them out with rigging their vessels for trawling, fixing instrument problems, planning new vessels, training of shore staff etc, but only as ad hoc activities with no long term plan, support or funding.
- This is not very useful, motivating or cost efficient, and it does not lead to any sustainable long term capacity building in the developing countries.



Note: This is first and foremost my personal views, based on more than 19 years of experience, and may not fully comply with IMR, Norad and/or FAO views on this subject



«Demand»

- Design, procurement, building, testing and setting to work new RVs
- Repair, modifications and upgrades of existing RVs
- Establishing/improving shorebased vessel departments at RV operator institutions
- Training of RV management staff (fleet management and scientific instruments support)
- Training of instrument technicians
- Training of RV crew, in particular navigators and fishing masters



Support - The «easy ones»

- Support for design and procurement of new vessels, modification/upgrade of existing vessels and solving specific functional and technical problems can be done through «pro bono» support from members of IRSO, ERVO, UNOLS etc.

There are many examples of such support already and it is an integral part of many of these member organization's activities already.

- Training of crew

Given that the persons to be trained have basic skills and some experience, it is a matter of setting aside one or more «scientific berths» for training purposes and let the RV crew train the trainees as a part of the regular activities on board, both ship routine work and scientific operations.

This has to be training over an extended period of time to give useful results and must be done within a structured framework.



Support – The «challenging ones» - Training of instrument technicians

To become a marine instruments technician with all the necessary skills to calibrate, operate, maintain and repair marine scientific instruments and equipment on board a reasonably well equipped, modern RV require a solid basic technical education in computer science and/or electronics to begin with, and the next step is theoretical and practical training which can take months to complete depending on the amount and frequency of realistic training and practice received due to availability of training courses, RVs etc.

This is a challenge also for «developed countries» since there are not many (any?) academic institutions offering a bachelors degree (or any other formal training for that matter) in marine scientific instrumentation to my knowledge. If there are, please let me know!

Maybe it is time to establish some kind of «marine instrument technician academy»? It could be a number of theoretical courses of a few days or few weeks duration that are given in different parts of the world at different intervals, and/or virtual courses (Youtube, websites, e-learning etc) enabling students to take the courses on-line.



Practical training can take place on board own RVs or on board other RVs if own country or institution do not have qualified instrument technicians already who can train the new ones.

Support – The «challenging ones» - Training of RV management staff

To operate RVs includes a set of basic functions that any ship operating company must have in place, such as crew management, maintenance systems and plans, safety management system, quality management system, budgeting and accounting etc. and be in compliance with all national and international legislation and rules, e.g. ISM, ISPS, MLC, MARPOL, SOLAS, PC.

In addition comes the specialized tasks and «payload» connected to marine scientific activities at sea which is different from other types of trade (cargo ships, ferries, cruise liners etc) and in particular the need for staff who can manage the scientific instruments and the marine instrument technicians

To recruit staff with the necessary skills and background from traditional «fleet management» and from traditional computer, software or electronics companies is usually not too difficult, but the challenge is to give them the skills and understanding of the application «RV management and operations» which is different from what they have been working with before.

Again, maybe it is time to establish some kind of «RV management academy»? It could be a number of theoretical courses of a few days or few weeks duration that are given in different parts of the world at different intervals and/or virtual courses (Youtube, websites, e-learning etc) enabling students to take the courses on-line.



Support – The «challenging ones» - Establishing/improving shorebased vessel departments at RV operator institutions

- In some cases in developing countries they procure (or receive as a «gift» from other nations) an RV without having an already established and functioning RV department, trained management staff, trained instrument technicians, and/or trained crew in place
- This is definitely a challenge and require support from national foreign aid agencies, or international organizations such as the UN through FAO or other institutions.
- At the same time it requires that «someone» with the relevant skills and experience are willing to allocate some of their own staff time to take on the task of supporting the local staff to build up such an organization and follow up until it is selfsustained which will take at least a couple of years.



Conclusions

- It is not much use in skilled scientists and technicians, RVs and scientific instruments and equipment if you do not have the necessary skilled staff on shore and on board, and the required organization with the necessary quality- and management systems in place!
- But to build up and implement such skills and systems in «a vacuum» is almost impossible and therefore a framework is needed where such development can take place.
- The best way to do it is to build on the competence and resources that already exists and find a way to «share the burden». Because no one can do everything, but everyone can do something!
- So maybe we can have an IRSO WG who could make proposals for some or all of these challenges?



Example of training course given by IOC (International Oceanographic Commission), a UNESCO organisation



**OceanTeacher Global Academy (OTGA)
Training Course: Research Cruise Planning & Management
15 – 19 October, 2018, Oostende, Belgium**

Overview

This course provides an overview of requirements for organizing a Research Cruise within a project and/or submitting a request for ship time. The course takes place mainly in a classroom but includes a visit to a Marine station and a research vessel, where participants will be introduced to sampling equipment and marine research infrastructure used for onboard research, including demonstrations of the use and maintenance of marine sampling equipment, oceanographic (biological, chemical and physical data) sampling, data collection and data management.

Aims and Objectives

- Promoting organisational skills to enable leading and/or participating in a research cruise
- Provide the tools to ensure cost effective use of ship time
- Promote best practices for data collection and storage

Learning Outcomes

At the end of the course, the participant should be able to:

- Develop a proposal for funding for offshore research
- Plan a research cruise, including all activities prior to the start of the cruise, on route/sampling station and data and sampling storage
- Be acquainted with main sampling equipment used onboard for collection of biological, chemical and physical data, including specific maintenance needs
- Awareness of marine sciences research infrastructure available across Europe

Target Audience

The target audience includes, but not limited to, the following:

- Principal Investigators (ocean sciences, marine biology)
- MSc and PhD students (ocean sciences, marine biology)
- Staff of marine research institutes and universities, IODE NODCs and ADUs

NOTE: Priority will be given to participants originating from Europe and North African countries. UNESCO is committed to promote gender equality. Therefore, applications from women are strongly encouraged.

Course Pre-requisites:

- Background in ocean sciences (including marine biology) or related fields
- Good working knowledge of English

A Certificate of Participation will be issued to all successful students.

Course dates:
15 – 19 October, 2018

Duration: 5 days

Course Venue:
UNESCO/IOC Project Office for IODE, Oostende,
BELGIUM

Instructors:

- Dr André Catruijsse
- Mr Francisco Hernandez
- Mr Klaas Deneudt
- Mr Greg Reed
- Mr Gert Vereet
- Dr Hendrik Segers

Period for Applications:
8 August – 14 September 2018

Application process:
Please fill in the online application form on
<https://otga.wufoo.com/forms/t9h46w0r3mo6r/>

All information available on:
<https://www.oceanexpert.net/event/2139>
and how to apply: <http://bit.ly/2ACZY9r>

No tuition fee applies. A limited number of fellowships is available.

Contacts:
OTGA Coordinator: Dr. Claudia Delgado
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VLIZ: Ann-Katrien Lescauwael
(annkatrien.lescauwael@vliz.be)

Useful sites:
www.io.de.org
www.oceanteacher.org
www.oceanexpert.net



<http://odinafrica.org>

Questions?

