

Capacity building by the United Nations University Fisheries Training Programme

Thor Asgeirsson, Tumi Tomasson, Mary Frances Davidson

In recent years people have realized that education is a key component in implementing sustainable development. Understanding the cause and the effect of actions of individuals and societies is of crucial importance for the wellbeing of people in the 21st century. Education helps societies grow, develop, and plan and aids long-term decision making regarding the society and the environment. Studies have shown that education helps in the battle against poverty, malnutrition and infant mortality¹, in addition to promoting literacy, innovation and sustainability.

Capacity building is an integral part of large development projects and has been identified as fundamental activity in developing and promoting sustainable fisheries in the UN resolution 66/288 on the “Future we want” (paragr 160)².

Although there is no single definition of capacity building, it is defined by UNESCO as a “...continuing process of strengthening of abilities to perform core functions, solve problems, define and achieve objectives, and understand and deal with development needs”³. As this definition suggests, capacity development is not just about knowledge but how to use knowledge to deal with challenges.

The United Nations University Fisheries Training Programme (UNU-FTP) is an institutional capacity building programme, that links capacity enhancement and education with applied sustainable solutions in fisheries development. UNU-FTP strives to strengthen capacity of key fisheries institutions in developing countries where fisheries play an important economic, social and food security role by training their professional staff. The UNU-FTP carries out its mandate by working in close cooperation with institutes in its partner countries to identify the needs, priorities and target groups for training. Together with its institutional partners, the UNU-FTP works to establish the means to work towards achieving fisheries development goals of the partner nation.

In the seminal report on Education for the 21st Century, published by UNESCO in 1996⁴, a paradigm of education based on four main pillars was presented: *Learning to know*, *Learning to do*, *Learning to be* and *Learning to live together*. These have since been adapted to education for sustainable development, with the addition of a fifth pillar, *Learning to Transform Oneself and Society*, as UNESCO has led the work of implementing the UN Decade of Education for Sustainable Development (2005-2014)^{5,6}

At the UNU-FTP, we have used these five pillars to guide the concept and development of the programme. Today, knowledge is not as much of an obstacle to capacity development as it has traditionally been. More people receive tertiary education than before and have increased and ready

¹ UDPE Human Development Report 2013

² UN 2012. Resolution 66/288 The Future we want, adopted by the General Assembly

³ UNESCO – International Institute for Educational Planning

⁴ <http://www.unesco.org/delors/treasure.htm>

⁵ <http://unesdoc.unesco.org/images/0015/001540/154093e.pdf>

⁶ <http://www.ibo.org/ibap/conference/archive/documents/SheldonShaeffer-Plenary2AnOverarchingFrameworkforEducationalReform.pdf>

access to a large amount of knowledge through increased internet accessibility and a high level of Information Technology. The modern challenge for capacity development entities like the UNU-FTP is how to apply knowledge and how to communicate discoveries and ideas. In many of the poorest countries in the world, access to education is becoming less of an issue as literacy levels rise, as seen in the latest UNDP report on Human Development. In the last two decades the education index of many of the UNU-FTP partner countries has increased by 10-30% (Figure 1). The growth has been faster for poorer countries such as Uganda, The Gambia and Mozambique, as compared to Ghana and Namibia. These developments are evident in the operation of the UNU-FTP. There are more and better qualified candidates for the six-month training today than when it was established 15 years ago. A larger proportion of new UNU-FTP fellows have a master’s degree or even a Ph.D today than when the programme began. The main challenge today is professional development, the development of skills and attitudes, or what has been termed action competence. These relate to the fifth pillar of learning, on transformation. The UNU-FTP believes that its projects and activities will have a lasting impact on fisheries developments and cooperation in partner countries, and in Iceland.

This paper describes how the UNU-FTP has organized its training and other activities to promote institutional capacity building in partner countries that rely heavily on fisheries for economic and social development for sustainable developments of their fisheries.

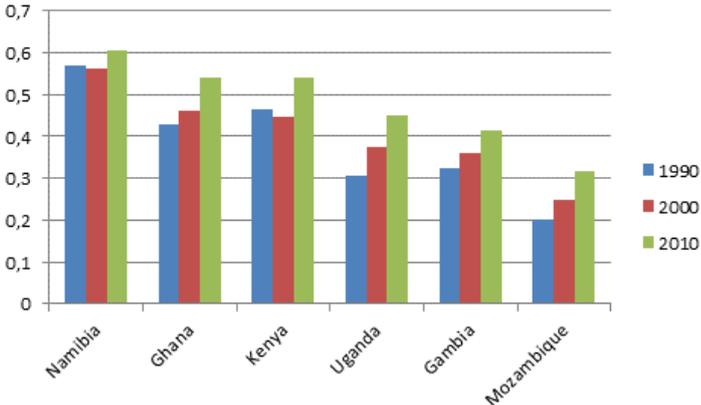


Figure 1: Changes in education index from 1990 in some of the UNU-FTP partner African countries (UNDP HDR 2013).

The activities of the United Nations University Fisheries Training Programme (UNU-FTP)

The UNU-FTP was established in Iceland in 1998 as a response to the state of global fisheries, heavy exploitation of marine resources and increased importance of fish for economic and social development and food safety. At that time many coastal states among developing nations were extending their fisheries further off shore following the 1982 UNCLOS⁷ which further accelerated the dominance of developing countries as producers and exporters of seafood. Iceland was chosen to host the UNU-FTP, in part because of the rapid and successful change of its fisheries which developed

⁷ https://www.un.org/depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm

over a few short decades from being a subsistence activity to an export-oriented and highly industrialized system with a strong monitoring and control over the resources.

The UNU-FTP is based in the Marine Research Institute in Reykjavík which is responsible for daily operations of the programme in formal cooperation with MATIS food research & biotech institute, University of Iceland, and University of Akureyri. The programme is funded by the Iceland Ministry for Foreign Affairs and receives about 5% of the Icelandic development cooperation budget. The programme has a core staff of four people and relies to a great extent on the cooperating institutions and the industry for expertise in different fields of fisheries, lecturers and supervisors.

The activities of the UNU-FTP are divided into four main areas, all of which are strongly linked to one another:

1. An annual six-month training course in Iceland
2. Short course development and delivery in partner countries
3. Conferences
4. Scholarships for post-graduate degree studies in Iceland

The annual six-month training

Each year about twenty fisheries professionals receive full fellowships to undertake a six month post-graduate training in Iceland. The selection of candidates is done in close consultation with key fisheries institutes in the partner countries following on-site interviews with potential candidates. Special emphasis is put on gender issues in UNU-FTP activities with the aim of inviting men and women in equal numbers. The candidates must have at least a first university degree, have an active role in the development of fisheries in their home country, and be able to communicate effectively in English. The UNU-FTP offers training in six areas of specialization:

- Fisheries Policy and Planning
- Marine and Inland Waters Resources, Assessment and Monitoring
- Quality Management of Fish Handling and Processing
- Fishing Technology
- Sustainable Aquaculture
- Management of Fishing Companies and Marketing

The candidates must have at least two years of experience in the specialist area.

Throughout the training the fellows compare the knowledge and the experience gained in the training to conditions and practices in their home countries. The training consists of three main phases in which the fellows gradually become more responsible for their studies. The training starts with an inter-disciplinary six week introductory course. The fellows learn about the status and development of world fisheries and aquaculture, intertwined with visits to the fishing industry, and develops an appreciation for the developmental potential of their own fisheries. This is followed by an intensive six week specialist course with strong emphasis on the practical application of knowledge. The specialist course culminates in the writing of a proposal for an individual research project which guides the work for the final part of the six-month training. The final project must address an issue of particular relevance to the fellow's home fisheries. The final project is meant to

put the acquired knowledge and fellow's experience into a realistic context, and demonstrate their ability to apply various methodologies and write reports.

Short course development

Since 2005, the UNU-FTP has put an increasing emphasis on activities in partner countries. A major part of these activities is the development and delivery of short courses (5-15 days) on identified priority areas. The course structure and materials are adapted to local conditions and case studies which are sometimes developed by fellows in the six-month training as a final project. The team responsible for the development of a short course is usually composed of UNU-FTP experts and fisheries experts from partner institutions including a university or special fisheries training institutions. Experts from partner institutions are often former fellows who have completed the six-month course in Iceland. The team develops the course to address the needs of a specific target group and the local experts are responsible for delivering the course material (sometimes in the local language). In cases where a course is run more than once, the materials are revised based on evaluation of the participants and experience of the short course development team. The final course material is often adopted by the local training institution partner, and the experiences the UNU-FTP experts gain from this cooperation enhance their ability to contribute to the six month training in Iceland. The UNU-FTP aims in many cases for a regional approach to the short courses to broaden the group of experts and the base of participants. On several occasions courses have been developed in cooperation with international organizations such as FAO and NACA.

Conferences

The UNU-FTP supports conferences on fisheries related issues in several ways. It holds conferences in Iceland and in partner countries which are organized in cooperation with other agencies, both international and local. At conferences not planned directly by the UNU-FTP, we may provide financial support, either directly or indirectly, by sponsoring key speakers and the participation of UNU-FTP fellows who present papers or posters. Conferences and short courses are sometimes used to create a link between academia and the industry in partner countries, and help us to focus on relevant issues in the six-months training course.

Scholarships

In 2004 at the request of UNU, the UNU-FTP started to offer scholarships to former fellows for postgraduate degree studies in fisheries in Iceland. Today up to four scholarships towards MSc and PhD degrees are granted each year to former fellows that have been accepted into Icelandic universities. Their six-month training counts for up to 30 ECTS (equivalent of one semester's work) towards a the post-graduate studies. The MSc studies are mainly conducted in Iceland but the UNU-FTP requires that part of the PhD research to be done in the recipient's home country and be connected to ongoing research activity there. This is done to assure the link between the scholarship and the institutional capacity building in the recipient's (partner) country.

UNU-FTP Accomplishments: Our work in numbers

Since 1998 a total of 263 fellows, of which 37% are women, have successfully completed the six month training from over 40 countries (Figure 3). Although the number of fellows varies greatly by country, the impact of the UNU-FTP may not directly relate to the number of fellows from each country. Some of the countries have very few qualified fisheries professionals in key positions (such as many of the Pacific island countries)

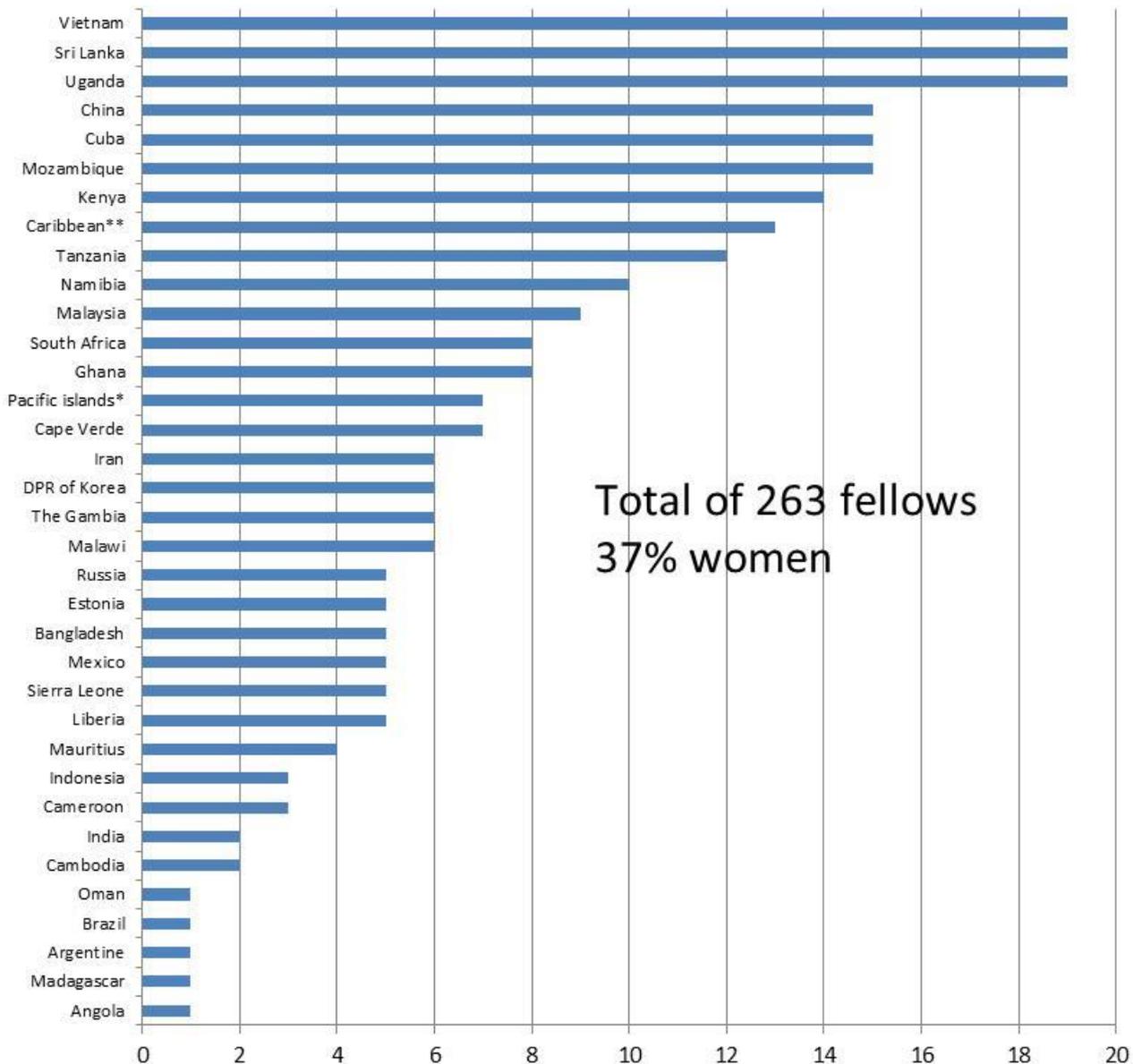


Figure 2 The total number of UNU-FTP fellows by country from 1998-2013 and ratio of women

and the Caribbean countries) and sometimes the fellows come from several institutions within a country.

The fellows who come to Iceland for the six-month training work in a wide variety of professional settings. In China and Vietnam the UNU-FTP has mainly worked with universities, (Dalian Ocean University in China and University of Nha Trang in Vietnam) and for that reason most of the fellows

from those two countries have primarily worked in an academic environment. In most other partner countries the fellows come mainly from government departments and research institutes. In the Caribbean the UNU-FTP has worked for some time with the secretariat of the Caribbean Regional Fisheries Mechanism on regional priority areas in fisheries and in providing training for fisheries officers in the Caribbean (excluding Cuba where the UNU-FTP works with the Ministry of Agriculture and Food Industry (formerly Ministry of Industrial Fisheries)).

In the six-month training the Quality Management of Fish Handling and Processing (QMFHP) line of specialization is offered every year along with three other lines, which vary from year to year (Figure 3). The strong interest in quality assurance in fisheries our partners express reflects the increasing importance of export of fish from our partners countries and the stringent quality standards concerning import of fisheries products to the EU, US, Japan and other potential markets for developing countries. Interest in other areas offered as specialization has varied over time. Recently, there has been a strong increase in the interest in aquaculture, especially from African countries. There is also a renewed interest on behalf of our partners in monitoring and assessment of exploited stocks, as quantitative monitoring of stocks is now seen as a critical part of ecosystem-based fisheries management.

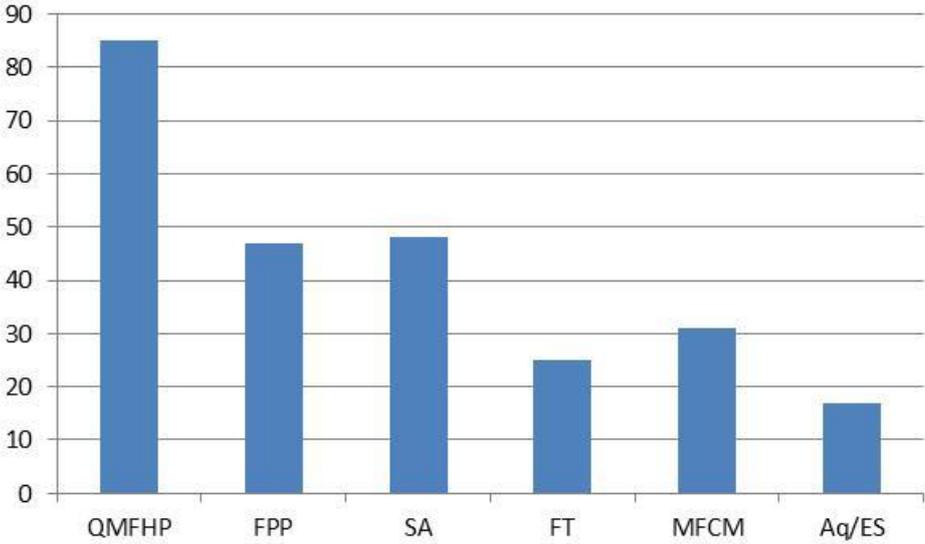


Figure 3: The total number of fellows by line of specialization from 1998-2013 (Quality Management of Fish Handling and Processing, Fisheries Policy and Planning, Stock Assessment, Fishing Technology, Management of Fisheries Companies and Marketing, Sustainable Aquaculture)

The development of short courses in partner countries is an expanding activity of the UNU-FTP with 4-5 new courses annually over the past five years. In all the UNU-FTP together with its partners has developed and run over 30 short courses with about 800 participants. Topics range from Fisheries Management, Data Collection and Analysis, to numerous courses on Quality Assurance and Aquaculture. Some are regional course where participants come from several countries (in the Pacific Island Communities, Caribbean and in Vietnam) (Figure 4).

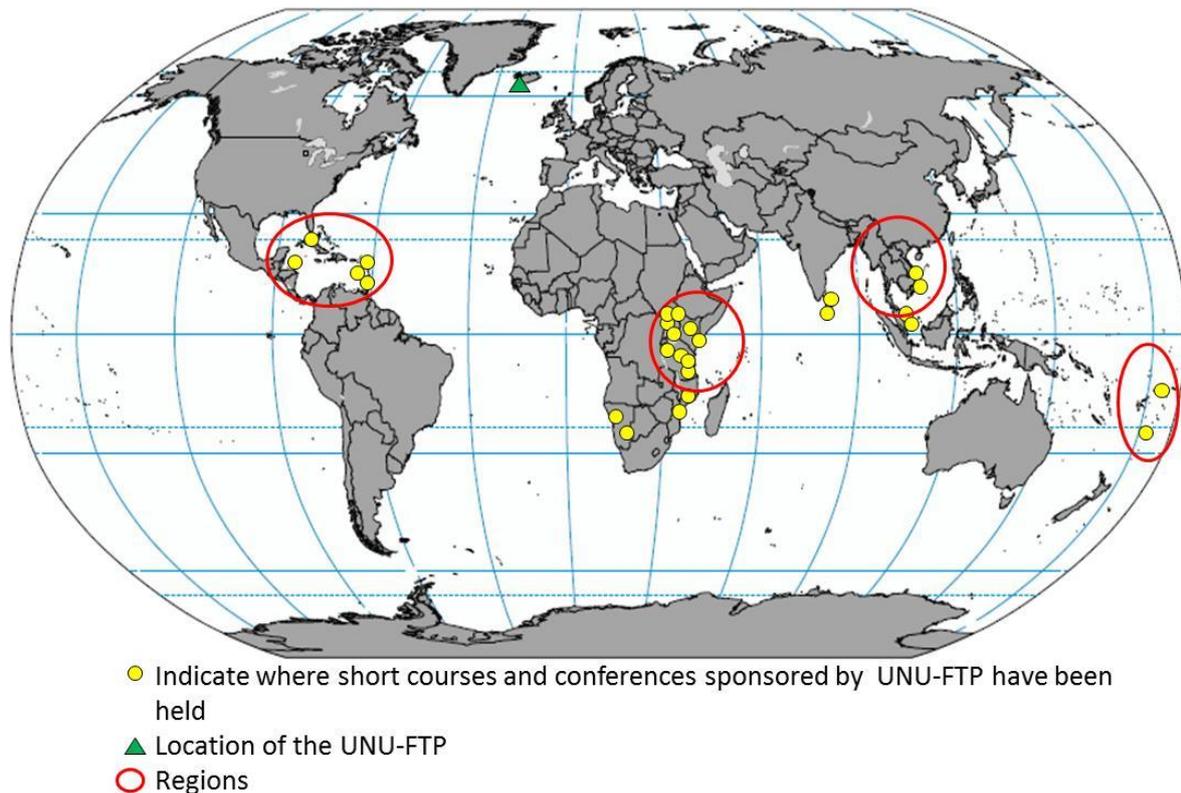


Figure 4: Distribution of UNU-FTP short courses and the regional approach

Since 2005, nineteen former UNU-FTP fellows have received a total of 21 scholarships, 10 for MSc degree and 11 for PhD studies. Most have focused on resource assessment and food science.

The impact of the UNU-FTP

The exact impact of the UNU-FTP is difficult to evaluate, especially on the effect we have had on the development of fisheries in partner countries, but as in all development activities, long-term thinking is important. The UNU-FTP has monitored the progress of individual fellows through cooperation, communications using social media, and planned meetings during country visits. Formal surveys have also been done in relation to strategic planning of UNU-FTP. Most of the fellows have continued their studies and advanced in their careers. In a survey done in 2011 as a part of an internal evaluation of the UNU-FTP, fellows claimed they felt better prepared meeting the demands of their jobs after completing the training in Iceland.⁸ According to the survey 40% had been promoted and about 30%

⁸ Davidson, M.F. and Wilson C. 2011. United Nations University-Fisheries Training Programme: Internal Evaluation Report.

had gone on to further postgraduate level studies and received their PhD (25%) and MSc (12%) degrees after completing the six-month course in Iceland. Most former fellows describe their experience from the six-month training as being a watershed event in their professional career. Many of the fellows claim that the strength of the six-month training is its international nature and the fact that fellows are taken out of the daily lives in their countries and for the first time, analyze their fisheries from an outside-perspective.

As the number of fellows who have completed the six-month training grows, former fellows are more often engaged in short course development, both as teachers and through carrying out case studies to be used in the courses. Recently former fellows have joined Icelandic experts in developing short courses in a third country; that is, former fellows work on courses intended for delivery in a country other than their home country. Some of the courses have been integrated into university programmes, for example a short course on *Profitability Assessment in Fisheries* is being used in the MSc programme at Eduardo Mondlane University in Mozambique, and a short course for fish inspectors is now an elective in a B.Sc. programme in food science at Moi University in Kenya. Other short courses have been run several times by our partners after the UNU-FTP participation has ended (e.g. the *Project Cycle Management in Fisheries* for the fisheries administrators in Sri Lanka, and the *Profitability Assessment of Small Scale Fisheries Enterprises* in Cuba for staff of the Ministry of Industrial Fisheries).

How we work: The UNU-FTP and the five pillars for learning in the Education for Sustainable Development Framework

The UNU-FTP strategic plan⁹ for 2013-2017 was adopted in February 2013 by the UNU-FTP board of directors. The UNU-FTP is a knowledge sharing entity and recognizes the benefits to all parties involved in educational cooperation. It is uniquely situated to serve as a global meeting place for fisheries professionals. The core values of the programme are:

- The UNU-FTP applies principles of sustainability in all aspects of its educational and research activities
- Issues of gender equality are addressed in all activities undertaken by the UNU-FTP
- The UNU-FTP nurtures cooperation with institutions that play an important role in the implementation of fisheries policies in partner countries
- The UNU-FTP relies on cooperation between individuals; not only to jointly increase their knowledge of fisheries, but also to influence the development of fisheries through leadership and professional practice

The UNU-FTP strives to bridge the gap between academia and the fishing industry so often evident in developing countries. The six-month training is applied in nature, and unlike a traditional university, the fellows who attend are not conventional students, but working professionals that bring experience and knowledge to the course that shapes the training. Fellows share their knowledge and

⁹ UNU-FTP strategic plan 2013-2017 (http://www.unuftp.is/static/files/StrategicPlan/unu-ftp_strategic_plan.pdf)

experiences of fisheries in their home country by giving presentations to the rest of the group on various aspects of their home fisheries, by analyzing and evaluating fisheries data, and by taking part in debates and discussions. In the six-month training fellows attend lectures by Icelandic experts from universities, governmental and research institutions, and the industry, and visit numerous fisheries enterprises. In light of these lectures, field visits, discussions, and presentations, fellows are challenged to apply a holistic and global approach to their work through various assignments and exercises. The fellows practice the application of information technology in collecting, analyzing and interpreting information, and communicating their ideas and results; both in writing and orally. During the latter half of the six-month training the fellows start to apply what they learn in the first half by writing a project proposal and executing an individual project with the assistance of a supervisor. Throughout the training the fellows are responsible for all information they present and are encouraged to take a proactive role in the training course. They take responsibility for their own learning and are encouraged to take risks, look at things from different perspectives, and are challenged to see how their work fits into a larger system. At the end of the training it is expected that fellows have developed their understanding of the different aspects of fisheries and how these aspects are connected to one another. After the six-month training, fellows should have the global perspective and foresight to identify opportunities in their home fisheries and have the creativity and competency to develop and implement projects that lead to improvements in the fisheries. Upon returning to their home countries, the UNU-FTP expects the fellows will be able to participate effectively in multi-disciplinary international teams of experts and design and evaluate fisheries projects.

The UNU-FTP aims to incorporate Education for Sustainable Development (ESD) in all its activities. As the UNESCO Decade for ESD (2005-14) draws to a close, the UNU-FTP is continuously looking for ways to improve ourselves based upon an ESD approach. The UNU-FTP uses the five pillars of learning identified by UNESCO to guide its activities and an ESD approach.

Learning to know

Learning to know is addressed in the series of lectures provided in both the introductory part of the UNU-FTP and in the specialty lectures. The lectures are meant to expose fellows to how fisheries disciplines are connected to one another from biological, ecological, economical, and social aspects. Fellows learn how quality of fish is determined from the moment it is caught in the fishing gear and how that nutritional quality is translated into monetary value on the market. In addition fellows are encouraged to study topics of interest from their home country and are empowered through self-study.

Learning to do

Fellows learn to do during the introductory and the specialization parts of the six-month training, as they acquire tools and techniques to collect and analyze data and interpret findings. In the individual project part they start to apply those tools and techniques to their own data. The project period starts with a project proposal written by the fellows with a help from a supervisor. The fellows must justify their project ideas and argue for their scope and methods during a proposal presentations. The end product is a project report that is published on the UNU-FTP website.

Learning to be

There is an emphasis on personal development. Fellows are asked to critically evaluate the fisheries

in their home country and take part in debates about fisheries development. They formulate their thoughts and ideas about fisheries and develop their ideas about fisheries development. They present their ideas both in writing and through series of short lectures and take a stand on important issues in their home fisheries.

Learning to live together

Living together lies at the core of the UNU-FTP, as fellows live and work together for six intensive months. During the selection process for the six-month training care is given to not having more than three people from the same country and these should pursue different areas of specialization. When in Iceland, fellows live together, sometimes 3-4 in a flat and sometimes in a guest house. They have to do their own cooking and cleaning and normally travel together. Fellows learn to live with different genders, religions and cultures and share household responsibilities. Some fellows who speak English as a second or even third language may receive assistance from English speaking fellows if they need it, just as fellows learn from working together on assignments and through discussions. For this reason the fellows learn to adjust very quickly to the cultural challenges, new environment, and cold and snowy Icelandic conditions.

Learning to transform oneself and society

Transformation is the core of education for sustainable development. Throughout the six-month training fellows are challenged by different assignment which require among other things independent and critical thinking as well as organizational and communication skills. They are encouraged to be proactive and take responsibility for their own learning and wellbeing during the training. Continuous evaluation is the key to the success of the six-month training, where formal exams are rarely used. Each fellow is pushed to his and her ability. Fellows are confronted with their weaknesses and helped to strengthen those areas. They have to manage and lead their projects and through that their leadership capabilities are strengthened. At the end of the six-month training they are given life-long access to the UNU-FTP course material that they can use for their own benefits in the future with the hope that they may influence their society and bring about changes.

Conclusion

Capacity building in cooperative development projects fits the new era of UN and international resolutions towards improving the wellbeing of people and solving global environmental challenges. This is important especially in light of the fact the UN Decade for Education for Sustainable Development and the UN Millennium Development Goals are coming to an end. The international community is concerned with how to continue with the momentum gained from the MDG and the means of continue improving education, nutrition and socio-economic status of people^{10,11}. Sustainable Development Goals are being developed to create a framework for increasing people's wellbeing and food security without harming the ecosystem¹². Regardless of the specific goals agreed

¹⁰ Schultz, M., Rockström, J., Öhman, M., Cornell, S., Persson, A., Norström, A. 2013. Human prosperity requires global sustainability. Stockholm Resilience Centre

¹¹ Melamed, C., and Ladd, P. 2013. How to build sustainable development goals: integrating sustainability in a new global agenda. ODI

¹² Griggs, D., Stafford-Smith, M., Gaffney, O., Rockström, J., Öhman, M.C., Shyamsundar, P., Steffen, W., Glaser, G., Kanie, N., and Noble, I. 2013. Sustainable development goals for people and planet. Nature vol 495

upon in the end, capacity building will play a vital role in the realization of them. UNU-FTP sees development cooperation as a two way street where everybody gains rather than a one-directional transfer of knowledge. The effort has to be based on cooperation where all players gain and learn from participating in the project. Through all the discussions and debates in the six-month course the fellows leave a long lasting impact among each other and on Icelandic experts. The valuable experience UNU-FTP experts gain in the short course development project influences all activities of the UNU-FTP. In the six-month training fellows are moved from their daily lives and challenged to critically review their fisheries and take part in an international discussion on fisheries development. They are encouraged to take initiative in changing their professional environment. When they leave the six-month training they have formed a network of experts from different parts of the world that can, through the internet and in some cases with continued engagement of the UNU-FTP, assist in working through problems when needed. But most importantly, the fellows will be better prepared to take part in international discussions about the future of their fisheries and are better able to make well informed and responsible decisions about their fisheries and lead the effort to meet their nations' development goals.