Chapter 16
The DIREKT Project: An Example of a Technology Transfer Project on Renewable Energy

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Abstract This paper presents an example of a technology transfer project on renewable energy undertaken by the Hamburg University of Applied Sciences, namely the Small Developing Island Renewable Energy Knowledge and Technology Transfer Network (DIREKT), a cooperation scheme involving universities from Germany, Fiji, Mauritius, Barbados and Trinidad and Tobago. The overall aim of this project is to strengthen the science and technology capacity in the field of renewable energy of a sample of African, Caribbean and Pacific (ACP) small island developing states, by means of technology transfer, information exchange and networking. The project is funded by the ACP Science and Technology Programme, an EU programme for cooperation between the European Union and the ACP region. This paper introduces the DIREKT project, its aims and the partnership. It presents the methodology and results of a survey that was conducted in work package 2 of the project: the Assessment of Needs for Market-Oriented Research and Technology Transfer, along with a comparison of the results obtained in Fiji, Mauritius and selected Caribbean countries. A comparative analysis of the political and institutional frameworks in the field of renewable energy in the ACP regions and in Germany is presented, along with an assessment of research and innovation needs in science and technology. Finally, the paper summarises the similarities and differences between the surveyed regions regarding the use and promotion of renewable energy, and characterising the role of the DIREKT project as a technology transfer project on renewable energy.

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Short introduction

This paper presents an example of a technology transfer project on renewable energy, namely the Small Developing Island Renewable Energy Knowledge and Technology Transfer Network (DIREKT), a cooperation scheme involving universities from Germany, Fiji, Mauritius, Barbados and Trinidad and Tobago. The overall aim of this project is to strengthen science and technology capacity in the field of renewable energy of a sample of African, Caribbean and Pacific (ACP) small island developing states, by means of technology transfer, information exchange and networking.

Introduction

The DIREKT Project

Small island developing states (SIDS) are island nations characterised by low to medium GDP levels, which justify their ranking as developing nations. There are several dozen SIDS distributed across the Caribbean, African and Asia–Pacific regions. Figure 16.1, which illustrates the wide range of SIDS in the Latin American and Caribbean regions, serves the purpose of describing the diversity of shapes and sizes of SIDS in any given region.

Fig. 16.1 Schematic map with an overview of Latin American and Caribbean small island developing states (© Climate Click 2012)

Most SIDS are heavily dependent on increasingly expensive imported fossil fuels to supply their basic energy needs, and are thus exposed to unpredictable price fluctuations. Oil prices have virtually doubled in many countries since the year 2000, hence putting additional pressure on the economies of SIDS. This has led to the diversions of funds, which could be better used in health care or education, towards meeting the costs of imported fuel, a situation which is unsustainable.

Despite the current dependency on imported oil, SIDS have a visible potential for renewable energy generation, especially in respect of solar and wind power, and marine renewable energy technologies. Indeed, as stated by Boyle (2004), renewable energy offers very interesting prospects to developing countries. Global trends in renewable energy as a whole and in sustainable energy investment in particular are on the increase in developing countries (Hohler et al. 2007).

A number of international gatherings have been organised and discussions of the problem have been attempted. For example, the Outcomes Pacific Energy Ministers' Meeting held in Noumea, New Caledonia, in 2011 outlined the potential in the field of renewable energy seen in the Pacific region—according to Singh (2009), only accessible provided adequate infrastructure is in place. In doing so, vulnerable SIDS such as Fiji and Tonga—which have a renewable energy road map (TERM 2010)—may be able to take better advantage of the opportunities renewable energy offers them.

The predominant situation is that these countries suffer a lack of awareness of the role they can play by using renewable energy, have very few experts working in this field and have limited availability of academic programmes in renewable energy, all of which has hindered progress in this field.

In an attempt to address the problems outlined here, the Small Developing Island Renewable Energy Knowledge and Technology Transfer Network (DIREKT) project has been initiated. DIREKT is a university-based project with an emphasis on communication, education and training, aimed at promoting the implementation of renewable energy technologies in selected African, Caribbean and Pacific (ACP) regions. The overall objective of DIREKT is to enable the partners to better exploit their renewable energy resources by means of technology and knowledge transfer, information exchange, capacity building and networking. The partners involved are universities in Germany, Fiji, Mauritius, Barbados and Trinidad and Tobago. The project is funded by the ACP Science and Technology Programme, an EU programme for cooperation between the European Union and the ACP region.

Work Package 2 of the DIREKT Project

The DIREKT project is structured along a set of work packages (WPs), one of which is concerned with the Assessment of Needs for Market-Oriented Research and Technology Transfer (WP2), the subject of this paper.

In order to achieve good and sustainable results through technology and knowledge transfer between the DIREKT partners on the subject of of renewable energy it is first essential to investigate the current situation and to explore existing structures. Therefore, a number of studies which have analysed the status of policy making and the use of renewable energy in small developing island states and which were conducted at different times in the past, have been analysed. Some examples of international studies which are thematically similar to the one presented in this paper are also provided here.

In 1999, the Caribbean Council for Science and Technology published a paper assessing the status of energy sources in the Caribbean and the potential of renewable energy in particular. It provides the outlooks of various possible future scenarios involving renewable energy and suggestions for policy making in this field. An aspect that the paper highlights is the broad spectrum of advantages that are inherent to the use of renewable energy. Accordingly, the implementation of renewable-energy technologies is not only good for meeting energy demands, but also improving resource management, environmental preservation and sustainable development. The paper emphasises the major potential for creating employment opportunities that the development of renewable energy holds. Examples given in the report are the emergence of small and medium-sized businesses in the renewable energy sector in Barbados, St Lucia and Costa Rica. Furthermore the paper stresses that these developments are, if not appropriately supported, in danger of going bankrupt in the competition between renewable and fossil energy sources (Caribbean Council for Science and Technology 1999).

The German Cooperation Agency (GIZ) published a paper in 2004 presenting the current status of renewable energy in Latin America and the Caribbean region with regard to policy making and baseline conditions in these areas. After presenting a background review of past efforts to promote renewable energy in the region, it divides the area into six subregions comprising several neighbouring countries. The subregions are analysed with regard to the current state of renewables in the region. Moreover, obstacles and opportunities for penetrating renewable energy and policy making in this field are described. The paper points out the importance of the sustainability of renewable energy production. This remark relates to the fact that the intensive use of hydroelectric power and power from biomass in some countries is practised without respect to the negative environmental and social effects it generates. Finally, the need for improved cooperation between important governmental, non-governmental and private organisations and institutions is expressed (GTZ and ECLAC 2004).

In the Pacific region, the RECIPES project, a European project promoting renewable energy in developing countries, surveyed selected island states in the region in 2004. The countries chosen to represent the Pacific region were the republics of Fiji, Vanuatu and Kiribati. Among others, the objectives were to provide data on the renewable energy situation and energy policies, and to describe renewable energy projects. The survey is in the form of a data acquisition study. Gathered information is presented in the form of tables or lists of facts with little or no analytical text. It consists of four parts. Part A contains detailed information on

the status and potential of all renewable energy technologies and renewable energy policies as well as conventional energy technologies for each of the three states. Part B presents the current policies concerning energy and renewable energy. It identifies the main energy issues of the different countries and describes the present renewable energy programmes and policies as well as institutional policies. Part C contains maps of the region and the single countries. In Part D the most successful renewable energy projects and their outcomes are described in depth. The overall objective of the survey was to provide all stakeholders involved in renewable energy with information and insights and in doing so contribute to the implementation of renewable energies in the Pacific (RECIPES Project 2004).

In 2007 the Australian government organisation AusAID conducted a study involving various Pacific island states, assessing the potential of renewable energy for rural electrification in the region. Initially it gives an overview of the situation of renewable energies in the Pacific in a global context. The study report elaborates on the issues of rural electrification and fossil fuel dependency in the region. With particular regard to the problems caused by the unique geographical situation, the study analyses four rural electrification projects "in order to assess the cost-effectiveness of a particular renewable energy technology option in a rural Pacificisland setting". Using least-cost analysis and benefit-cost analysis, a solar home-systems project, a micro-hydroelectricity project, a wind hybrid system and a biofuel pilot project using coconut oil were assessed and compared to conventional energy production with a diesel generator. Based on the study results, the authors recommended that Pacific governments actively promote the implementation of renewable energies through renewable-energy policy making and renewable-energy projects (Woodruff 2007).

In 1998 the Danish Forum for Energy and Development published a general report on renewable energies on small islands in developed and developing countries, sampling the ACP regions among others. In the South Indian Ocean, Mauritius and Réunion were sampled as well as seven countries in the South Pacific and six in the Caribbean. A second, revised edition of the report was published in 2000. The report's two main objectives were to show the particularly high feasibility of renewable energy on small islands and to develop global renewable-energy cooperation and networking among islands. The report points out the major renewable-energy potential that is inherent to small islands and the fact that this potential remains mainly untapped. The examined islands are categorised according to their actions and ambitions for the use of renewable energies and an overview is given of how progress is distributed globally. The report also shows a link between whether islands have sovereign status and their level of renewable energy implementation, in that more islands with a formal connection to a developed country use renewable energies than islands that are politically independent. Another important aspect the report emphasises is the role that islands can play in fostering renewable energy use worldwide. Due to their limited size, small islands could become the first countries or communities that rely solely on renewable energies for their power generation, and thereby act as an example for the rest of the world (Jensen 2000).

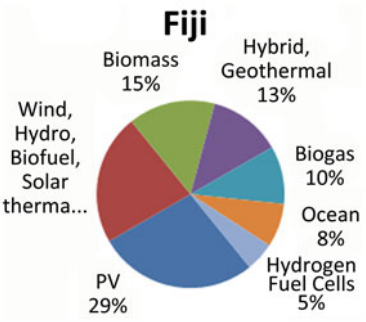

Fig. 16.2 RET preferences in Fiji

Within the framework of work package 2 (WP2) of the DIREKT project, a survey was undertaken in the partner countries. The objectives of the survey were a comparative analysis of political and institutional frameworks in the field of renewable energy in selected ACP regions, and an assessment of research and innovation needs in renewable energy science and technology. The countries sampled were Fiji, Mauritius, Barbados, St Lucia and Trinidad and Tobago. For the survey, 75 businesses, and public and private institutions involved in renewable energy were interviewed in the period from January to June 2010 (Figs. 16.2, 16.3, 16.4, 16.5).

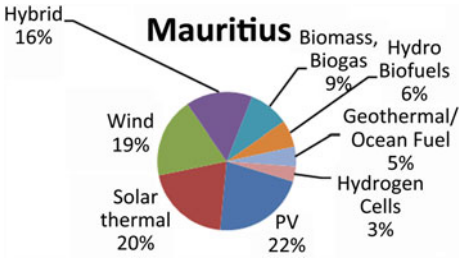

Fig. 16.3 RET preferences in Mauritius

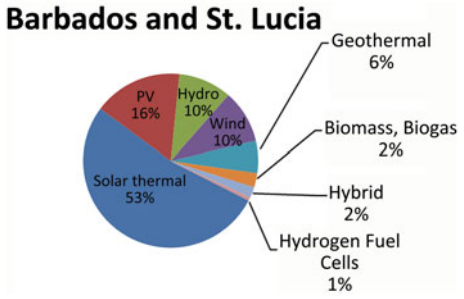

Fig. 16.4 RET preferences in Barbados

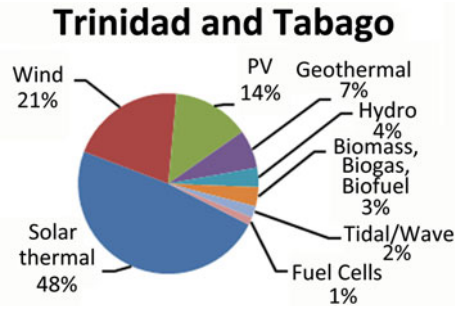

Fig. 16.5 RET preferences in Trinidad Tobago and St Lucia

Comparative Analysis of Political and Institutional Frameworks in the Field of Renewable Energy in Selected ACP Regions

Renewable Energy Policy and Institutional Framework

The survey conducted in the context of WP2 shows that all countries perceive renewable energy as an inevitable part of their future energy supply. Efforts are made on national and international levels. Policies and frameworks in the different regions are numerous; however, this paper only describes the outlines of all the efforts made.

Several international energy frameworks exist in the Caribbean region. Trinidad and Tobago, Barbados and the Organisation of Eastern Caribbean States (OECS) are engaged in the Caribbean Renewable Energy Development Programme (CREDP), which is an initiative of the Energy Ministers of the CARICOM (Caribbean Community) region. CREDP mainly strives to remove barriers to renewable energy utilisation in the Caribbean.

In the Pacific region, the Pacific Island Forum (PIF) was founded in 1971 as an umbrella company to attend to general development matters in the Pacific island countries and territories (PICTs). The PIF comprises 16 countries, including Fiji, and oversees the activities of many regional organisations. The first international energy policy was the Pacific Islands Energy Policy PIEP (2004), which was succeeded by the Framework for Action on Energy Security in the Pacific (FAESP). FAESP does not focus on the implementation of renewable energy; however, it does incorporate it [40th Pacific Islands Forum in Cairns (August 2009)].

In the EU, an energy and climate change policy was introduced in 2008. Among other things, the ambitious targets of this policy are the reduction of greenhouse gas emissions by 20 %, increasing the share of renewables in the energy consumption to 20 % and improving energy efficiency/reducing energy consumption by 20 %—all to be accomplished by 2020. These targets are elements of the "EU climate and energy package", which was adopted in June 2009. It is compulsory for EU member states to make efforts to achieve them.

On a national level, Trinidad and Tobago possesses a Ministry of Energy and Energy Industries, which pursues a national energy policy including the use of RE. Furthermore, it formed a renewable energy committee in 2009 to produce a green paper for renewable energy development.

Fiji has a national energy policy that provides support for the development, demonstration and application of renewable energy as well as rural electrification policies. It was formulated as part of the Pacific Island Energy Policy Strategic Action Plan (PIEPSAP) project, as were the national energy policies of several other PIF member countries. Recent analysis conducted by the Asian and Pacific Centre for Transfer of Technology and the United Nations Economic and Social Commission for Asia and the Pacific, has shown the potential of Fiji in this field (APCTT-UNESCAP 2010).

In Mauritius, the Ministry of Renewable Energy has a long-term energy strategy (2009–2025) and action plan dated October 2009 to develop renewable energy, reduce dependence on imported fuel and promote energy efficiency, in line with the vision of Maurice Ile Durable (MID), to promote sustainable development. Its Central Electricity Board enacted the Utility Regulatory Act in 2008 to ensure utilities run more efficiently.

In Germany, extensive measures are being taken to make renewable energy a main component of energy generation. Important measures worth mentioning are:

- The Renewable Energy Sources Act (EEG), which took effect in 2004 and was revised in 2009. The EEG contributes to increasing the percentage of renewable energy sources in the power supply to at least 20 % by 2020.
- The Federal Market Incentive Programme designed to promote renewable energy.
- The Renewable Energies Heat Act (EEWärmeG), which obligates owners of new houses to meet a share of the house's heating demands with RE.
- The National Biomass Action Plan for Germany, which aims to significantly increase the percentage of bioenergy sources in the power supply.

Compared to the international/national efforts made in the ACP regions, the goals aspired to by the EU/Germany are rather ambitious. However, this has to be put into perspective relative to the availability of expertise and technology available in each region. Moreover, this is an indication of the strong potential for beneficial knowledge and technology transfer within the DIREKT network.

Assessment of Research and Innovation Needs in Renewable-Energy Science and Technology

A questionnaire was created to analyse research and innovation needs in renewable energy science and technology. It was submitted to 75 businesses and public and private institutions involved in renewable energy in the surveyed countries,and comprised the following three main aspects:

1. General information about the organisation
2. The organisation's research and innovation needs
3. The organisation's staff and training needs

Table 16.1 shows the distribution of all businesses that participated according to country.

The ratio between the different countries does not directly reflect the ratio between the numbers of organisations involved in renewable energy in those countries because the survey was also dependent on potential participants' the willingness to partake in it.

General Information About the Organisations

Size of the Organisations

As can be seen in Table 16.2, the sizes of the surveyed organisations differ widely.

However, it becomes apparent that ACP businesses and institutions in the renewable energy sector are typically small or medium-sized. Furthermore, it is important to differentiate between organisations that are active solely in the field of renewable energy (e.g. renewable energy service, repair and maintenance businesses) and those that offer renewable energy services as only one of several aspects of their business (e.g. utilities or NGOs for which renewable energy makes up only a small part of their activities).

Table 16.3 provides information about how many employees of the companies in the various locations worked directly with RE.

Table 16.1 Number of organisations surveyed in the different countries

Country/Island	Mauritius	Fiji	Trinidad and Tobago	Barbados and St Lucia
Number	33	20	13	9

Table 16.2 Number of employees in the organisations surveyed

Fiji	16 of the 20 organisations had between zero and 20 employees. One employer in Fiji had ~100 employees
Trinidad and Tobago	Business organisations varied considerably in size, ranging from six to about 700 people. However, the number of people in these organisations directly involved in renewable energy ranged from zero to 80
Barbados and St Lucia	Business organisations varied considerably in size, ranging from four to about 130 people. However, the number of those people directly involved in renewable energy ranged only from zero to 20
Mauritius	Business organisations varied considerably in size, ranging from two to 241. There are two parastatal bodies that employ between 1,500 and 1,800 people

Table 16.3 Percentage ratios of employees engaged in renewable energy in the organisations surveyed in the different countries

Country/Island	Percentage/Range
Fiji	0–100 %
Mauritius	Most had about 30 %
Trinidad and Tobago	0–53 %
Barbados and St Lucia	0–71 %

The results show that companies usually offer renewable energy as one part of their services. Organisations active solely in renewable energy are the exception rather than the rule. This demonstrates that renewable energy technology has not yet become profitable to a desirable extent and is not considered sufficiently profitable for specialisation in the ACP region. However, it is also possible that only companies which have the knowledge required to work in the field of renewable energy are now gradually embracing the renewable energy market.

Generally, the percentage of female staff entrusted with renewable energy tasks was relatively low, roughly amounting to 20 %.

For Trinidad and Tobago, Barbados and St Lucia enough data was available to make a statement about the distribution of employees within the renewable energy sector. Solar-thermal technology, mainly solar water heating (70 %), is the major renewable energy application in those regions, followed by electricity generation through photovoltaics (20 %) and hydropower, wind, biomass, biofuels and fuel cells (10 %).

Types of Renewable Energy of Interest to These Businesses and Institutions

The graphs below show the percentage ratios of the different renewable energy technologies (RETs) in Fiji, Mauritius, Barbados, St Lucia and Trinidad and Tobago.

Photovoltaic, wind and solar thermal energy were the most utilised types of renewable energy in all regions. Pther than this, the trends in the regions differ: Fiji has hydro and biomass as the next two categories. Hydro is the 4th most important in Barbados and St Lucia, the 6th most important in Trinidad and Tobago, and the 6th most important in Mauritius. Also, biofuels are much more important in Fiji than in Mauritius, Trinidad and Tobago, Barbados and St Lucia.

Some of the aspects that might be responsible for this distribution pattern are:

- That electricity generation through photovoltaics and wind does not require much more than basic skills in electric installations because the sunlight and the wind are directly converted into electric potential (voltage) that is ready for consumption.

- Energy production through biomass is very simple (e.g. burning wood for heat), but is always limited to the biomass resources of the region. Fermenting biomass to create gas, on the other hand, requires some education in that field.

Finally, hydro power generation is, in its complexity, comparable to power generation through photovoltaics or wind, but is always limited to the potential of that source of energy that is inherent to the region.

Types of Organisations

The organisations with an interest in renewable energy cover all types of organisations that appeared in the questionnaire. Figure 16.6 illustrates their distribution in the ACP regions included in the survey.

As can clearly be seen in Fig. 16.6, business forms in the field of service, repair and maintenance for renewable energy technology play a key role in all ACP regions. Service, repair and maintenance is the most represented industry in Fiji (60 %), Barbados and St Lucia (50 %) and Trinidad and Tobago (35 %), but is less represented in Mauritius (23 %).

These business forms are followed by education and training, aid and development facilities and governmental organisations in all regions except Fiji. The regional and international organisations come second in Fiji (55 %), but are fourth in Barbados and St Lucia. In Trinidad and Tobago they are an absolute minority and in Mauritius they are completely non-existent. Presumably, these differences partly reflect the geographical circumstances of the different regions. The South Pacific region consists of more than a dozen Pacific island states overseen by the Pacific Island Forum, of which Fiji is a member. Likewise, Barbados and St Lucia are members of a multi-island international area, as is Trinidad and Tobago. Mauritius, on the other hand, is a "stand-alone" country.

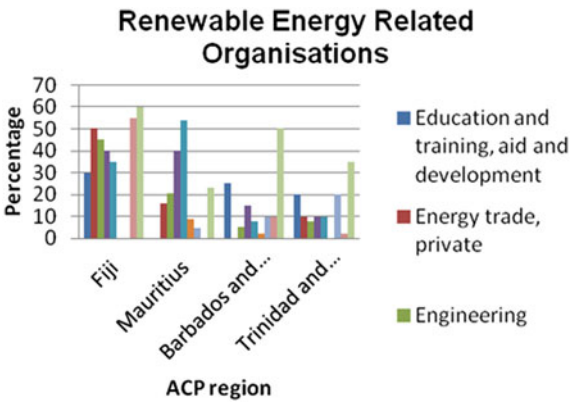

Fig. 16.6 Types of renewable energy related organisations surveyed in the different countries

Research and Innovation Needs

Existing Renewable Energy Abilities Within Organisations

The organisations were surveyed for their abilities in the following categories:

- Producing new renewable energy products
- Carrying out resource assessments
- Obtaining resource data from established sources
- Evaluating the economics of RETs
- Managing renewable energy projects
- Writing funding proposals

The majority listed their performance in these categories as excellent, good or satisfactory. Altogether the performance ratings for Mauritius were slightly lower.

Knowledge of Government Incentive Schemes

The results of the survey indicate that government incentive schemes are well known in most organisations. Particularly in the Caribbean region, information about government incentive schemes was well distributed: 80 % of the organisations surveyed in Barbados and St Lucia and 100 % in Trinidad and Tobago are aware of them.

Information Services, Provided by Tertiary Education Institutions, of Value to Organisations

Tertiary education institutions provide various services in the field of renewable energy such as research and development, renewable energy resource assessment, seminars and workshops, training in project management and design, and RET installation. The services tertiary education institutions provide to businesses and organisations include joint research, consultancy, monitoring and evaluation of renewable energy projects, networking with businesses, and database services for RE.

Organisations in Fiji, Barbados, St Lucia and Trinidad and Tobago—but not Mauritius—listed these in the same order of importance. Research and development for instance was viewed as the most important service in Fiji, Barbados, St Lucia and Trinidad and Tobago, but not in Mauritius. Consultancy on the other hand was second in Mauritius but of lower priority in the other countries. These are shown in Table 16.4.

Furthermore, monitoring and evaluation of renewable energy projects was viewed as an important service (first in Mauritius and second in the other countries).

The questionnaire distributed for this study also enquired about market-oriented services that tertiary education institutions could provide in the organisations' opinion. Table 16.5 shows those services most frequently named by the institutions in the different regions.

Staff Training Needs in Business Organisations

Types of Renewable Energy Knowledge Staff Already Have

Based on the answers to this question, it can be deduced that the staff's degree of knowledge and the management's notion of what is needed vary. The major conclusions are as follows:

1. Most said their managers had general awareness of renewable energy.
2. Staff generally lacked academic training in renewable energy.
3. Managers generally had adequate abilities in renewable energy management.
4. In all countries surveyed, organisations said their finance staff lacked academic training in renewable energy finance.

Table 16.4 Shows the need for services offered by tertiary institutions in detail

Preference	Fiji	Mauritius	Barbados and St Lucia	Trinidad and Tobago
1st	Joint research and development, consultancy and advisory services (45 %)	Monitoring and evaluation of projects (36 %)	Joint research and development (30 %)	Joint research and development (25 %)
2nd	Monitoring and evaluation of projects and database services (40 %)	Consultancy (32 %)	Monitoring and evaluation of projects (25 %)	Monitoring and evaluation of projects (20 %)
3rd	Networking with business or research partners (35 %)	Joint research and development (28 %)	Database services (25 %)	Networking with businesses (15 %)
4th		Networking, database services (20 %)	Consultancy (25 %)	Consultancy (12 %)
5th		Database services (20 %)	Networking with business (20 %)	

Table 16.5 Market-oriented services that tertiary institutions could provide

Fiji	Mauritius	Barbados and St Lucia	Trinidad and Tobago
Reports on suitability of renewable energy projects in areas of the Pacific	Training in construction and installation of renewable energy products	Training in different types of renewable energy technologies for staff	Training and capacity building for all categories of workers, especially technicians
R&D training	Funding information	R&D training	R&D training
Feasibility studies	Partnerships with private companies	Feasibility studies	Consultancy services
Energy audits	Energy audits	Energy audits	Energy audits
Monitoring and evaluation of renewable energy and energy efficiency projects		Funding information and consultancy services	Partnerships with private companies

5. Staff had previous work experience in renewable energy.
6. Staff had acquired knowledge and skills through on-the-job training

The high percentage of staff lacking academic knowledge in RE is surprising. Figure 16.7 shows the deficit in academic knowledge for each country.

Types of Training Required by Staff in Business Organisations

- In Fiji, renewable energy awareness was mostly required by clerks/sales people (50 %), followed by finance and middle managers (45 %). In Mauritius, 10 % of all staff require renewable energy awareness training. In Barbados and St Lucia and in Trinidad and Tobago, it was felt that most staff in all categories could benefit from further training in renewable energy awareness.
- In Fiji, academic training in management and finance was required by finance and middle managers (60 %), managers (40 %) and clerks/sales people (25 %). In Mauritius, it was most important for finance and middle managers (30 %) and clerks (20 %). Further academic training in management and finance was considered valuable by all organisations in Trinidad and Tobago and in Barbados and St Lucia.
- Essentially all categories in Fiji, Trinidad and Tobago, Barbados and St Lucia required academic training in renewable energy science and technology (all staff categories above 30 %). In Mauritius, this was most important for finance and middle managers (35 %), managers (25 %) and clerks/sales persons (25 %).

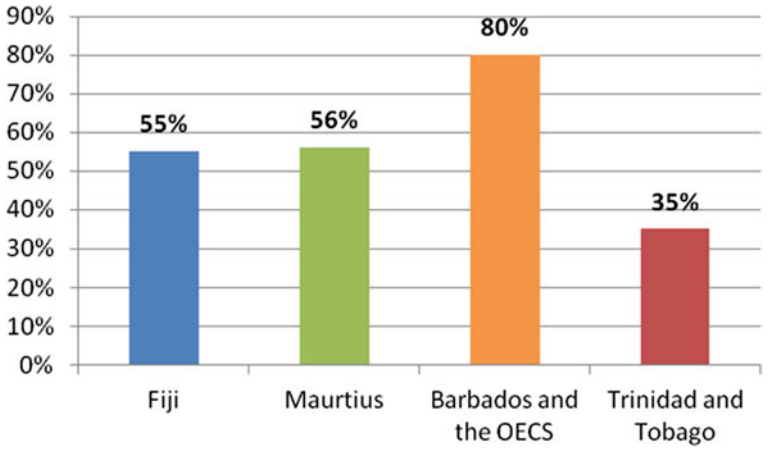

Fig. 16.7 The percentage of staff lacking academic training in RE

What Type of Training is Most Appropriate for Staff?

Generally, the most applicable training for staff was considered to be learning on the job or through in-house training. In Fiji 50 % view learning on the job as important, whilst 60 % viewed in-house training as important too. In Mauritius 56 % said in-house training was important. In Barbados and St Lucia, the need for training in practical skills such as installation and sizing was emphasised. In Trinidad and Tobago the organisations expressed the need for training in design and in research and development abilities (about 70 % of organisations), as well as for better understanding of renewable energy policies (about 30 % of organisations).

In all the tertiary institutions surveyed in Barbados, St Lucia and Trinidad and Tobago, the need for more staff in renewable energy across a wide range of renewable energy technologies and capabilities (such as wind, solar, ocean, geothermal, hydro, biofuels, and energy management and efficiency) was emphasised.

Conclusions

The survey showed the existence of similarities and differences between Fiji, Mauritius, Barbados, St Lucia and Trinidad and Tobago. As mentioned earlier in the paper, this is probably partly due to the level of complexity that is inherent to the different RETs. But a lack of appropriate technology transfer may also be a reason.

When comparing Fiji, Trinidad and Tobago, Barbados and St Lucia on the one hand and Mauritius on the other, one key difference lies in the geographical circumstances and their implications. Fiji is one of the island countries in the South

Pacific region, and thus enjoys the presence of various international bodies and NGOs, many aid and development-related. The same applies to Barbados, St Lucia and Trinidad and Tobagoin a Caribbean context. Mauritius on the other hand does not appear to belong to any such groups.

Even though Trinidad and Tobago is the most industrialised of all surveyed ACP countries, this fact does not seem to make a big difference in terms of the utilisation and development of RE. This is presumably due to Trinidad and Tobago's acute awareness that their oil resources are finite and the considerable emphasis they therefore place on the development of renewable energy technologies.

All in all,the survey conducted in WP2 shows that all the DIREKT countries perceive renewable energy to be an inevitable part of their future energy supply. It is now crucial that these efforts are duly supported by means of appropriate knowledge and technology transfer. Best practices are shown so that the degree of preparedness to engage in further actions in this field may be increased.

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