

Enterprise Competitiveness . Climate Protection . Eco-Efficiency . Business & Financial Services . Value Chain . Innovations . Renewable Energy . Certification & Labelling . CDM . Environmental Management . CSR . Technology Transfer . Policy Frameworks . Capacity Building . Sustainable Development and more ...



### Dear Readers.

The activities of GIZ and our partners have been and will be increasing during 2011. This makes it necessary for us to improve further the readability and accessibility of the relevant information for you. We also have received feedback that many readers would like to get a deeper insight into each theme or project through a more analytical feature in combination with tips & tricks and show cases. In this edition we will focus on the palm oil sector.

Therefore, we have decided to focus each edition on one main theme, while keeping updates on our other activities short and concise.

We hope you enjoy reading this edition and always welcome further suggestions for improvements.

With Best Regards, Your newsletter team



## Table of Content

- 1-2 **Special Feature** Palm Oil: Sustainable Supply beyond the Current Crisis
- 3-5 **Special Interview** *Palm Oil Farmer* & *Mill*
- 6 Tips & Tricks

Other Methods to Utilize Oil Palm

7-12 Roundup

- Solar Thermal System for Engineers and Technicians
- M2P Biogas Project Website
- BioFach 2011: Organic Shrimp
- Shrimp Day 2011 in Chantaburi and Surat Thani
- The Development and Promotion of Clean Development Mechanism Program of Activities Projects in Thailand
- Joint Seminar to Strengthen Business Membership Organization
- Carbon Footprint Calculator Software for Hotels
- Award Ceremony for Trainees of PREMA Training Course
- Internal Control System (ICS) Training Workshops in Surat Thani
- 13 German Cooperation Worldwide

PROKLIMA: Green Cooling Technology with Natural Refrigerants

14 Upcoming Events



## Special Feature

## **S**ustainable Supply beyond the Current Crisis

In addition to the effects on cooking oil, the palm oil shortage during the end of last year also affected over other 500 consumer products such as instant noodles and soap. Also, the proportion of palm oil mix in biodiesel planned at 5% has been reduced to just 2%.

The demand for vegetable oils around the world, and by extension for palm oil as one of the world's most important vegetable oils, will grow in the coming decades. Nevertheless, given that palm oil is used in the food, chemical and bio-fuel industries, there are concerns from the international community regarding the destruction of primary rainforests and effects on biodiversity and endangered species. Other main points for criticism of palm oil production are the violation of human rights of indigenous people and poor working conditions in oil palm plantations. In recent years concern has been expressed about increasing cultivation areas - for example huge palm plantations in Indonesia and Malaysia have drawn criticism from the international community. This has led to a negative image for palm oil worldwide. As a result, leading companies are increasingly committing to buying only palm oil which complies with sustainability standards.

In Thailand, areas of natural forest are fairly well protected and 80% of the area under oil palm cultivation is managed by small scale farmers. Nonetheless, increasing interest in oil palm cultivation has placed pressure on other forms of land use in Thailand.

The attractive price of oil palm fresh fruit bunch (FFB), in combination with government promotion of renewable energy use, has resulted in plans for the expansion of oil palm cultivation areas by 500,000 rai per year. At present, there are approximately 4,000,000 rai of palm cultivation areas. However it is clear that as most of the agricultural land in Thailand is already in use, new oil palm plantations will replace other agricultural production. Currently an increasing number of farmers in the southern and eastern provinces are being encouraged to plant oil palm. This expansion is growing also in the Northeastern and Northern regions, where many experts are concerned with climate suitability. For the long term, instead of only expanding the cultivation areas, increases in productivity will be required. If the quality of the produce and fresh fruit bunches reaches the desired level, the quantity of palm oil produced will increase by at least 600,000 tonnes per year. This amount is equivalent to 600 million liters of vegetable oil.





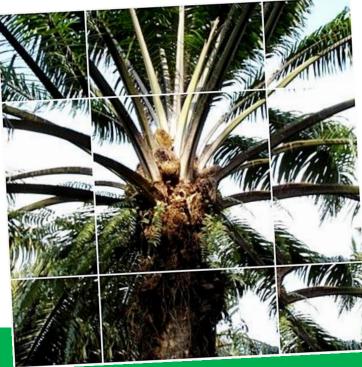
### **Ensuring Sustainable Palm Oil Production in Thailand**

Instead of expanding production areas, productivity should be increased. Considerable overcapacities exist in crushing mills, leading to fierce competition for FFB supply from growers, especially in the low season, as is currently the case. Most farmers are aware of the quality characteristics of FFB, such as optimal ripeness; however, they do not apply good farming practices due to a lack of incentives for delivering high-quality FFB. In order to address the above issues and to ensure sustainability of the entire palm oil production value chain, the Thai-German project on Sustainable Palm Oil Production is pursuing the following goals: a) to increase productivity b) to improve quality and c) to internalize sustainability. It is aiding the Thai palm oil industry in the process of introducing the international sustainability standard of the Roundtable on Sustainable Palm Oil - RSPO (www.rspo.org).

The project is currently working with four palm oil mills and providing training in sustainable farm management to about 1,000 smallholders. The project also focuses on workplace health and safety regulations as well as optimizing cooperation with mills and middlemen in order to increase the oil content of the fruit and further processing of the oil in a sustainable manner.

At the national level, the project initiates dialogue between both public and private stakeholders. At the private-sector level, the RSPO sustainability standard will be established and institutionalized after being adapted to the Thai context. At the governmental level, a consulting process is taking place regarding the promotion of sustainable palm oil production. The project is being implemented by GIZ and the Thai Office of Agricultural Economics (OAE).





## Special Interview

Mr. Prasert Tetniyom (Palm Oil Smallholder) Chief assistant-Klong Had Group, Srakaew Province Suk Somboon Palm Oil Company Limited, Chonburi Province

## Why did you participate in GIZ's project?

At first I had no idea about the project until a GIZ project staff member visited my house and offered me technical assistance. I thought that there's nothing to lose and at least I would gain some knowledge and know-how to improve my cultivation practice. Srakaew smallholders have little knowledge of the oil palm system. We know almost nothing about fertilizers. If we have know-how, we can apply it to improve our practice. We would know what is good and what is not. Should we apply fertilizer, or should we not? Most importantly, the most desirable outcome would be if we can form a farmer group.



After taking part in the project, we now have 39 farmers joining our group.

#### From a smallholders' perspective, what was the oil palm situation prior to joining the project?

It was alright. The mill took good care of us. On the other hand, GIZ's intervention has been very helpful, adding know-how on oil palm cultivation that we lack. The oil palm cultivation system is improved. It's like after-school tutoring. In-school lessons may be fine, but you'll learn more from after-school tutoring. We gain more knowledge. Similarly for the case of oil palm, after GIZ's intervention, the oil palm yields increased.

#### In which area has the project supported smallholders?

GIZ conducts farmer training programs regularly, collaborating with the mill and relevant governmental offices. Moreover, GIZ appointed a technical expert, Prof. Teerapong Jungniyom, Prince of Songkla University to be our trainer. Besides conducting training programs, he advises us on proper fertilization. We learned how to detect signs of nutrient deficiency in oil palm. We also learned that we should fertilize based on nutrient deficiency and not according our own feelings as previously.

#### What did you gain from the training course?

It's too early to judge that. We only joined the project late last year and only a few months have passed. But one thing is certain; the yields are improving. We can tell that from the harvested bunches. Previously we could not differentiate the ripe from the unripe bunches. After the training program, most of the harvested bunches are ripe. Previously, we got more unripe bunches, and that's not good.

### What are the differences between ripe and unripe oil palm bunches?

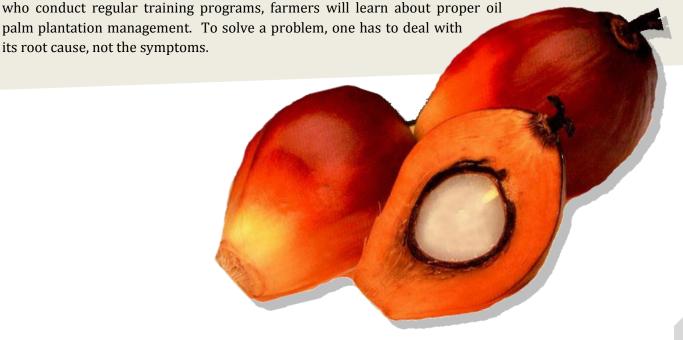
On the average, extraction of ripe bunches gets a 17-18% yield. However, we get only 11% oil from unripe bunches.

#### How can you determine the ripeness of the oil palm bunch?

Ripe bunches are orange-red in colour, with more dropped fruits. Unripe bunches are blackish green.

#### Is there any other problem? What should be resolved next?

Currently Klong Had Group has about 200 members; however, only 39 of them joined the project. As a result, the knowledge on oil palm management is not widely disseminated. In the future, if this GIZ project is completed, and the governmental offices do not adopt it, development will be disrupted. Farmers have short memories. Governmental agencies or relevant agricultural offices should adopt this project and provide continuous technical assistance to farmers. We need government assistance, not just price guarantees which may lead to protests or road blocks. I believe that if the government provides trainers



## Mr. Prapat Thepnarin (Palm Oil Mill) Mill Coordinator, Univanich Palm Oil Public Company Limited, Aow Leuk and Plai Praya Districts, Krabi Province



### Why did Univanich participate in GIZ's project?

Univanich already has the capacity to export palm oil; however, if GIZ assists in the development of Thailand's criteria and indicators to meet with sustainable oil palm and palm oil production standards or RSPO, like those of Indonesia, the intervention will enhance the opportunity for palm oil export to EU markets. The move will expand the palm oil market both domestically and internationally.

After participating in the project, what has Univanich done to enhance own capacity and assist smallholders? Currently we use our company's budget to convene meetings for smallholders. There are 5 farmer groups with

more than 170 members. During each meeting, we discuss with farmer groups to achieve fair agreements and mutual satisfaction. The mill makes every effort to meet the needs of farmer groups, e.g., fair pricing, discounted production inputs to reduce the production costs, etc. Examples are discounted oil palm seedlings for farmer group members and technical support on oil palm plantation management, including fertilization, palm leaf sampling for analysis, etc. The mill provides this kind of assistance to ensure that farmers get substantial returns.

## Besides Aow Leuk and Plai Praya Districts, has Univanich provided any assistance to smallholders in other areas?

The mill has already expanded assistance beyond Aow Leuk and Plai Praya Districts to reach more smallholders. The goal of the assistance is to improve yields and reduce production costs for farmers. We focus on good oil palm cultivation practices to enhance production efficiency, increasing yield per hectare and enhance the mill's competitiveness, as well as improving the mill's environmental performance to ensure that it meets with RSPO principles and criteria. In my opinion, the project on which we collaborating with GIZ is a good initiative. It has made us appreciate own capacity building while assisting smallholders. We are confident that, at the end of the project, we will have sufficient capacity to look after ourselves and move towards becoming a sustainable oil palm and palm oil producing country.

## Tips & Tricks

Many people are aware that oil palm, an important cash crop in Thailand, is widely grown in the southern region, for example in Krabi, Surat thani and Chumporn. However, most of us know only one method to utilize oil palm: extracting palm fruits to produce palm oil. Actually, other parts of oil palm are useful too!



**Palm fronds** are used to cover the bases of palm trees or between rows to retain moisture and reduce soil erosion. Once decomposed, they become organic fertilizer for palm trees. Moreover, fresh palm fronds can be chopped and placed in feed rails for dairy cows. Another method is to ferment the chopped fronds in plastic containers prior to feeding. Dairy cows prefer fermented to fresh fronds because they have a more appetizing smell.

**Palm trunks** are cut into boards for walls, ceilings, tables and various kinds of furniture. Moreover, they can be cut into thin slabs to produce roofing shingles or compressed into pellets to produce low sulfur pellet fuel. This type of fuel can reduce air pollution.

**Palm trunks and fronds** are used as fuels. Palm trunks are high in carbohydrate which can be converted into both gas and liquid fuels such as methane, methanol and ethane. Moreover, palm trunks, fronds and empty fruit bunches can be converted into pulp for paper.

**Palm empty fruit bunches**, similar to palm fronds, can be use as mulch. They can also be used as fuels and media for straw mushroom cultivation.

**Palm kernel meal** is used as livestock feed, due to its nutritious (high protein and high carbohydrate content) quality.



**Palm fiber and palm kernel shells** are mostly used as fuel. Some of the remaining palm shells are used to fill roadbeds in oil palm plantations. Moreover, palm fiber and palm shells can be used to make palm growing media or cover soil in palm seedling bags. Due to its high carbon content, palm kernel shells can be made into activated carbon, used in industrial factories to trap dust and contaminants.

**Palm oil mill decanter cake** is used to fertilize oil palm and other crops. It can be applied directly. Drying the cake prior to application is unnecessary.

Moreover, palms are widely used as ornamental trees. There are several types, sizes and colors of palm fronds to choose from. Due to their ornamental features, palms are attractive and suitable choices for landscaping of both small and large areas. By utilizating different parts of the oil palm, further value is added to this very useful crop.

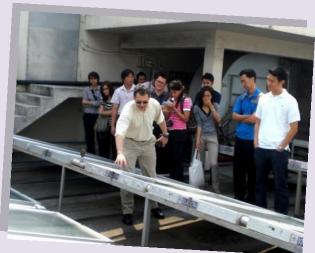
Farmers can apply these approaches in their own plantations.

Now you know all the ways an oil palm can be useful!



## Training Course on "Solar Thermal System for Engineers and Technicians"

**D**uring 29 January - 14 February 2011, GIZ under Solar Heat in Agro-Industrial Process (Solar Heat) project together with The Department of Alternative Energy Development and Efficiency (DEDE) jointly organised a 10 day training course on "Solar Thermal System for Engineers and Technicians" at the Asia Hotel, Bangkok. The course followed on from the first course, which targeted Thai academics wishing to become solar thermal trainers. The target audience this time consisted of 30 practicing engineers and technicians working in the solar thermal business and related fields. The trainers were highly experienced German experts together with Thai academics who had successfully completed the first course.



In addition to learning about the design, installation, and maintenance of solar thermal systems, the participants received opportunity to practice designing solar systems using the T-Sol simulation program (courtesy of Dr. Valentin Energie Software GmbH) as well as visiting an actual solar thermal system in operation at 4 sites: 2 hotels and 2 factories. Participants who achieved at least 80% attendance and scored at least 50% in the test were deemed to have completed the course successfully and were awarded a certificate from GIZ and DEDE.

## M2P Biogas Project Website Visited by 33 Countries



Launched in November 2010, the Methane to Power from Agricultural-Waste Biogas-M2P Biogas project website (www.m2p.erdi.or.th) has been visited by nearly 960 visitors from 33 countries around the world, demonstrating that Biogas is a topic of interest. The top ten countries from which the website was visited are: Thailand, Russia, Germany, USA, Latvia, Turkey, Japan, UK, Australia, and Luxemburg. The most popular hit is the page on Training Courses where information and training schedule for operators being offered nationwide is regularly updated. Candidates can register on-line.

On the website, Thai biogas market information including reports and articles are available in the Biogas Library. Readers can learn of the biogas technology in our Resources menu. To encourage international cooperation on R&D, research topics in prominent Thai institutes are listed with contact information

## **BioFach 2011 : Organic Shrimp**

At the BioFach World Organic Trade Fair in Nuremberg, Germany, held from 16-19 February 2011, under the Energy and Eco-Efficiency in shrimp farming project, GIZ contracted the German Thai Chamber Of Commerce (GTCC) to conduct talks with key potential customers for organic shrimp from Thailand, organize a study tour on sustainable production and consumption of organic seafood in Nuremberg and Munich, and provide information on organic aquaculture in Europe.

GIZ accompanied Asian Group, one of the key shrimp exporters from Thailand, to conduct meetings with major organic seafood processors, distributors and buyers such as Binca



Seafoods, Ristic AG, Geiger and Geiger and Intercont Grosshandels GmbH. Also, a meeting with Naturland was arranged to discuss procedures on new organic shrimp farms in Thailand. The BioFish Forum was held on 18 February, covering topics such as organic seafood, EU regulation, wild fish and sustainable fishery schemes, and organic seafood market trends. The BioFish Forum is organized by Udo Censkowsky, Organic Services in co-operation with the IFOAM EU-Group.

During the study tour, GTCC accompanied GIZ and Asian Group on visits to organic shrimp retailers in Munich, ranging from cash-and-carry outlets through to high-end organic specialty stores, including Dallmayr, Galeria Kaufhof, Basic, Viktualien Markt etc. This helped participants gain a better understanding of the organic seafood market in Germany.

## Shrimp Day 2011 in Chantaburi and Surat Thani



Under the Energy and Eco-Efficiency in shrimp farming project, GIZ participated in the Shrimp Day events held in Chantaburi and Surat Thani provinces on 15-16 January and 12-13 February 2011 respectively. During each event, Dr. Watchara Permchart, GIZ consultant, made a speech covering "Energy Efficiency in Shrimp Farming" and case studies of model farms participating in the project. In addition, Dr. Suriya Sasanarakit, director of the Thailand Institute of Scientific and Technological Research, gave a presentation on "Soil Treatment in Shrimp Farming and Breeding System".

Information on energy efficiency in shrimp farming and soil treatment was distributed through GIZ's booth, which displayed project details through PR materials. In addition, registration for training on energy efficiency was held for farmers who are interested in attending the training event, which will take place in April – July 2011. During the event, the motor suppliers of the project, Siemens, ABB and Vega, also participated by introducing motors which have been used in the project and promoted the submission of the proposal for the fund under Department of Alternative Energy Development and Efficiency (DEDE) to purchase high efficiency motors in order to reduce energy usage in shrimp farms.

## GIZ and DIW Join Hands in Announcing CDM PoA Projects in Thailand

**O**n 23 March 2011, the Department of Industrial Works (DIW) and GIZ jointly held a seminar at Pullman Hotel, Khonkaen with the objectives of announcing and promoting the development of Clean Development Mechanism Program of Activities (CDM PoA) projects in Thailand.

The seminar commenced with opening remarks from Mr. Prapat Vanapitaksa ,General Director of DIW and Mr. Torsten Fritsche,Director of Resources Efficiency and Energy of GIZ, along with speeches by six other speakers from relevant organizations, including Dr. Chaiwat



Muncharoen, Deputy Executive Director of Thailand Greenhouse Gas Management Organization (TGO), Mr. Ivo Rene Besselink, specialist from UNDP, Mrs. Nicole Tan, CEO of Advance Carbon Securities Ventures Co. Ltd, Mr. Barz Mirko, Specialist from The Joint Graduate School of Energy and Environment, Ms. Rawiwan Eakpratomchai, Energy for Environment Foundation, and Mrs. Darunee Tungkakete of the Management System Certification Institute (Thailand).



The aim of the CDM PoA is to improve the financial feasibility of biomass power generation projects in Thailand. The implementation of these renewable energy projects under the CDM PoA will contribute to the sustainable development objectives set by the government of Thailand by promoting the effective use of agricultural residues, improving the competitiveness of small scale project developers and contributing to the reduction of greenhouse gas emissions.

## Joint Seminar to Strengthen Business Membership Organization by GIZ, BMO Strengthening Committee and Board of Trade of Thailand

On 22 March 2010, as part of the Business Membership Organization (BMO) Promotion Project, Business Membership Organization (BMO) Strengthening Committee, the Board of Trade of Thailand (BOT) and GIZ held a BMO strengthening seminar at Impact Muang Thong Thani. The event, attended by more than 100 BMO members, was aimed capacity building and strengthening competitiveness of BMOs. Representatives from active associations and chambers of commerce, including Mr. Athip Peechanon, President of the Thai Condominium Association, Mr. Seree Denworalak, President of the



Thai Tapioca Trade Association, Mr.Narong Kongprasert, Chiang Mai Chamber of Commerce President and Mrs. Prapee Sorakraikitikul, First Vice President of the Thai Gem and Jewelry Traders Association (TGJTA), shared their knowledge and experience, recommended BMO management approaches and explained about the services provided to their members. Their presentation was followed by a session for BMOs in each business sector to share experiences and exchange ideas.

During the presentation on the private sector's role on BMO strengthening, Mrs. Prapee Sorakraikitikul, TGJTA First Vice President, said that TGJTA's main goal was to boost Thailand towards becoming the global hub of the international gem trade. Moreover, she shared TGJTA's experiences in servicing more than 1,400 gem traders in that the most important issue was marketing promotion to enhance members' business opportunities and competitiveness. TGJTA invites members to participate in trade fairs, both held by TGJTA and international trade fairs. Besides marketing promotion, TGJTA has been active in advocacy, representing Thai gem and jewelry traders in negotiations with local and international governments and business partners. TGJTA conducts the activities to protect members' interests and to boost Thai gem and jewelry industry.



To ensure successful management of BMOs, a representative from the private sector concluded that BMO management teams must place their common interests over personal ones. Moreover, they must be active and innovative in organizing beneficial activities for members and fund-raising events. *Mr. Athip Peechanon*, President of the Thai Condominium Association, recommended that members should consider appointing a diverse BMO management team. Previous team members have extensive experiences which can be useful. Meanwhile young team members are energetic and hard working. The latter group should

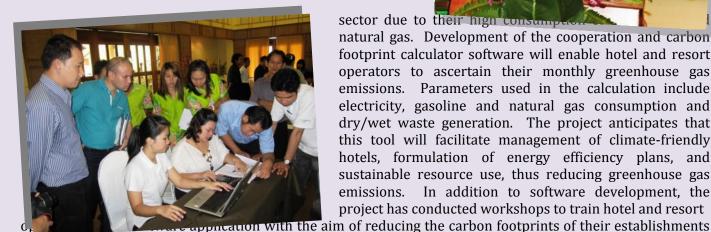
to enhance their skills and experiences.

Mr. Phitcha Wanitphon, GIZ Deputy Programme Director, recommended recruitment strategies that BMOs must communicate and publicize membership benefits, e.g. BMOs are useful information sources for their business operations, BMOs are recognized business entities with an advocacy role for the benefit of members, BMOs can provide marketing support, etc. By joining the BMO, members can market their products through the BMO's channels and participating in the BMO's trade fairs to exhibit their products and identify new business partners.

## **Carbon Footprint Calculator Software for Hotels**

**U**n 7 February 2011, as part of the Climate Protection in Tourism Project, GIZ, the Designated Areas for Sustainable Tourism Administration (Public Organization) or DASTA, and the Green Leaf Foundation jointly launched a carbon footprint calculator software application for hotels. Dr. Narikaatipak Sengsanit, Acting Director of DASTA chaired the opening ceremony and delivered the opening address. Results of carbon footprint studies in the Koh Chang Archipelago and related areas of the Trat coastline indicated that hotels and resorts are the largest greenhouse gas emitters in the tourism





natural gas. Development of the cooperation and carbon footprint calculator software will enable hotel and resort operators to ascertain their monthly greenhouse gas emissions. Parameters used in the calculation include electricity, gasoline and natural gas consumption and dry/wet waste generation. The project anticipates that this tool will facilitate management of climate-friendly hotels, formulation of energy efficiency plans, and sustainable resource use, thus reducing greenhouse gas In addition to software development, the project has conducted workshops to train hotel and resort

in Koh Chang.

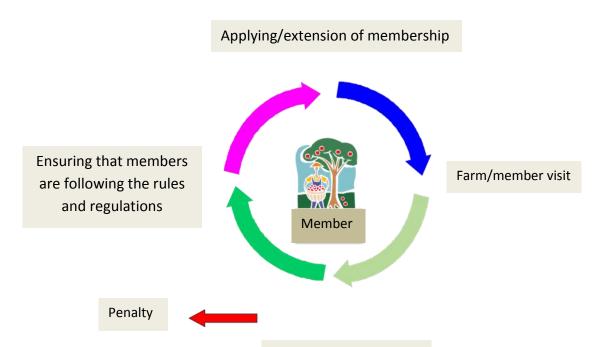
## Award Ceremony for Trainees of PREMA Training Course on "Good Housekeeping"

**O**n 7 February 2011, as part of the Climate Protection in Tourism Project, GIZ, the Designated Areas for Sustainable Tourism Administration (Public Organization) or DASTA, the Entrepreneur's Competency Development Association (ECDA) invited Major General Jaraspim Dhiralaksh, Managing Director, DASTA Office 1 to chair the ceremony for trainees of the award Profitable Environmental Management (PREMA) training program on "Good Housekeeping". Certificates were awarded to trainees from six hotels and one elephant camp. training course was able to reduce unnecessary and



inefficient resource consumption for participating tourism operators by 1,500,000 baht.

## Internal Control System (ICS) Training Workshops in Surat Thani



From 9-11 February, 2011, the Sustainable Palm Oil Production for Bio-Energy Project, jointly implemented by GIZ and the Office of Agricultural Economics (OAE), held Internal Control System (ICS) training workshops at the 100 Islands Hotel, Surat Thani. An Internal Control System (ICS) is necessary for group certification and is the part of a documented quality assurance system that allows an external certification body to delegate the periodical inspection of individual group members to an identified body or unit within the certified operator.

The participants were Mill Coordinators, Farmer Group Leaders, Farm Advisors, government officials and staff. The training was provided by Expert Trainers from ACT. (Organic Agriculture Certification Thailand). The three day training workshop provided the basic knowledge of ICS for RSPO smallholders.

The first 2 days involved the primary processes of ICS for RSPO smallholders and focused on the internal control system cycle including applying/extension of membership; farm or member visiting; approval of membership; ensuring that members are following the rules and regulations. Penalties will be given to farmers who cannot act in compliance with the rules.

The final day involved participation in practical field experiments. Participants were divided into four groups and practiced auditing and visiting random farms and farmers (who are members of the project).

Following the workshop, the participants were able to gain a greater understanding of ICS after they brainstormed and practiced auditing and visiting the farms and farmers. They will apply and transfer the knowledge to smallholders in the future. This is to ensure that farmers can manage themselves sustainably within the group in compliance with RSPO standards.

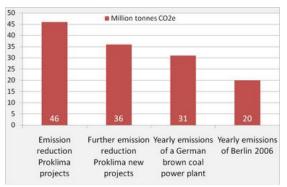
## German Cooperation Worldwide

### PROKLIMA: Green Cooling Technology with Natural Refrigerants

How does refrigeration and air conditioning affect the climate? The answer can be found in refrigerants and foam blowing agents being used for cooling and production of foams. Starting at the beginning of the 20th century, new synthetic chemicals called chlorofluorocarbons (CFCs) were used as refrigerants, aerosol propellants and foam blowing agents. These chemicals seemed to be almost perfect as they were cheap, safe and not flammable or poisonous. But in 1974, scientists made a threatening discovery: CFCs were destroying ozone molecules in the earth's stratosphere. Without this layer, dangerous levels of UV radiation could directly reach the earth's surface, causing genetic damage to the cells of people, plants and animals, thereby increasing skin cancer, eye



cataracts and other diseases. Evidence of the thinning ozone layer and the discovery of an ozone hole over Antarctica resulted in a unique worldwide environmental agreement called the Montreal Protocol on Substances that Deplete the Ozone Layer which was concluded in 1987.



Comparison CO2 emissions

Later, it was discovered that these fluorinated gases such as CFCs, HCFCs, and HFCs typically used in refrigeration and air conditioning applications, and as blowing agents to produce various kinds of foams are also potent greenhouse gases that contribute to global warming and thereby accelerate climate change. Greenhouse gases are regulated under an international treaty called the Kyoto Protocol.

Proklima, a project implemented by GIZ is assisting partner countries towards introducing and disseminating

environmentally friendly technology that neither harm the ozone layer nor contribute to global warming. The main focus is to

promote the use of sustainable ozone- and climate-friendly alternative technologies based on natural refrigerants and blowing agents such as hydrocarbons, ammonia and CO2.

Results so far are over 10,000 tonnes of ozone-depleting substances (ODS) substituted and some 46 million tonnes of greenhouse gas emissions (in CO2 equivalent) saved – this is the track record on which the Proklima sector programme can now look back on after 15 years of activity. It is anticipated that further projects under the German International Climate Initiative will save a further 36 million tonnes (in CO2 equivalent). The cost of achieving a reduction of one tonne of CO2 equivalent through Proklima activities is currently at EUR 1/t.

Today, Proklima cooperates with almost 40 countries in Africa, Asia Pacific, and Latin America in the fields of refrigeration, foam blowing, firefighting equipment and agriculture. Activities here range from solar-powered fridges for vaccines at health stations in rural areas of southern Africa, to the introduction of climate-friendly room air conditioners in China. Proklima is cooperating with many innovative companies to transfer environmentally-friendly technology in developing countries and to strengthen worldwide green growth. It is now starting to outreach also into South-East Asian countries.

# Upcoming Events

Date/Month/Year Topic

24 or 25 May 2011 Role and Readiness of MASCI Department of Employment (DOE)

7 May 2011 Organic cooking class Anothai restaurant, Soi Rama 9 hospital

**Place** 

25-29 May 2011 ThaiFex IMPACT Muangthong Thani

Editors: Siriporn Treepornpairat Vorathep Songpanya

Authors: Janetida Thola Sirikul Prasitpianchai Jiraluck Inwong Suchada Meteekunaporn

Kittikhun Kittiaram Supalerk Kanasook
Kobrat Chotruangprasert Thitinai Pongpiriyakit
Siriporn Parvikam Yotsawin Kukeawkasem

Copy Editor: Ian Barwick

4 June 2011

Pictures are taken by members of the programme

For further information on the articles

and all news related information please contact

Siriporn Treepornpairat Public Information Manager

German International Cooperation, GIZ Office Bangkok

193/63 Lake Rajada Office Complex (16th Floor)

New Ratchadapisek Road, Klongtoey, Bangkok 10110

Tel: 02-661-9273 Fax: 02-661-9281 – 2 E-mail: siriporn.treepornpairat@giz.de Website: www.thai-german-cooperation.info

Programme and projects funded by Federal Ministry for Economic Cooperation and Development

- Thai-German Programme for Enterprise Competitiveness
- Sustainable Urban Transport Project in Asia
- Clean Air for Smaller Cities
- Sustainable Port Development
- Thai-German Trilateral Projects
- Commercialisation of Biopesticides in Southeast Asia

Programme and projects funded by Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

- Climate Policy
- Energy Efficiency in Medium Sized Enterprises
- Climate Protection in Tourism
- Sustainable Palm Oil for Bioenergy