



## On the road to sustainability

– Indonesian foresters in expert dialogue with their German counterparts  
Diary of a study trip from March 8 – 12, 2010

gtz



# Preface

## On the right track – a study tour to Germany

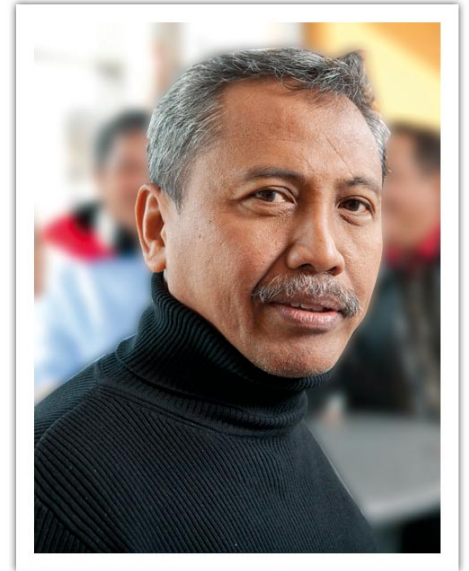
Indonesia is determined to drastically reduce greenhouse gas emissions from the forestry sector. The most important steps undertaken by the Ministry of Forestry to achieve this goal are the decentralization of the forestry administration, the participation of the population in land use planning, and the reduction of deforestation and degradation of forest areas.

The Ministry of Forestry, the Ministry for Home Affairs and the Ministry of Planning are working hand in hand to achieve these goals. The Government wants to create a new institutional and normative framework down to local level to implement sustainable forest management and reduce greenhouse gas emissions. A reorganization of forest management units at district level is being introduced to ensure the sustainable management, control and protection of forest resources.

Indonesia has adopted the UN mechanism for Reducing Emissions from Deforestation and Forest Degradation (REDD) in order to reduce greenhouse gas emissions from deforestation. With the aid of the REDD approach, the UN aims to create the necessary framework for performance-based financial incentives for forest protection and sustainable forest management. Indonesia is actively introducing these concepts and proposals into the international climate debate, and is currently in the process of developing strategies and regulations for domestic implementation of REDD.



The Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (German Association for Technical Cooperation, GTZ) is supporting the country on its way to meeting these goals. As part of the program »Wald- und Klimawandel in Indonesien« (Forest and Climate Change in Indonesia), GTZ is advising its partners on several levels. The cooperation ranges from policy advice for the development of the necessary policy framework to support for the establishment of sustainable forest enterprises and the implementation of a participatory nature conservation concept. In addition to this, GTZ and the Ministry of Forestry are developing REDD mechanisms which they will be testing in a number of pilot regions of Borneo and Sumatra. The results will be fed back into the international REDD dialogue.



Hilman Nugroho

To be able to see well-proven structures with your own eyes and discuss them with colleagues is a good way to promote reform processes. For this reason, GTZ has for a number of years now actively promoted the dialogue between Indonesian experts from the Ministries of Forestry, Planning and Home Affairs and senior representatives of Hessen-Forst in Germany. This is the background against which a high-ranking Indonesian Government delegation embarked on a study trip to visit their German colleagues from the state enterprise Hessen-Forst and the Federal State Government of Hessen. During an intensive dialogue, new ideas for the reform of the forestry sector in Indonesia were developed.

The results of this expert dialogue constitute another milestone in the long-standing and successful German cooperation with Indonesia in the forestry sector. With this brochure, we would like to document the course of the study tour. We would also like to take this opportunity to thank everybody who was involved on both the Indonesian and the German side for their active participation.

Rolf Krezdorn, GTZ

Hilman Nugroho, Bureau of Planning, Ministry of Forestry

### **GTZ**

As an international cooperation enterprise for sustainable development with worldwide operations, the federally-owned Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH supports the German Government in achieving its development policy objectives. It provides forward-looking solutions for political, economic, ecological and social development in a globalised world and promotes complex reforms and change processes, often under difficult conditions, with the objective of improving people's living conditions on a sustainable basis.

## An exciting time ...



Sustainably managed forests foster biodiversity and protect water resources, soil and the climate – but they also provide the basis for the timber industry. The Indonesian Government has long recognised the potential value of healthy, effective and sustainably managed forests. Back in 2000, the government started to counter the destruction of the forest caused by illegal logging, conversion to oil palm plantations, mining and slash-and-burn clearing. The decentralisation of administration structures, new laws and regulations, and the inclusion of the civil society in forest usage matters are the first steps towards an integrated and sustainable forest management model.

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (German Association for Technical Cooperation, GTZ) is assisting the Indonesian Government in this task. In the article, Jörg Albrecht and Rolf Krezdorn talk about their day-to-day work.

From 2000 to 2004 Jörg Albrecht, Head of Consulting at Hessen-Forst, worked on behalf of GTZ in Indonesia with representatives of the Ministry of Forestry. Since then he has stayed in touch with his Indonesian colleagues. His expertise was – and still is – welcome in the Far East. He has fond memories of his time working in the country.

**GTZ:** You went to Indonesia in 2000. During this initial period, what was special about the work you did together with your partners in the country?

**Albrecht:** 2000 was a really exciting time. For the first time ever, the government sat down with non-governmental organisations (NGOs) and representatives of civil society for regular and goal-driven meetings, and the most important forest protection issues were discussed in seven working groups. This cooperation with NGOs remains in place today, and they are now involved at an early stage of the decision-making processes.

**GTZ:** What did these discussions about forest protection actually achieve in Indonesia?

**Albrecht:** The recommendations from the working groups have been incorporated in new laws, regulations and lower-level rulings. In 2001 major sectors were decentralised in Indonesia, including the forestry sector. Before this, all decisions came from Jakarta.

**GTZ:** ... and this meant that everything was OK?

**Albrecht:** No, because the local officials needed time to grow into their roles so that they could acquire the necessary expertise. This process is still on-going.

**GTZ:** At the time, what was the remit of GTZ?

**Albrecht:** We gave advice to the working groups, organised discussion forums all around the topics of organisation and participation in forest protection and forest management, and we also organised training for employees of the Ministry of Forestry. Basically, our contribution helped to ensure that the people in positions of responsibility in the Ministry of Forestry were made increasingly aware of the principles of sustainable forest management, as agreed in the international dialog on forestry, and that these principles were reflected in the Ministry's decision-making processes. The people we were working with then are now high-ranking officials in the ministry or in the provincial and district administrations, and they want to get things moving. Today, there is a shortage in particular in terms of practical experience and management expertise at a district level, but this is something the government is working on.

Several years have now passed since the initial efforts were made towards sustainable forest management and climate protection. A number of things have already been achieved in Indonesia, but the country also still faces many changes. Rolf Krezdorn, Head of the GTZ Forest and Climate Protection Program in Indonesia, has been assisting his Indonesian partners in their work since the start of 2009.



**GTZ:** Mr. Albrecht has told us about some of his experiences from the time around 2000 and just after. You are now working closely with the government. What does Indonesia still hope to achieve?

**Krezdorn:** The country is in the process of fine-tuning the forestry sector reforms. A regulated forest industry demands decentralised organisational units which are both manageable and easy to monitor. Particularly in the context of the climate, Indonesia is aiming to get forest fires and illegal logging under control. By 2020, deforestation and degradation of forest areas are to see a significant reduction. The reforms in the Indonesian forestry sector are an important prerequisite for this, and this is why GTZ is focusing so much support on this area.

**GTZ:** What needs to be done on the part of the government in order to achieve these goals?

**Krezdorn:** Decentralisation is more than just a relocation of personnel; it also means a redistribution of responsibilities. The administration departments at provincial and district level need local expertise. In addition, the forest management budget needs to be made available across all levels. By 2020 the country is hoping to set up the necessary framework so that transfer payments which reach the villages and local population are possible.

**GTZ:** To what extent is the population actually involved?

**Krezdorn:** When you look at how an area of forest is utilised, different interest groups often come together. This can lead to conflict. Consequently, it is important that a framework plan is created at provincial and district level which takes into account all of these different needs. Look at the example of a national park, where people live and farm the land or collect firewood. In a dialog with these user groups, the district government has to define the boundaries of the park and develop concepts which enable the local population to profit from the park. GTZ is able to advise the government on topics like these.

**GTZ:** What do you see as the main challenges which are faced by the Indonesian Government in the forestry sector?

**Krezdorn:** One area is certainly the need to introduce forest management units with competent personnel across the whole country, similar to the German model of forestry enterprises. In addition, a full qualitative and quantitative inventory of the country's resources is important. Only when this data is available will it be possible to identify regions which are in particular need of protection or which offer particular commercial potential – and only then can the government draw up scenarios for sustainable management. This is also the only way that the Climate Working Group in the ministry will be able to develop a concept for reducing emissions. Of course, good governance and transparent decision processes are further important aspects for the success of forest and climate protection.



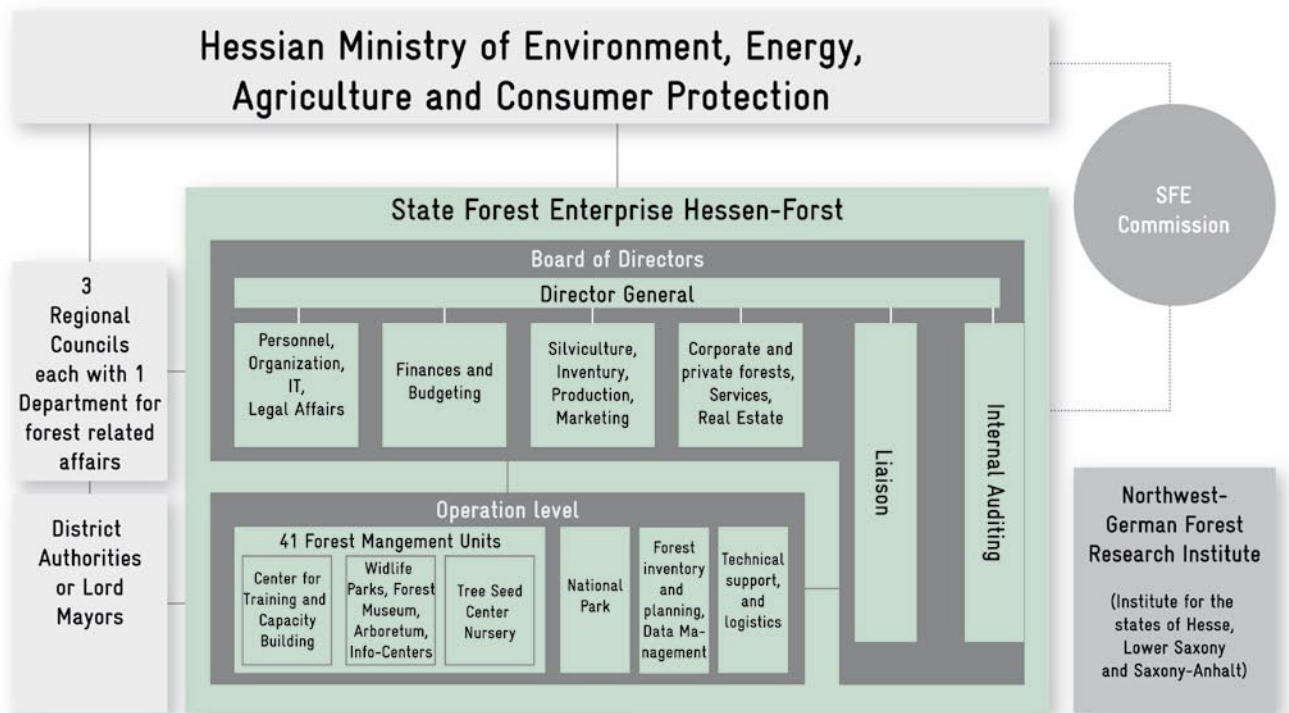
## A look inside the Hanau-Wolfgang forestry office

Hanau-Wolfgang is one of 41 forestry offices in the German federal state of Hessen. Forestry office manager Christian Schäfer is responsible for the management of some 13,500 hectares of forest. This is predominantly communal forest, but he also has to look after state forest and privately owned woodland areas. Nine district forest rangers work in his area. Every year, he sits down with them to not only plan the volume of timber and the areas that should be harvested, but also to discuss the necessary investment measures which are required to market the wood. According to Mr. Schä-



*Christian Schäfer: What a forester needs ...*

fer, the principles for forest management are very straightforward: »As a general rule, there is no more clearcutting – we only harvest as much wood as grows back again, and we follow global timber demand trends



## » Roles and responsibilities of a forest enterprise and a forestry office manager

The forest enterprise is responsible for:

- Management of the state-owned forests. In the process, it takes into account the
  - laws;
  - general principles according to which the state-owned forests are run;
  - commercial and public interests;
  - current ten-year planning.
- Management of communal and privately owned forests. Key aspects here include the
  - laws;
  - aims of the owners;
  - current ten-year planning.
- Management of nature conservation areas.
- Raising environmental awareness among the general public.
- Supporting the state forest administration.

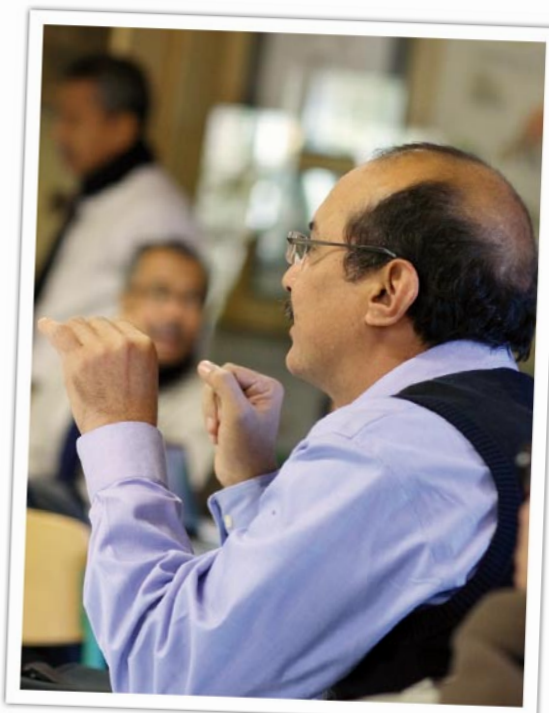
What are the tasks that need to be performed by a forestry office manager?

- Personnel management;
- Internal and external communications;
- Ten-year planning for the district;
- Marketing of products;
- Silvicultural principles;
- Controlling;
- Representative duties.

to ensure that we can fetch attractive prices.« Customers pay for all of the services provided by the members of the forestry office – regardless of whether the wood comes from communal forest, private woodland, nature reserves or a wildlife park. »We have to earn our money, so we charge an annual fee of 45 Euros per hectare of woodland,« explains Schäfer. However, forest management alone by no means covers all of the activities of the forest enterprise. For Mr. Schäfer, other roles of the forest are also important: »With our



forests and woodland areas, we offer people from the surrounding area local recreation areas, and we have a forest museum and an information centre here in Hanau which we use to educate the public about the importance of forests as ecosystems. Our role also extends to protection of the environment and nature conservation, which therefore also means climate protection. All of these things are just as important as sustainable forest management.«





## An excursion to the communal forest of Schöneck

The forest in Schöneck belongs to the local community, so it is up to the community to decide how the forest should be used and managed. The mayor of Schöneck

explains this in more detail: »Here we like to use the forest as a local recreation area for our citizens. Our plans for forest management always take into account the needs of nature conservation and environmental protection.« Hessen-Forst consults the local authority in its ten-year planning and in the annual forest management plans. The state enterprise also takes care of the management. District forest ranger Heiner Koch explains: »The local authority pays an annual fee of 45 Euros per hectare to Hessen-Forst. In return, we offer a full ser-





vice.« The forest has some very old stands of beech trees. Every year, Hessen-Forst harvests beech trees in a different parcel of land. The rules are quite clear: »We only cut down the same number of trees that grow back again. We also do this only during the months from October to March. During this period of vegetation dormancy the damage caused by timber harvesting is the least, and the forest animals don't have any young,« says Mr. Koch about his work.

The timber harvest is already fully under way in this year's allotted parcel of land. The trees which are to be felled have been

marked, including the felling direction. Every 20 to 40 metres you can see a clear trail in the undergrowth – the skid trails for the trunks. The loggers stay on these trails to extract the felled trunks from the stand with a winch and then store them by the side of the road, graded according to size and quality. It does not take long then before the logs are removed and sold. Mr. Koch monitors the entire process on behalf of the local authority, which will be able to add the revenue generated from the sale to the town's coffers.

### >> Forest enterprises for Indonesia

**Gerad Augustinus Silooy is Head of the Malinau District Forest Administration in Eastern Kalimantan province. He is particularly interested in the model of forest enterprises, which has worked successfully for nearly 200 years in Germany.**

**GTZ:** You come from the District Forest Administration, where you are responsible for sustainable management of the forests. How is forest management organised at present in your region?

**Silooy:** In our country, forest management is still entirely based on concessions. The concessionaires have the full responsibility and have to submit yearly planning data to us which they must also stick to. However, this does not always work properly as we do not have access to the necessary monitoring mechanisms.

**GTZ:** So what do you think would be a better solution?

**Silooy:** I would like to see how we can transfer the organisation of German forest enterprises and their roles to our country. As in Germany, we need medium- and long-term forest management plans, and an effective monitoring system for the implementation of these plans. To this end we will also need to inventorise our forests to obtain up to date information, so that we can use this as the basis for management planning. Here in Germany I have had the opportunity to see how this works in practice and decide which aspects we can transfer to Indonesia.





## Forests and woodland areas in Germany – function and ownership

40 percent of Germany's forests and woodlands are owned by the state, 35 percent are under communal ownership and 25 percent are privately owned. In Germany, forests are an economic factor, producing timber, game and other forestry products. But it doesn't stop there. The role of forests and woodland areas as local recreation areas, as part of forestry training schemes, as tools for raising environmental awareness and as valuable nature conservation resources is just as important. The management of every individual woodland area must be carefully tailored to its individual conditions and functions. While some areas may focus on timber production, others may concentrate on nature conservation or the aspect of providing recreation areas for the local population.

The forests and woodland areas in Germany are there for the people. Regardless of whether they are state-owned forest, communal or privately owned woodland – visitors are always welcome. In the wildlife parks, national parks and natural parks run by Hessen-Forst, visitors can experience fauna and flora up close. At the same time, the parks also generate valuable income for the state enterprise and help to raise awareness for environmental issues as well as forming part of forestry training schemes. German forests perform many different roles which demand careful and well-coordinated management.



>> The things a forester needs to be able to do ...

New forest structures can only work if the personnel involved also have the necessary level of expertise. Helmi Basalamah is responsible at the Indonesian Ministry of Forestry for initial and further training of employees in administration and for the future forest enterprises. He is particularly keen to find out as much as possible about the content of training courses.



GTZ: You are responsible for the training of employees in the forest administrations and for the forest enterprises. What aspects of your visit to Hessen-Forst are particularly important for your work?

Basalamah: For me, it is really exciting to hear how varied the tasks are that employees at Hessen-Forst are expected to manage, and what this means in terms of skill sets and knowledge. In addition, I am also very interested in finding out how forest rangers are prepared for their job here in Germany.

GTZ: Which results will you be taking back home from Germany, both for yourself and your work?

Basalamah: First of all, my belief has been strengthened that theoretical training alone is not enough. The people need practical experience. We have already set up a graduate degree training course for employees with the aid of a German expert from CIM, which combines theory with practical segments. In addition, we also run eight regional training centres. However, I think we still need to fine-tune the curricula of these courses. This intensive exchange with the training officers at Hessen-Forst is a tremendous help for me – and I hope to widen it even further in the future.





## History of forestry in Germany

### >> Qualifications and responsibilities of employees in a forestry office

#### Forestry officer manager:

- University degree, two years of practical experience in forestry administration, state examination.
- Experience and subject knowledge in various areas of operation at Hessen-Forst.
- Technical and commercial management of all forests.
- Quality management and marketing.
- Financial management and property management.
- Major role in setting the operational targets within the annual plan.
- Offers services for forest owners, the general public and senior managers.
- Personnel recruitment and on-the-job training.
- Ensures compliance with relevant laws.

#### District forest ranger:

- Forestry college.
- Technical, commercial and ecological knowledge in the fields of forest management, hunting, nature conservation and environmental protection.
- Technical forest management for all types of forest.
- Incorporation of landscape protection and nature conservation aspects in the work.
- Close cooperation with communal and private forest owners, supports the preparation of the annual planning for their forests within the framework of the legal requirements.
- Shared responsibility for forestry training, forest-based environmental awareness education and recreation functions of the forest.
- Involved in the development of the annual planning.

During the Middle Ages, the people of Germany and Europe destroyed so much of the continent's existing woodlands that only a few trees remained. However, by the end of the 18th century, people's attitudes towards their forests shifted. Renewed attempts were made to preserve and reforest them. At the time, the German forester Georg Ludwig Hartig explained the concept of sustainability, which still holds today: »Long-term forest management is inconceivable and cannot be achieved without carefully calculating the amount of wood which is taken from forests to ensure that it is sustainable. Every wise forestry agency must therefore have their forests inventoried and assessed without delay; this must be done as thoroughly as possible and used as a basis to ensure that subsequent generations can take at least as much advantage from the forests as the current generation does.«

It was during this period of history that the principalities in Germany first introduced



the system of district forest rangers. These rangers were responsible for the practical side of the management of the forests, which were divided into manageable chunks. By contrast, the head of the forestry office dealt with commercial and administrative duties. This structure has proved to be successful for the last 200 years and is still valid today. Germany's forests, which were once completely run-down and devastated, have been regenerated in the last two centuries thanks to the sustainable way in which they have been managed. Today, the commercial and social benefits of these forests are enjoyed by the whole of Germany.



### >> The state enterprise Hessen-Forst

- The state enterprise is under 100% ownership of the federal state of Hessen.
- Hessen-Forst includes 41 associated forestry enterprises which cover the land area of the entire state of Hessen. These include not only the forests, but also towns, villages and roads.
- Every forestry enterprise employs around ten district forest rangers, who are responsible for the technical management of an area of land of around 2000 ha.
- The head of a forestry enterprise is responsible for marketing, controlling, quality and process management, personnel and organisational procedures.

### >> The roles of Hessen-Forst

- Sustainable management of state-owned forests according to commercial factors, taking into account public benefits and interests.
- Consultation, support and management for communal and private forests on the basis of legal and contractual requirements.
- Inventorisation of forests, ten-year planning and annual forest usage plans for state-owned and communal forests.
- Research and studies in the fields of ecology, forest growth, terrain conditions, protection of genetic resources, health monitoring, protection of the landscape and protection of the environment.
- Management of the property of Hessen-Forst.
- Initial and further training of all personnel, environmental training, public relations work with the local population to raise awareness for natural resources and bring people closer to nature.



## Forests as a political issue

Traditionally, the people in any country have always used the nutrient-rich soils for agriculture, while the less fertile land in rural areas remains untouched. Today, this type of land is covered by forest in Germany and accounts for 30 percent of the land area. The government aims to preserve this percentage and even increase it slightly. One of the reasons for this is the fact that, while jobs tend to be rather thin on the ground in rural regions, forests can offer plenty of opportunities for employment. Statistically speaking, the harvesting of one cubic meter of wood creates twelve jobs; these include the woodcutters, people involved in transporting the wood, people who work in the sawmill and then the people who process

### » Hessen Ministry of the Environment, Energy, Agriculture and Consumer Protection, Wiesbaden

#### Legal framework:

- Long-term and sustainable forest management.
- Multiple usage of the forest within the same area (for wood production, protection of the environment, as a local recreation area).
- No clearcutting.
- Selection of tree species in accordance with the specific site conditions of the forest area.
- Use of pesticides is largely avoided.
- Binding ten-year plan for forestry management.
- Existing forest areas must be preserved or enlarged.
- Forest functions must be strengthened and protected.
- Forest management must be cost-effective.
- These requirements are binding for all forest owners.

the wood afterwards. In terms of politics in Germany, forests play a very important role as they generate jobs and create sources of income.

#### Role of the ministry in relation to Hessen-Forst:

- Approves the company articles of Hessen-Forst.
- Appoints the head of Hessen-Forst.
- Checks the annual plan and the balance sheet.
- Appoints the auditor for Hessen-Forst.
- Makes the political decisions.
- Does not get involved in the operational side of the work of Hessen-Forst.

#### What the ministry expects from Hessen-Forst:

- Production of wood in state-owned forests, good financial and ecological results.
- Protection and rehabilitation of state-owned forests.
- State-owned forests to offer a local recreation function and deliver environmental awareness education.
- Services for third parties, in particular for communal and private forest owners.
- Official duties: implementation of the legal contract, compliance with the annual plan, information and consultancy services for third parties.

#### The ministry checks the annual plan and provides a budget for the following roles of Hessen-Forst:

- Management of state-owned forests.
- Management of national parks.
- Management of communal forests.
- Contract management for private forests.
- Environmental awareness education.
- Research.

In addition to this, there is a high level of public demand for forests as local recreation areas and nature conservation areas. This is something else that forest policies also need to take into account. As a consequence, the federal state of Hessen has retained ownership of 40 percent of the forest area. The needs of the public play a particularly important role in these state-owned forests.

However, communal and private forest owners must also take the needs of the public into account. The ministry grants wide-ranging powers and decision-making autonomy to the forestry enterprises. They are

local and understand how to best manage the different forests – taking into account public interests and commercial considerations and reflecting the wishes of communal and private forest owners.

### >> The conditions are promising ...

**Carsten Wilke, Assistant Secretary and Head of the German Federal State Forest Administration, spent a few weeks in Indonesia as a consultant to his colleagues in the Ministry of Forestry in the capital of Jakarta. In our interview he explains how he sees the link between forests and climate and what he thinks of the reforms his colleagues in Asia are attempting.**



**GTZ:** The international community demands that the countries which still have large forests do everything they can to preserve them. Climate protection is a key factor here. How do you see the link between the climate and forests?

**Wilke:** In Germany, both central government and the governments of the federal states regard forests as CO<sub>2</sub> sinks. Our forests are part of the climate and emissions calculations. For this reason we will always keep our forests in a state where they absorb more CO<sub>2</sub> than they emit, meaning a state in which they reduce atmospheric CO<sub>2</sub> levels. This approach should be adopted worldwide, particularly also in countries like Indonesia which still have such large areas of land which are covered in forest.

**GTZ:** Indonesia is taking active measures to get a handle on deforestation. First steps have already been taken in the country. How do you assess the developments there?

**Wilke:** The question with this type of reform process is always how willing a society is to adopt change. I think that the conditions in Indonesia are really promising. The government is very concerned about the extent of forest destruction and is convinced that it needs to make changes. The Ministry of Forestry will manage and cultivate the forests in a sustainable fashion – everybody shares the same goals. This is a good starting point.

**GTZ:** One important topic for this project is the decentralisation of the forestry sector. How do you view these efforts?

**Wilke:** The structure of the country as an archipelagic state really forces the issue of decentralisation and demands regional solutions. Although the country is so full of diversity, with many different ethnic groups and approaches, it remains stable and works well. This is why I am very confident that Indonesia will also handle decentralisation and the associated distribution of power very well.



## Less is more

As recently as ten years ago the state enterprise Hessen-Forst did not yet exist. All forestry-related decisions were the responsibility of the Hessen Ministry for the Environment, Energy, Agriculture and Consumer Protection (HMUELV). From their headquarters in Wiesbaden, the members who were responsible for the forests took decisions ranging from what type of road covering should be used on forest roads to where and how much wood to harvest – in short, every aspect of forest management in Hessen was in the hands of HMUELV. Decisions taken in Wiesbaden were passed on by employees to the forestry offices, which in turn had to work out how to interpret these decisions and what to do with them.

In many cases, the instructions completely failed to address the requirements of a particular forestry office, as they were not adapted to the specific site conditions. As a result, forest management was expensive, inefficient and failed to deliver the required results.

This situation changed completely when Hessen-Forst was founded. Today, the ministry's involvement is limited to providing the legal framework and setting the annual turnover targets. Today, only around 40 members of staff are employed in the Ministry. The flat organisational structures, reduced levels of staffing and shorter decision paths at Hessen-Forst have helped the forestry industry to deliver greater profit with less money. Since the restructuring, the ministry no longer speaks to any customers and also no longer takes any forestry-related decisions. This is now the responsibility of the forestry offices in conjunction with their line managers at Hessen-Forst.





## >> Our country is under tremendous pressure

Basah Hernowo is accompanying the forestry sector reform in the Indonesian Ministry of Planning. He thinks that the structure of the German forestry management and administration model is a good one. Mr. Hernowo believes strongly that Indonesia requires short-term action to curb deforestation and in order to find ways to use the forests more sustainably.



**GTZ:** Indonesia is in the process of reorganising and decentralising the country's forest administration and management structures. What is the motivation for this?

**Hernowo:** Our country faces a great deal of pressure due to illegal forest clearing. Every day we lose more forest and the quality and biodiversity of the forests is suffering. This is having a negative impact on our greenhouse gas emissions. We want to protect our forests as part of the UN REDD programme for reducing greenhouse gas emissions from deforestation and forest degradation. To do this, we need different administration and management structures.

**GTZ:** Your government is particularly interested in the forest administration system which is used in the state of Hessen in Germany. Why is this system so important for you?

**Hernowo:** In our country, we have a situation where sometimes just twenty people are responsible for looking after 500,000 hectares of forest. The local governments are supposed to manage the production forests, but we are still lacking the necessary structures and personnel. We can only implement sustainable forest management if we have working local management structures in place. The German system for managing forests with the forestry offices and district forest rangers with clearly mapped out forest areas appears to me to be the best solution for us.

**GTZ:** Is this still at the concept stage, or do you already have concrete plans on how you will go about implementing these forestry structures in Indonesia?

**Hernowo:** We are planning to introduce forestry enterprises in half of the provinces during the next fiscal year. We now need to talk to the local governments to find out how central government can help at local level, and which regulatory measures will be required. There are issues to resolve in relation to financing the reforms, sharing responsibilities between central government, local government and forestry enterprises, as well as in terms of the training which will need to be provided for employees. We are working on this – and we have brought back many ideas from this study tour.

**GTZ:** That sounds like concrete plans which are obviously very important to you ...

**Hernowo:** Oh yes! We still have regions which are not being managed sustainably because there is a lack of management structures, personnel and expertise. This is set to change soon. We need to have local management structures in place: until we have managed this, we can talk as much as we like about climate change, but nothing will change. This is why we are now introducing forest management structures based on the German model.



## Well planned

With a blast on his hunting horn, district forest ranger Eckhard Richter welcomes his Indonesian guests to the communal forest of Lich. He knows his forest like the back of his hand: the soil conditions, the age of the trees and the prevailing climatic conditions. All of this information is stored in the



forest management maps he requires for his day-to-day work: »With the aid of the maps I have a clear overview of where which types of tree can be found, and how old they are.« The town of Lich expects Richter to manage the forest in a way which generates profit. However, the decision about when to harvest trees, and which areas to choose for felling, is taken by Richter on the basis of facts and figures. »We have trees of varying ages and diameters. We not only mark the trees for felling, but also the felling direction and the skid trails for timber extrac-

tion. We also make sure to minimize felling damage to the remaining stand, and mark trees which are to be protected for reasons of nature conservation,« explains Richter. The district forest rangers only actively replant the forests in isolated cases. Usually, the regeneration of the forest is left to the process of natural rejuvenation. Provided the forest management is well planned, this usually works very well and is a much more cost-effective approach.

Without the basis of the planning information provided by FENA, the forest rangers would be completely stuck. »The owners want to generate a profit in the forest all year round. At the same time, it is up to me to ensure that the forest is not over-exploited. Without detailed information about forest stands, I would not be able to do my work as effectively as I do,« assures Richter. Thanks to the ten-year plan, the district ranger knows how much of the wood in his forest he can use, where he needs to look out for protected areas because they provide the home for rare plant and animal life, and where new trees need to be allowed to grow. With all this in place, nothing stands in the way of sustainable forest management.

## Inventory - the planning basis

Ten-year plans are required by law, just like annual forest management plans. However, these plans only really make any sense if the responsible employees at Hessen-Forst and in the Ministry have access to concrete facts and figures for their forests. It is the job of the FENA (Agency for Forest Management Planning and Nature Conservation) to collect, process and make this data available. Every ten years, FENA employees visit a forestry office and collect its data. In the process, they keep an eye on various aspects of the forest and collect all of the data for the forest in an inventory.

## Inventory:

### Stocktaking:

⇒ Tree types, heights, bole circumference, age, percentages and types of tree mixture, yield class, stocking rate, timber quality, condition. The data analysis yields the volume of wood.

### Functions of the forest:

⇒ Protective functions (water, erosion, climate, nature conservation) and local recreation functions.

### Location factors:

⇒ Growth, climate factors, altitude, growth zones, soil properties, nutrient availability, soil humidity



*Searching for the right path to success*

## >> Visiting FENA in Gießen

### Map materials

FENA prepares specific maps for forest management on the basis of the data gathered from the forest inventory. It collates the locations and all data in a geo-information system, which it uses to generate:

- Maps which show the forest areas and their boundaries.
- Maps showing the forest areas with different management compartments ranging in size from around 10 to 15 hectares.
- Maps for the individual management compartments with roads, tree species, age.
- Forest management maps which show the maps of the management compartments on a smaller scale.
- Maps showing the site conditions,
- Maps showing operational targets,
- Subject-related maps, such as emergency maps showing access routes for the fire brigade, ambulance services and the police in the event of an emergency.

### Planned forest management

#### Ten-year planning

- Before the inventory takes place, the forest owners, forestry office manager, FENA employees, employees of the forestry department of the regional commission and the responsible members of the Hessian Ministry for Environment, Energy, Agriculture and Consumer Protection (HMUELV) come together.
- They discuss the targets of the forest owners and the federal state of Hessen, including collection rates, functions of the forest and rejuvenation for the next ten years.
- Once the results of the inventory are available, all of the parties involved check whether the targets are achievable, discuss them and adapt them to the current forest situation.
- The results of this discussion are signed off by all participants.
- This paper is legally valid and binding.

#### Annual planning

- The forestry office manager, district forest ranger and forest owners meet up and plan the management of the forest for the coming year.
- The requirements from the ten-year plan are binding and provide the framework for the annual planning.



## The impact of climate change on forests

The FENA inventories taken during the course of the last few decades have clearly shown that climate change has also left its mark on the forests in Germany. The common spruce, a tree which has always been native in Germany, is struggling to cope with the new environmental conditions. Warmer summers and lower levels of



precipitation across the whole year have lead to a reduction in the proportion of spruces in Hessen from around 30 percent to 25 percent. Spruces need a lot of water and moisture. If these requirements are no longer given then they tend to become diseased more quickly, are more susceptible to pest infestation and ultimately die out.

In order to replace spruce stands, Hessen-Forst has introduced another conifer, the Douglas fir from the USA. Three percent of the forests in Hessen are now made up of this American species. »We introduced the Douglas fir for commercial reasons into Germany. However, we aim to keep the proportion of non-native species relatively low so that domestic flora and fauna are not endangered,« explains Dr. Jürgen Willig, Head of Inventory and Planning at FENA. Does this mean that the spruce is irretrievably on the way out in Germany? »There will be sites where the spruce will be able to survive – areas with higher levels of precipitation, where the environmental conditions are advantageous,« reassures Willig. In less suitable locations it will be displaced by the Douglas fir, which handles the new climatic conditions well. This example shows how forests and forest management are adapting to climate change.



## >> We want to preserve the forest for our people

Muhammad Ali Arsyad and Sriyono both work in the Indonesian Ministry of Forestry, where they are responsible for planning. They are currently working intensively on forestry sector reforms and have concrete ideas about the approach their country should take in relation to the forestry sector.

GTZ: You both work in the Ministry of Forestry, where you are responsible for forestry planning in Indonesia. What is your assessment of the present framework conditions for forest management in your country?

Arsyad: In 1999, we had a reform which transferred forest management to the districts. However, this new structure did not work out. Our forests are in steady decline.

GTZ: What do you think is the reason for this?

Arsyad: Although we have forest administrations in the capital and in the provinces, we have no structure at working level, i.e. in the field. This is why we are having a look at the forest enterprise model in Germany. These are structures which work locally.

GTZ: Could you imagine transferring this system to Indonesia?

Sriyono: Of course we will need to develop our own model for forest enterprises which is tailored to Indonesia. This is already under way. We have started setting up forest enterprises in 23 pilot regions. On top of this, the scale we are operating on is quite different to Germany – we have 136 million hectares of forest which we aim to manage sustainably. Of course, these vast areas of forest have to be broken down into more manageable units. In Indonesia, this corresponds to the size of an administrative district.

GTZ: So you are saying that the restructuring process is already under way. What exactly does that mean?

Sriyono: We have already drawn up a concept in the Ministry of Forestry, which is now on the desk of the Ministry of Home Affairs and the Ministry of State Apparatus and Administrative Reforms. As soon as it is signed off, the provinces will have to adopt and implement this new law at district level. We are here at Hessen-Forst to see what this might look like.

GTZ: Where do you hope to see your country in five years time?

Arsyad: My vision is that we will have forest enterprises which work – run by people who are up to the task and who assume responsibility for forest management in their district. They should be in a position to preserve the forest for our people, prevent forest fires and control illegal logging.



Muhammad Ali Arsyad



Sriyono



## United They Are Strong

The Michelstadt forestry office is rather special in Hessen: half of the forests in the nine different districts are privately owned, while the other half are mostly under communal ownership. Only 14 percent of the forests belong to the state. Despite this, the forest rangers are anything but under-employed, as Hessen-Forst still looks after all of these forest estates, despite the differences in ownership. A glance at the management map of the districts also shows that many of the forest estates are very small – some

even as little as one hectare. Management of such tiny land parcels would be impossible, so the private forest owners and local communities have joined forces and formed a forest management cooperative. 3000 private forest owners and eleven local communities are members of the Odenwald forest management cooperative. They discuss their interests within the cooperative and act as a unified interest group which has signed a contract with Hessen-Forst for management of the entire forest area. The chairman represents the forestry cooperative in dealings with Hessen-Forst and conducts the negotiations relating to the management of the forest. The forestry office and the cooperative work very closely together. Hessen-Forst looks after the management of the forests and handles



the marketing of the timber. The cooperative pays Hessen-Forst for the privilege: 60 Cents per solid cubic metre of wood which is sold goes to Hessen-Forst for the job. In return, the owners of the forest receive an all-inclusive forest management service and achieve better prices for their wood. This is because Hessen-Forst closely follows the market situation for timber at all times and knows which types of wood are in highest demand. As a result, they can supply cus-

tomers with the required quantities that could not be supplied by an individual small forest owner. In this way the forest owners profit from professional management, and sustainable forest management is also assured.

### >> The forest belongs to many people

Marthen Kayoi is in charge of the forest administration of the province of Papua. In his operational area he has to work with many different stakeholders which use the forest. For Kayoi, the optimum solution would be to bring all these different groups together into a user cooperative.

GTZ: What aspect of your visit to Hessen-Forst is particularly important for your work?

Kayoi: I am absolutely fascinated about the way in which forest management cooperatives – like the one we saw in Michelstadt – have been set up. This example throws up some interesting perspectives for my province. In Papua the forest belongs to various traditional groups which often have quite different ideas about how the forest should be managed. Bringing them all together in a forest management cooperative could harmonize the large range of wishes and requirements of the group and thus enable a meaningful management system to be established.

GTZ: Are these groups actually interested in sustainable use of the forest?

Kayoi: Absolutely! These groups already treat the forest in a sustainable fashion. However, time and again there have been interventions from outside. In the past, central government granted clearing permits to companies without discussing this with our local forest administration. Thankfully, this has now changed. The establishment of forest enterprises in the provinces and districts has now been agreed. We will start with one pilot model in each region. For this idea to work, it had to be signed off by three ministries, all of whom also sent representatives on this trip. They are all impressed and agree that the idea of forest enterprises should be introduced in Indonesia.



## >> Department for International Cooperation



Laksmi Banowati, Department for International Cooperation, Indonesian Ministry of Forestry.

GTZ: What role does the Department for International Cooperation play, and how do you assess the cooperation with Germany in the area of forestry?

**Banowati:** I work directly with the different executing organisations of the international donor community. One of my key roles is to coordinate the different programmes and projects which are supported by international donors. At present we have 31 ongoing projects. Our department makes sure that these projects combine to support the policy targets of the Indonesian Government in the forestry sector. In this context, Germany has long been a valuable and reliable partner for us. We are very happy that we will be able to continue the successful cooperation with Germany in the field of forestry and climate change in the coming years as well. This study tour has helped us to attain our political goals, particularly in terms of the reforms of

forestry administration. We hope to continue and intensify the existing dialog between German and Indonesian forestry experts.



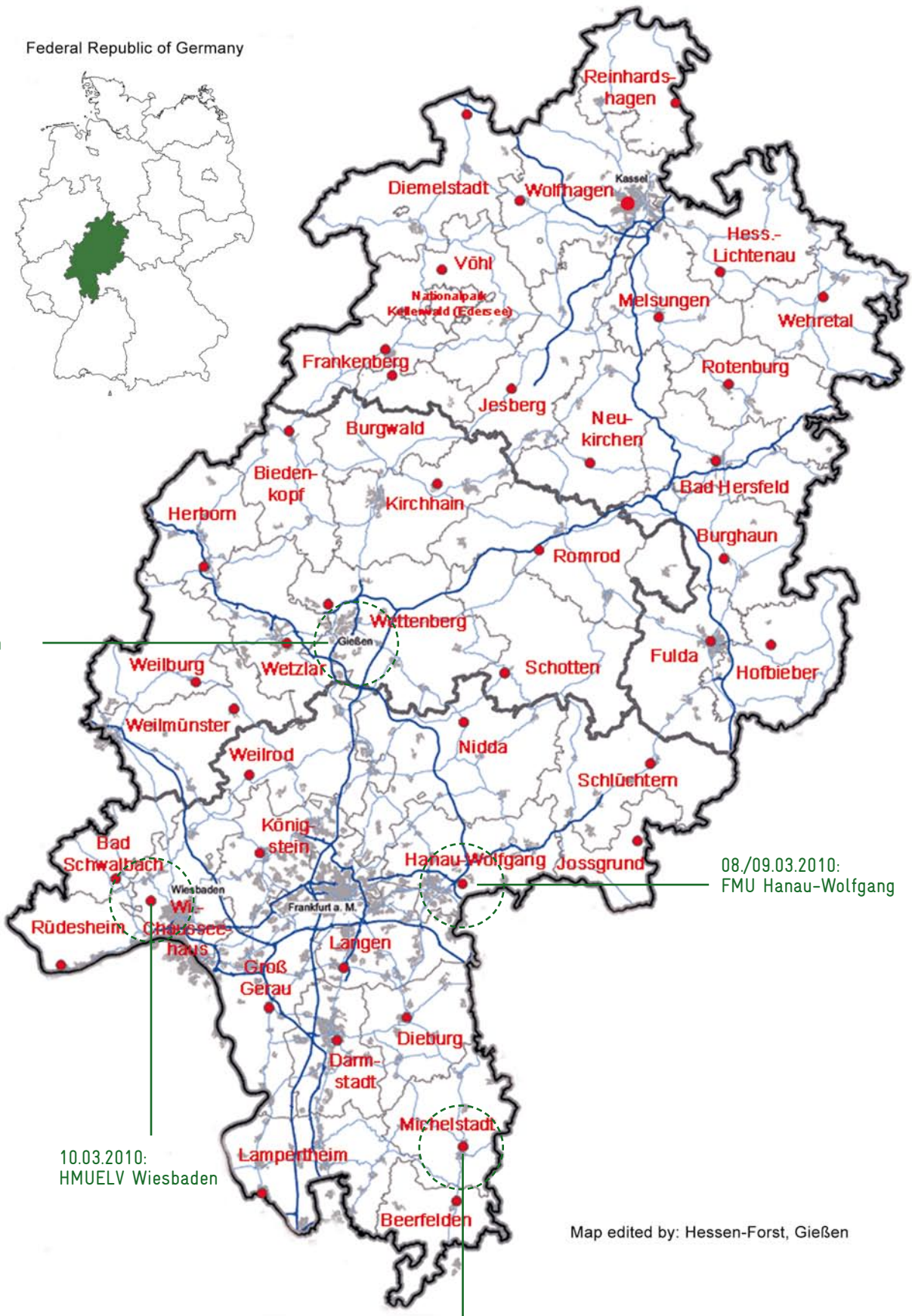


## Impressions from the trip



# Itinerary

Federal Republic of Germany



11.03.2010:  
FENA, Gießen

08./09.03.2010:  
FMU Hanau-Wolfgang

10.03.2010:  
HMUELV Wiesbaden

12.03.2010:  
FMU Michelstadt

Map edited by: Hessen-Forst, Gießen

»» The forest management unit system in the framework of the state forest administration – legal framework, organization, responsibilities, supervision and control

08.03.2010	FMU Hanau-Wolfgang (includes field trip)
09.03.2010	Organisation of forest management and forest administration in Germany and the state of Hesse
10.03.2010	Hessian Ministry for Environment, Energy, Agriculture and Consumer Protection (HMUELV) Forest Administration and supervision at Province level
11.03.2010	Forest Inventory, Planning and Data Services of Hessen-Forst (FENA), Gießen (includes fieldtrip)
12.03.2010	FMU Michelstadt (includes fieldtrip)





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