

Indonesia: Sectoral programme - Integrated Fire Management (IFFM)

Ex-post evaluation report

OECD sector	Environmental policy and administrative management/41010	
BMZ project number	1997 65 215	
Project executing agency	1) Ministry of Forestry (fire management) 2) BAPEDAL (emergency aid measures)	
Consultant	1) German Forstservice GmbH; Feldkirchen 2) Federal Agency for Technical Relief (THW), Bonn Franz M. Becherer, Oberstdorf	
Year of ex-post evaluation report	2007	
	Project appraisal (Planned)	Ex-post evaluation (Actual)
Start of implementation	2nd quarter 1997	2nd quarter 1998
Period of implementation	45 months	90 months
Investment costs	EUR 5.19 million	EUR 6.39 million
Counterpart contribution	EUR 0.08 million	EUR 0.74 million
Finance, of which FC funds	EUR 5.11 million	EUR 5.65 million
Other institutions/donors involved	GTZ (EUR 2.3 million)	GTZ (EUR 7.5 million)
Performance rating	4	
• Relevance	4	
• Effectiveness	4	
• Efficiency	4	
• Impact	4	
• Sustainability	4	

Brief Description, Overall Objective and Programme Objectives with Indicators

The programme aimed at making a contribution to reducing rainforest destruction on East Kalimantan. The initial measures were concerned with setting up a new system of Integrated Forest Fire Management (IFFM) for Indonesia. In a TC phase ongoing since 1994, an IFFM scheme was developed and tested locally, which was then expanded into a cooperation programme for the whole of East Kalimantan in 1998. The envisaged FC programme measures comprised the equipment of 13 forest fire stations (centres) with forest firefighting equipment and the distribution of forest firefighting sets to villagers, consultancy services and minor complementary measures to extend and convert individual stations. In response to the devastating forest fires on Kalimantan in 1998/1999, additional funds were provided for emergency firefighting and relief measures.

The overall objective of the programme was: A contribution has been made to reducing rainfor-

est destruction by fire on East Kalimantan. The following proxy indicator was chosen for measuring overall objective achievement: the size of the forested area that can be effectively protected by the programme (target in appraisal report: 2 million hectares).

Today, the programme objective would be the successful operation of the assisted firefighting facility, measured by the number and success of deployments. As this data was not systematically collected, the following proxy indicator replaces the one in the programme appraisal report: The programme objective is deemed to have been achieved when by 2001 at least 9 of the 13 forest fire stations have the physical, personnel and institutional capacity to carry out forest firefighting measures in East Kalimantan.

Programme Design/Major Deviations from Original Programme Planning and Main Causes

Fire management

Besides the equipment of 13 forest fire stations with firefighting facilities, forest firefighting sets were distributed to the villagers trained in the programme. Target group integration in firefighting, which was started as a pilot measure by the programme for Kalimantan, has not, however, been implemented, with the exception of Balikpapan and Melak: In 115 cases, the material for village firefighting had not been distributed, was in part badly damaged or had simply disappeared at ex-post evaluation. As a result of this and the insufficient infrastructure in the zones near forests, the response area of the fire brigades is restricted to localities. Since the stations are also situated near the district administrations (with few exceptions), this response area largely encompasses unforested areas. In part, the implementation deficits were already attributable to programme design, but also to the lack of concerted planning by the institutions involved. Moreover, implementation was seriously impaired by the very rapid introduction of the decentralisation policy in Indonesia (after the fall of President Sukarno) with its ill-defined delegation of administrative powers and by the conflagrations in 1998, which placed heavy demands on the programme in the initial phase.

Emergency measures

The project design for the emergency measures was prepared by THW in cooperation with the Indonesian environmental authority, BAPEDAL. The original proposal envisaged the procurement of 15 fire engines of different sizes and capabilities as well as firefighting equipment, six mobile small water processors, ten well-drilling vehicles and medication for the prevention and treatment of respiratory illnesses. Of the original 8 scheduled locations in the well-drilling programme, measures could only be implemented in 4 (three of these in Central Sumatra) due to lack of cooperation on the part of the target groups. Only the medication supply component was implemented as agreed.

Key Results of Impact Analysis and Performance Rating

Fire management

From today's standpoint, the *substantial decline in forest losses due to fire* would provide an adequate indicator for overall objective achievement. The monitoring planned in the programme was not implemented, however, so that no reliable data is available at ex-post evaluation. For lack of a better indicator, then, the above-cited area indicator has been applied: *size of forested area which can be effectively protected by the programme* (target in appraisal report: 2 million hectares). This is in fact the case for only about 540,000 hectares of forestland (approximately a quarter of the target). Overall objective achievement must therefore rate as insufficient.

An explicit target for the FC programme components was not defined in the appraisal report. Today, the programme objective would be the successful operation of the assisted firefighting facility, measured by the number and success of deployments. As this data was not systematically collected, the following proxy indicator replaces the one in the project appraisal report: *The programme objective is deemed to have been achieved when by 2001 at least 9 of the 13 forest fire stations have the physical, personnel and institutional capacity to carry out forest firefighting measures in East Kalimantan.*

Almost all local fire centres (LFCs) have demonstrated their ability to fight local (bush and also house) fires in their response areas in recent years, but these areas extend only a few kilometres around the fire centres for lack of infrastructure. Larger forest fires expected during prolonged dry seasons, would, however, require more extensive measures, above all the installation of fire centres near forestland in the hinterland of the individual districts. Moreover, the approach only contributes to fighting the symptoms; fires on Kalimantan are often due to land speculation and unsettled land law issues. The sustainable operation of the LFCs largely depends on the readiness of policymakers to provide the requisite budgets for maintenance, training and the deployment of the fire brigades. This was only partly forthcoming at the time of ex-post evaluation. While the provision of personnel would seem almost sufficient in most LFCs, the generally inadequate budgets are only enough to cover routine operations. Moreover, the budgets for the overwhelming majority of fire centres are considerably smaller than estimated in the appraisal report and needed for operations, because firefighting has not been accorded priority by the provincial government in recent years (no fire disasters). Except for one district, no funds have been provided for further training and stepping up activities for the closer involvement of municipalities near forests. The FC programme objective indicator of 9 operating LFCs has not therefore been met.

Although the protection scheme developed for fighting forest fires is effective in general, essential system components have not been fully implemented. The FC component has been able to contribute to improving firefighting, as it has enabled the protection of a larger area than the TC component could have done on its own. Another positive aspect for firefighting in Indonesia is that central elements of the programme have been incorporated into the national forest firefighting strategy. The programme has thus been able to achieve a certain broad, capacity-building impact.

The programme has also contributed to protecting the remaining primary forest areas from fire (e.g. Kutai National Park and the Sungai Wain Protection Forest, at least in part). The macro-economic benefit is almost impossible to quantify exactly at reasonable cost. If in a very rough calculation we assume that the forestland situated in the response area of the fire brigades would have been completely destroyed by fire without the programme and that it was able to save at least a part of these, the value of the prevented forest losses (measured in reforestation costs) would amount to approximately EUR 8.0 million (US\$ 11.5 million). If we deduct the protected areas that are not put to economic use, this would leave only EUR 2.4 million (US\$ 3.5 million). Set against the total costs of the cooperation programme amounting to EUR 13.8 million (leaving aside the operating overheads of the fire brigades), this indicates an unfavourable cost-benefit ratio.

Emergency measures

For the most part, the emergency measures aimed at improving firefighting capacity (also outside the programme region) and alleviating hardship due to fires must rate as unsuccessful, because only part of the delivered equipment could be deployed and their impacts were largely unsustainable. The emergency programme was drawn up and started under heavy time constraints in 1998. The executing institution, BAPEDAL, was not subjected to a careful analysis. As it turned out, it lacked the technical, organisational and personnel capabilities to manage the programme measures. The advice provided by THW and a local consultant assigned to support BAPEDAL was only able to remedy problems in the implementation phase. No follow-on measures for the sustainable use of the water facilities in the four villages were taken. At ex-post evaluation, the water supply systems cannot be expected to be in sustainable operation. Apart from the medication supplies, therefore, the emergency programme was not implemented successfully.

We assess the developmental efficacy of the FC/TC cooperation project as follows:

There is not enough personnel available for the infrastructure and the basic operations of the LFCs. Administrative responsibility has been allocated for the fire centres, but there are still disputes between individual authorities in some cases. Operations cannot be adequately covered by the general budget lines for the forestry administration. The emergency measures have also proved to be insufficiently effective. For the most part, the programme objectives have not been met. **Effectiveness** is thus rated as **insufficient (Subrating 4)**.

The programme only addressed major problems in the region and the target group in a provisional way. It was (initially) only partly aligned with the official development strategies of the Indonesian side. On the other hand, it conformed fully with the strategies of the German side and international organisations. In hindsight, however, it is now plain that the reasons for forest destruction on Kalimantan is the unsettled regulation of land use (land law, land use planning, agroindustrialisation, agromining, etc.). The emergency measures were only partly designed to cater for local conditions. In response to the El Niño disasters, focusing on fire as a problem would seem to have been warranted at the time, but we consider the **relevance** as **insufficient** in today's terms (**Subrating 4**).

As also specified in the appraisal, the impact of the programme bears mainly on areas near the fire centres (20 - 60 km). This is, however, far from enough to place the area planned in the appraisal report under supervision, let alone protection. Altogether, forest losses prevented by firefighting are thus too small. A merit of the programme is its indirect support for a positive policy shift at national level, which also resulted in the establishment of the effectively equipped national fire brigade (more than 1,900 personnel), MANGGALLA AGNI (which, however, has no competence in the programme region, with the exception of the national parks). Altogether, we assess the developmental **impact** of the programme as **insufficient (Subrating 4)**.

Incorporating the project in the existing institutional setup (forest administration) avoided duplicating capacity; new buildings were only built in warranted cases. The vehicles and equipment were obtained at market prices after a call to tender. The support was therefore provided at adequate specific costs overall (production efficiency). Altogether, though, the costs (both for IFFM and the emergency measures) far exceed the (expected) benefit (allocative efficiency). It is also questionable whether setting up an extensive and cost-intensive firefighting system is more economical than remedying the political and economic causes of fires. Altogether, the **efficiency** of the programme is classified as **insufficient (Subrating 4)**.

Sustainability: Sustainable personnel capacity for the basic operations of most LFCs is satisfactory, as labour costs can be met from the general budget lines of the forest authorities (though not in full). Technical/Operating sustainability, in contrast, is insufficient as the operational capacity of the fire extinguishers will deteriorate for lack of maintenance. Contrary to expectations, the bulk of the emergency measures will not have a sustainable effect, either. **Sustainability** must therefore rate as **insufficient (Subrating 4)**.

In all, we assess the **developmental efficacy** of the programme as **insufficient (Rating 4)**.

General Conclusions

We can draw the following lessons from the (whole) programme:

- At an early stage in project/programme planning, close consultation must already take place between the national and project/programme level, to ensure clear, fast lines of communication (important in fire disasters) and provide sufficient budgets.
- Besides the regular fire brigades, well-trained village fire brigades are indispensable for successful firefighting and these must be regularly trained and upgraded.
- A national park management that subscribes to a 'law and order' philosophy can exacerbate fire problems. Participatory approaches frequently improve the chances of successful park and hence also fire management.
- Firefighting is not generally enough as an approach. If fires are primarily due to political and economic causes, as in the case here, prevention should also make up an integral part of project design. In the present case, the programme could only have taken full effect under conditions of clear land use planning, transparent land title issuance and strict penalties for illegal activities.
- Since preventing fires is frequently more economical than repairing the damage, an appropriate economic assessment should be carried out during the design phase in future.
- When specifying the objectives and indicators, KfW should insist more on direct man-

agement for results and a clear attributability to project/programme measures.

Notes on the methods used to evaluate project success (project rating)

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness (outcome), “overarching developmental impact” and efficiency. The ratings are also used to arrive at a final assessment of a project’s overall developmental efficacy. The scale is as follows:

- 1 Very good rating that clearly exceeds expectations
- 2 Good rating fully in line with expectations and without any significant shortcomings
- 3 Satisfactory rating – project falls short of expectations but the positive results dominate
- 4 Unsatisfactory rating – significantly below expectations, with negative results dominating despite discernible positive results
- 5 Clearly inadequate rating – despite some positive partial results the negative results clearly dominate
- 6 The project has no positive results or the situation has actually deteriorated

A rating of 1 to 3 is a positive assessment and indicates a successful project while a rating of 4 to 6 is a negative assessment and indicates a project which has no sufficiently positive results.

Sustainability is evaluated according to the following four-point scale:

Sustainability level 1 (very good sustainability)

The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected.)

Sustainability level 3 (satisfactory sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability)

The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and an improvement is very unlikely. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.