

***THE MEGA-RICE PROJECT
CENTRAL KALIMANTAN
INDONESIA***



***An appeal for intervention
to the International Community***

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This dossier contains:

- ◆ Joint-NGO letter to the International Monetary Fund dated March 2nd, 1998.

- ◆ Three pages Annex

- ◆ Two pages containing a *comprehensive* outline of the relationship between the reclamation of peat-swamp forest, the fires and the prospects for agriculture by Dr. H.D. Rijksen (University of Agriculture, Wageningen, the Netherlands)

- ◆ One page with an article “Indonesia’s inferno will make us all sweat” from the *New Scientist* from 18 October 1997

- ◆ Map and location of the Mega rice cultivation project

- ◆ One page explanation about the satellite images by Dr. Viktor Boehm (Kalteng Consultant, Germany)

- ◆ Five satellite images on forest fires within and around the project

- ◆ Four pages with photographs taken in December 1997 from the canal works and burnt areas inside and outside Palangka Raya, the capital city of the Central Kalimantan province.

JOINT-NGO REQUEST TO THE IMF FOR IMMEDIATE INTERVENTION

To:

Mr. Michel Camdessus
Managing Director
International Monetary Fund
700 19th Street N.W.
Washington D.C. 20431
USA

Re: Mega-Rice project in Central Kalimantan, Indonesia

Jakarta, March 2nd , 1998

Dear Mr. Camdessus,

We, the undersigned, hereby draw your attention to a major issue of economic and ecological concern in Indonesia in the context of your institution's current efforts to address the country's monetary and financial crisis. This is the so called Mega-project in Central Kalimantan province, a development project which is intended to convert over one million hectares of peat-swamp forest into a rice-producing area. The request in this letter represents concerns shared by many institutions and individuals in Indonesia and internationally.

Not solving this issue may seriously hamper the financial sustainability of the solutions the IMF is proposing to Indonesia.

We refer in this respect to several expressions by representatives of your institution and yourself on the close interrelation between macro-economic stability and ecologically sustainable use of natural resources.

Recently your Deputy Alassane Ouattara spoke at the World Bank's Fifth Annual Conference on Environmentally Sustainable Development on October 7, 1997. Amongst his many important remarks was the following:

"We also know that environmental problems, including those relating to specific regions and the world as a whole, hurt growth. Human welfare is reduced by ill health and premature mortality caused by environmental problems. Moreover, health problems can lead to higher outlays aimed at mitigating or avoiding the health and other direct welfare impacts of environmental degradation – further constraining growth. Studies also give abundant evidence of lost labor productivity resulting from ill health, forgone crop output from soil degradation, lost fisheries and tourism receipts from coastal erosion."

Almost all this applies directly to the Mega-project, to which should be added the onslaught of the project on wildlife and the tremendous burden on the budget of the country.

In the Annex the dramatic social, ecological and economic consequences of the project are described in detail. If necessary, experts from our side are willing to testify at your convenience.

We urge you that cancellation of this project and a new development programme including rehabilitation of the damaged zones be included in your negotiations with the Indonesian government.

We are very grateful for your attention to this letter and the Annex.

Sincerely yours,

S. Indro Tjahyono
SKEPHI, Indonesia

Hemmo Muntingh
**Tropical Rainforest Program of the
International Fund for Animal Welfare (IFAW)**

Frances Carr,
**Down to Earth (UK),
International Campaign for Ecological
Justice in Indonesia**

Saskia Ozinga, Ariane Crampton
FERN (UK & EU Offices)

Wouter Veening
Netherlands Committee for IUCN

Reinhard Behrend
Rettet den Regenwald (Germany)

Paul Wolvekamp
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Ricardo Carrere
**International Office of the
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Marcus Colchester
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more ...

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Kaija Helle, Jaana Airaksinen
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Carlos Pimenta
**Global Organisation of Legislators
for a Balanced Environment
(GLOBE European Union)**

Theo Ruyter
Both ENDS (Netherlands)

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**Rainforest Information Centre
(Australia)**

Bill Barclay
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ANNEX

BRIEF ON THE MEGA-RICE PROJECT IN CENTRAL KALIMANTAN INDONESIA

Impacts of the reclamation of peat-swamp forests

Peatland ecosystems are not only amongst the earth's most important ecosystems, but are also well known for their extreme fragility. Local communities have traditionally cultivated rice in this part of Central Kalimantan for many years, but on shallow peatland and on a very limited scale and without significantly affecting the environment. As a result of investigations and consultations with indigenous people spread over two years, a large number of Indonesian and international agricultural, soil and ecological scientists have concluded that:

1. Draining the peat swamp will change the local climate and hydrology of the province in an undesirable way (e.g. periods of prolonged drought and flash floods).
2. Last year's peatland and forest fires in this part of Kalimantan are the logical result of the drying-out of the area due to draining the deep peat (which is between 2 and 20 metres thick) and the use of fire as the cheapest method of land clearance.
3. The risk of similar fires - with the severe consequences for people's health, economic activity and the environment - will be increased in years to come.
4. The soil, hydrological, ecological and social conditions of the region make it impossible that the planned production capacity of the area can ever be attained.
5. Rice cultivation will require massive inputs of limestone, fertilisers and soil supplements to counteract the acid, infertile soils.
6. The ability of farmers to pay for the large amounts of pesticides and other agrochemicals required is highly questionable. These chemicals will have a highly negative effect on the environment.
7. The ill-planned drainage scheme leaves no opportunities to conserve unique areas of peat-swamp forest and their biological diversity.
8. Such reclamation work requires more thorough planning and sophisticated management to deal with inherent ecological constraints and to minimise environmental and socio-economic risks - not only in the conversion area, but also upstream and downstream.

The scientists have warned that Indonesia does not possess sufficient experience in a project of this magnitude and that there is a high risk of major environmental damage locally, regionally and even globally. It is therefore not surprising that several high ranking government officials at provincial and national levels are anxious about the impacts of this scheme.

The Mega-project violates government's own regulations

Established in June 1995 by Presidential decree in order to restore the country's self-sufficiency in rice production, the Indonesian government has begun to implement the 'reclamation' or Peat Development Project by establishing drainage canals through the swamp-forests of the eastern section of Central Kalimantan province. From the start the project clearly violated the Indonesian government's own regulations.

Firstly, reclamation of peat deeper than three metres is prohibited by Presidential decree No. 32/1990. Secondly, the environmental impact assessment (EIA) legally required before implementation of any project work was not started until April 1996, almost half a year after the excavation of a huge canal system had begun and forests were being cleared. The terms of reference for the EIA, which were not subject to review by

independent evaluators, were only officially approved by the Indonesian Environmental Impact Control Agency (Bappedal) in May 1997. The Bogor Institute of Agriculture, commissioned by the government to conduct the EIA concluded that 70% of the area was unfit for conversion and should in fact be conserved; only 30% of the area has agricultural potential. However, the drainage is already affecting the entire area and damaging its ecology.

Drought, forest fires and famine as logical results

In 1997, Central Kalimantan was one of three main regions in Indonesia where forests and peatlands were on fire. The Mega-project was one major location of 'hot spots' because burning for land clearance for the project started at the onset of the dry season. In June, several months before the fire and smog had become a serious health hazard to millions of people in South-east Asia, the areas upstream of the reclamation project already suffered serious food shortages. A marked drop in the water-level of the major rivers combined with poor visibility due to the smog hindered food transport to communities and a lack of water for irrigation has made it impossible to plant crops. Government assistance to the affected population was, at best, minimal.

In September and October famine was reported in the area. The fate of most inhabitants in the upstream areas remains unknown as thick haze blanketed the whole province between August and mid-November.

The fires restarted again in January this year in East Kalimantan. The effects, although expected to be less devastating than the forest fires of last year, clearly show the inability of the government to control the use of fires either by big companies or by the local community.

Disastrous impacts on traditional livelihood and animals

The drainage and reclamation has affected a considerable number of Dayak settlements. The indigenous population is dependent on fishing, the production of non-timber forest commodities (such as rattan, purun grass) and the cultivation of traditional rice varieties for subsistence. Due to the construction of the canal system and forest clearance, these people are confronted with the demolition of their traditional livelihoods, without due compensation, despite previous promises by the government. Local communities are increasingly being marginalised and their sustainable practices replaced by the government's inappropriate development plans.

Kalimantan's unique wildlife has become the other major victim of the Mega-project as forests are logged and set on fire. Many protected species - including possibly several thousand orang utan - have been driven out of the forest, killed by logging workers, eaten by local people or captured and sold to the illegal international pet trade.

Unchallenged timber interests behind it

In its efforts to achieve the long-term objectives of increasing Indonesia's rice production, the Indonesian government is using the Mega-project to satisfy the short-term interests of timber companies. In addition to work on the project infrastructure such as the drainage channels, irrigation system and transmigration sites, several large-scale companies appear to benefit from the reclamation, thousands of hectares of forest - including pristine forest designated for conservation - are being clear felled by private companies. These include PT. Rante Mario, owned by Hutomo Mandala Putra (President Suharto's youngest son), and subsidiaries of the Salim Group; companies which have been able to take an extraordinary share of state subsidies and other preferential treatments. The same companies are actively seeking monopolistic rights to convert land to oil palm plantations.

Planned Mega-transmigration despite past failures

The government's plans to resettle around 350,000 transmigrant families (over one million people) to form the agricultural workforce for the Mega-project, will exert a tremendous collateral impact on the whole province. As these people are unlikely to reach even subsistence level in their allotted plots, they will be obliged to seek additional income elsewhere - including logging in the forests. An example of this in the Paduran area of Central Kalimantan, west of the Sebangau river where hundreds of houses on transmigration sites built in the beginning of the 90's have been abandoned. Many of the people returned to their villages in Java; others remain - overexploiting forest resources and supplying the illegal timber and wildlife trades in order to survive.

Economic burden instead of benefit

The Central Kalimantan Mega-project will not only have disastrous impacts on the environment and socially and economically on local communities. The project is also very costly due to high costs of peat reclamation compared to land on mineral soil, therefore it will impose an enormous financial burden on the Indonesian state and therefore on all Indonesian citizens. Rice growing is technically not possible on deep peatland.

The sustainability of agriculture in many peat areas is limited, because of oxidation of the peat, which causes subsidence. At the time when most of the peat has gone, the remaining areas will be subject to flooding since the base of many peatlands is below sea level.

Moreover, the mineral soil below the peat is either pure quartz sand or so-called potential acid sulphate soils. So, apart from uncontrollable fires in the short term, the development of large scale conversion of peat-swamp forests to agricultural land will have no future, if these problems are ignored.

Your immediate intervention needed

The co-signatories of this letter, through different channels and on many different occasions, have tried to alert the Government of Indonesia and have proposed alternatives. The political sensitivity of this project makes it unlikely that critics within the government will come forward *even* with suggestions for corrective action. It is clear that serious measures are urgently required.

For the above reasons, we now ask for your intervention!

We ask you to use your influence with the Indonesian Government to bring about an immediate halt to the draining of the peat swamps in Central Kalimantan and to implement measures that will enable these peatlands to revert to their protective functions and provide sustainable resources for local people in perpetuity.

If action is not taken to reverse and rehabilitate the damaged areas then the most likely scenario for Central Kalimantan is that of long dry seasons accompanied by forest fires and famine.

We are convinced that if further damage can be prevented, your action will save the region's environment and the livelihoods of millions of inhabitants, plants and animals of Kalimantan.

A COMPREHENSIVE OUTLINE OF THE RELATIONSHIP BETWEEN THE RECLAMATION OF PEATSWAMP FOREST IN CENTRAL-KALIMANTAN, THE FIRES, AND THE PROSPECTS FOR AGRICULTURE

Compiled by: **Dr. Herman D. Rijksen**
Institute for Forestry and Nature Research - IBN,
International Affairs - NATURE CONSERVATION SECTION,
University of Agriculture, Wageningen

GENERAL FUNCTIONS OF PEAT-SWAMP FORESTS:

- ♦ Peat-swamp forest is an ecological system of immense importance for its surroundings; the living component is the vegetation cover (trees), the structural component is the peat (dead, undecomposed plant material).
- ♦ The whole system acts as a "sponge" (water retention) and "atmospheric pump" (evaporation for rainwater; the rain originating from the ocean falls on the swamp, which returns the water to the atmosphere over a long period of time, so that the dry hinterland will get rainclouds. This is particularly important for reducing the length of the dry season.
- ♦ The peat-swamp forest has a uniquely adapted biological diversity dependent on water and thriving on a low nutrient basis and is often a breeding ground for many species of freshwater and coastal fish and crustaceans (shrimp).
- ♦ The peat-swamp forest is one of the most important sustainable, multi-functional carbon (CO₂) sinks in the world - western countries in the near future may come to pay for this function.

WHAT HAPPENS AFTER RECLAMATION:

- ♦ Drainage leads to loss of water (drying out) in the spongy peat layer.
- ♦ Loss of water allows oxidation and decomposition of the peat (subsidence).
- ♦ Subsidence leads to loss of soil substrate (lowering of substrate horizon), the roots of trees are exposed.
- ♦ A lowered substrate horizon is susceptible to flash-flooding during the wet season.
- ♦ Trees die due to lack of water in the dry season.
- ♦ Dry peat is extremely susceptible to arson (fire).
- ♦ Peatfire is very hot, uncontrollable, and burning away the surrounding live forest.
- ♦ All biodiversity in a dried out, burned peat area is lost; the seedbank is burned.
- ♦ Due to changes in soil chemistry and lack of biota, regeneration of a plant cover is extremely slow and uniform - spore plants (ferns) immigrating from far away.

- ♦ The wetland system (rivers, creeks, pools) dies off due to chemical changes (acidification), and prolonged drying out during the wet season, breeding grounds for fishes disappear, coastal and wetland fisheries collapse.
- ♦ The uniform secondary vegetation (ferns) dies-off and dries out during the dry season and invite arson (burning deeper layers of peat away) every year.
- ♦ Removal of water and peat exposes underlying soil to atmospheric oxidation during the dry season; erosion and leaching during the wet season.
- ♦ Exposed soil base from beneath burned-away or removed peat may turn into acid-sulphate soil.
- ♦ Production of crops is uneconomical - due to exponentially poor soil quality, no water during the dry season, flooding during the wet season.
- ♦ Growth of plant-life for production is impossible on acid-sulphate soils without massive addition of lime, and fertilizer as well as very sophisticated water-management.
- ♦ The die-off and removal of the trees (the living component of the system) destroys the atmospheric pump - rainwater runs off during the wet season, and is not recycled back to the atmosphere.
- ♦ The hinterland of the former peat-swamp area suffers a much longer dry season, and a short wet season with torrential rains, causing erosion, floods and washing away of crops.
- ♦ A longer dry season increases the risk of uncontrollable fires.
- ♦ **No rain, no water + uncontrollable fires = no food > famine**

Indonesia's inferno will make us all sweat

Peat bogs in Indonesia that have been set alight by the country's raging forest fires could release more carbon dioxide into the atmosphere over the next six months than all the power stations and car engines of Western Europe emit in a year. The finding backs up claims that the fires could have a significant impact on global warming.

Jack Rieley, a peat bog specialist at the University of Nottingham, and colleagues in Britain, France and the US, have concluded that a fifth of the estimated 600 billion tonnes of carbon stored in the world's peat bogs is in Indonesia. Rieley has now calculated that if these forested peat bogs continue to burn for six months, which is likely despite the onset of rains, they will release 1 billion tonnes of carbon. Western Europe's emissions are below 900 million tonnes a year.

Estimates from satellite images suggests that the fires on the islands of Borneo and Sumatra have affected about one million hectares of peat bogs. "If the fires establish themselves within the surface peat itself, they could lead to the loss of up to a metre of peat within six months," says Rieley.

The Centre for international Forest Research, based at Bogor in Indonesia, backs Rieley's analysis.

"Burning peat has far more severe environmental impacts than simply burning the annual accumulation of plant material," it says. Richard Lindsay of the University of East London, secretary of the International Mire Conservation Group warns: "If the fire gets deep into the peat, it could smoulder for several years."

This is not the first time that fires in Indonesia's peat bogs have added to the atmospheric burden of CO₂. Half a million hectares burnt for nine months between July 1982 and April 1983. The fires coincided with a surge in atmospheric CO₂, even though emissions from fossil-fuel burning were then at a six year low. *Fred Pearce*

New Scientist, 18 October 1997



The Mega-Rice Project
 Total area 1,7 million hectares
 covering three major rivers

Microsoft
ENCARTA 98
 WORLD ATLAS

Kalimantan, Borneo

Approximate location in Central Kalimantan

EXPLANATION FOR THE FOLLOWING 5 SATELLITE IMAGES

(No. 1) LANDSAT-Satellite-Image taken on the 10. May 1996

This is an overview of the 1. Mio ha rice project in Central Kalimantan.

The image size is 185km x 185km.

The main irrigation channels of approx. 115km length have been started to be built between River Kahayan, River Kapuas and River Barito. Also smaller irrigation channels are detectable in the area of Lamunti, Dadahup and Palingkau (rice planting test areas).

(No.2) ERS-Radar-Satellite-Image taken on the 2. Sept. 1997 resp. 22. Oct. 1996

This coloured Radar-image shows the "progress" of the irrigation channels in the area of Palangkaraya. The main irrigation channel are starting from the River Kahayan (right above in red colour) and the smaller channels between the River Kahayan and the River Sebangau.

The image uses the change-detection-technique between 1996 and 1997.

Remark: The fotos from Dec. 1996 are taken in the area between River Kahayan and River Sebangau.

(No.3) SPOT-Satellite-Image taken on the 29. July 1997

The River Barito cuts through the image from north to south at the Dadahup area.

West of the river (Dadahup area), irrigation channels show up as a grid of pale green lines, enclosing a large plantation. Areas which are covered with healthy vegetation (mainly peatland) show up in red or pink, while bare soil or sparsely vegetated areas show up in various shades of green.

Many smoke plumes rise from the burning of vegetation and peat in the project area.

A few smoke plumes can also be seen to the east of the river, which could be fires started by small farmers or spontaneous bush fires.

(No.4) SPOT-Satellite-Image taken on the 28. August 1997.

The whole area is now covered by dense smoke and haze. Through the thick haze, we can see that nearly all of the vegetation and peatland in the project area and near the river are burning (white spots).

(No.5) SPOT-Satellite-Image taken on the 8. September 1997.

The smoke haze has lifted on this day, offering a temporary reprieve and revealing the extent of damages done. Systematic land-clearing by fire is however still in progress. Large extent of the red/pink areas in the previous image (29 July 1997) have been destroyed and turned dark green, the result of burning in the two months period.

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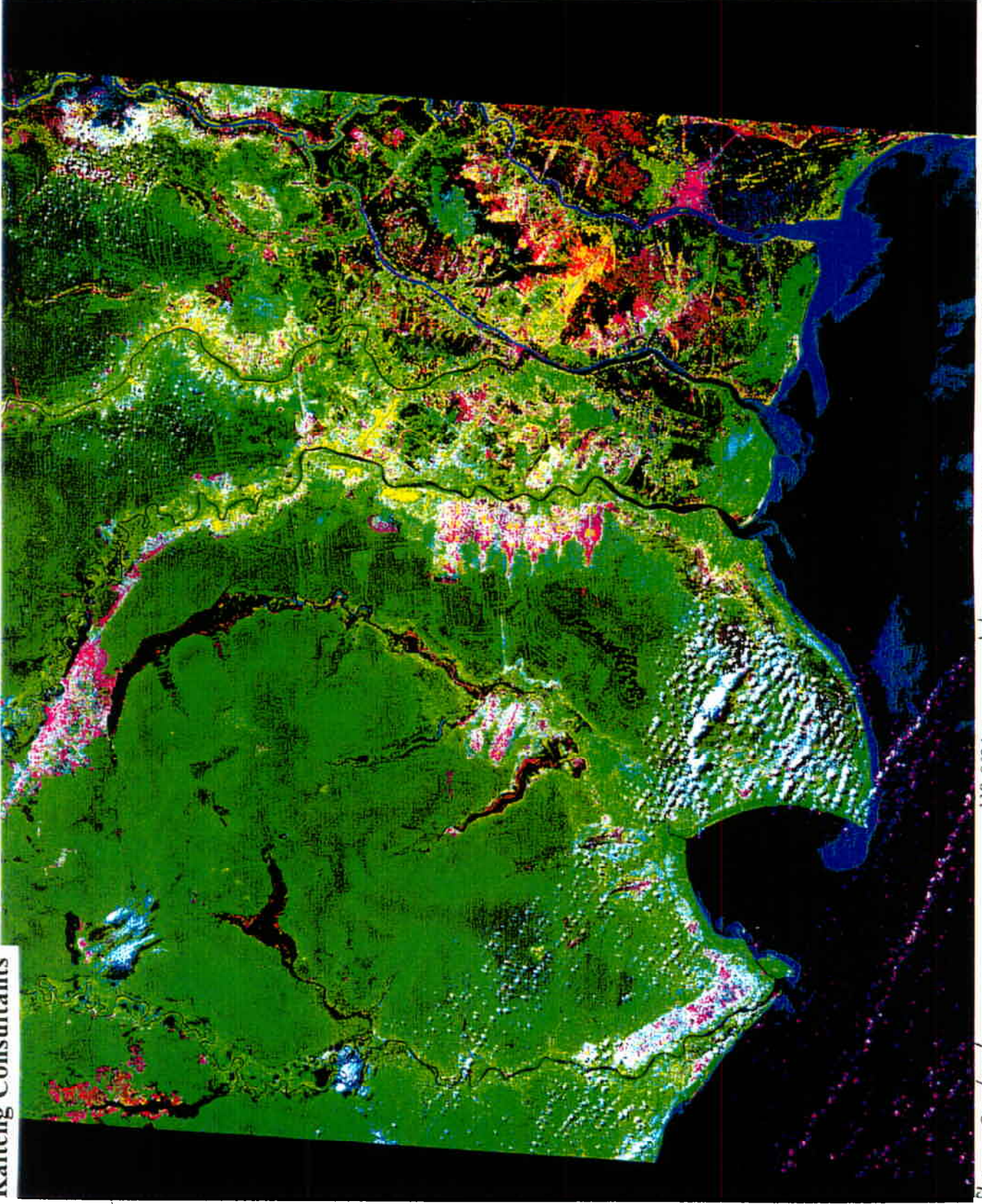
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185 x 185 km²



North

NO. 1

Strong contrast

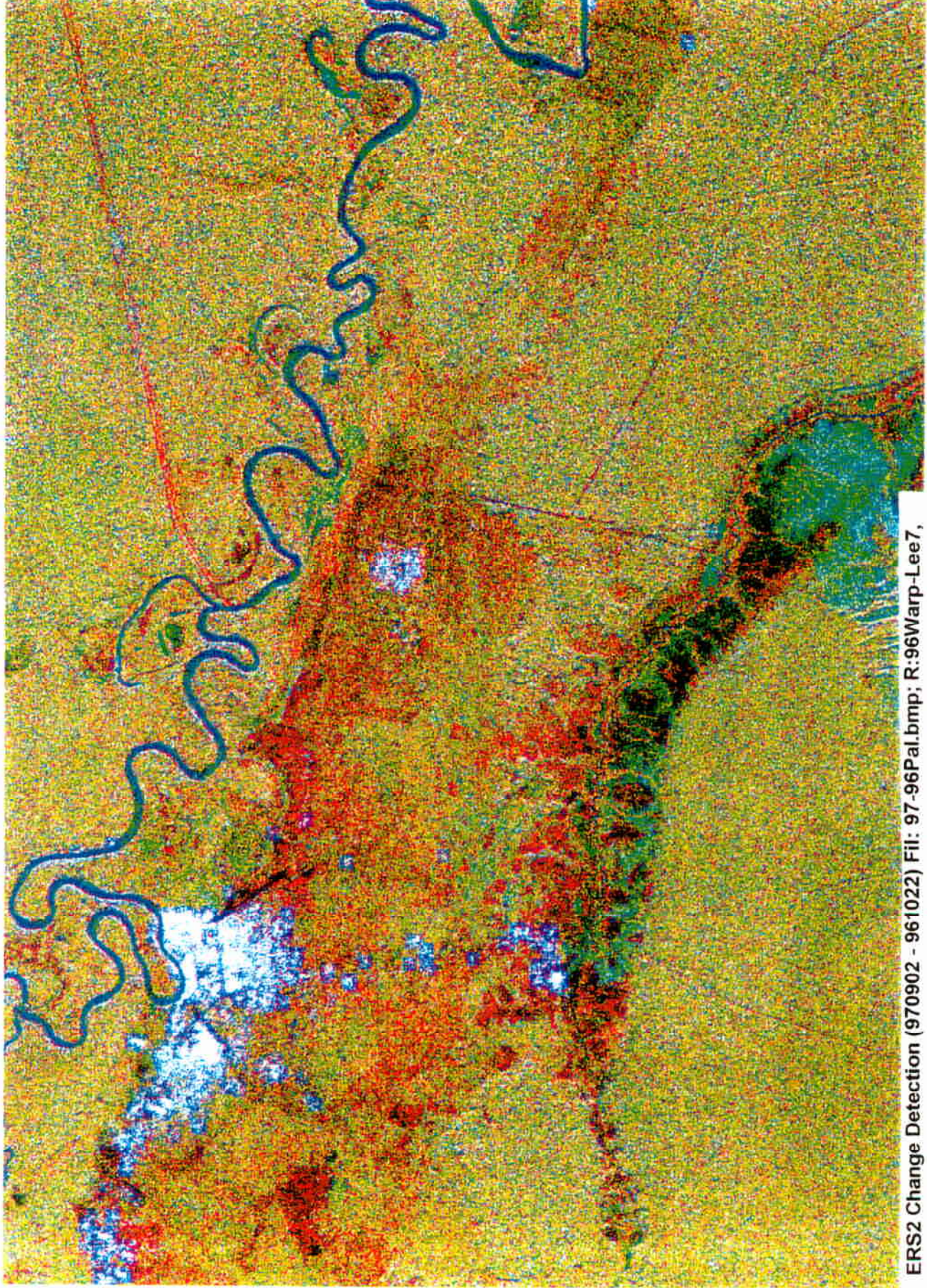
118_062.lan

taken

10. May. 1996

Landsat-TM bands R-G-B: 5-4-2

equalised



ERS2 Change Detection (970902 - 961022) Fil: 97-96Pal.bmp; R:96Warp-Lee7,

G:97Lee7. B:97Tex15; Palangkaraya 25kmx35km, Kalteng Consultants25.11.97

Barito

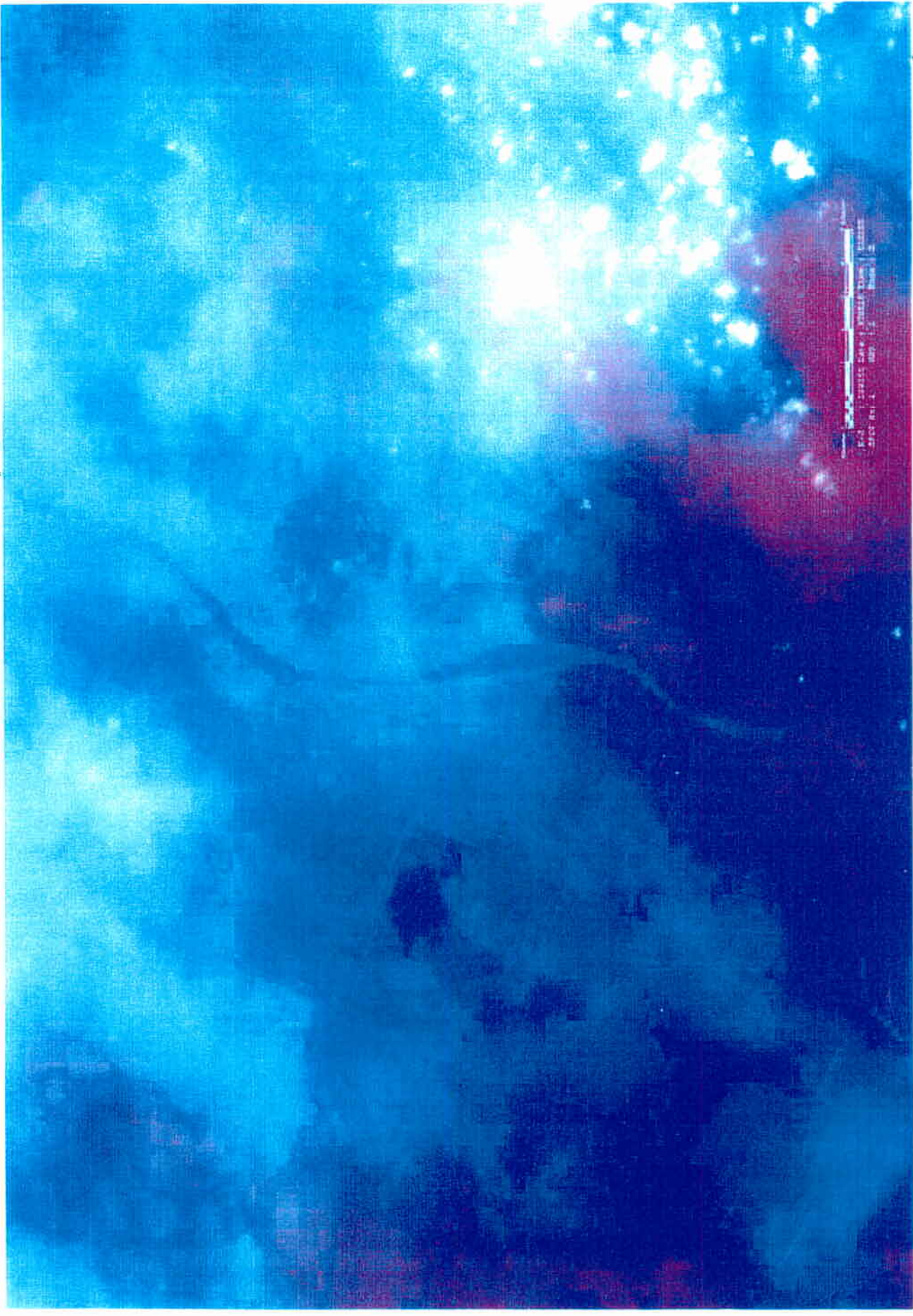


NO. 3

Spot-Image taken 29 July 1997 Red is Vegetation, Green Distraction, Fires are starting

d Barito

No. 4



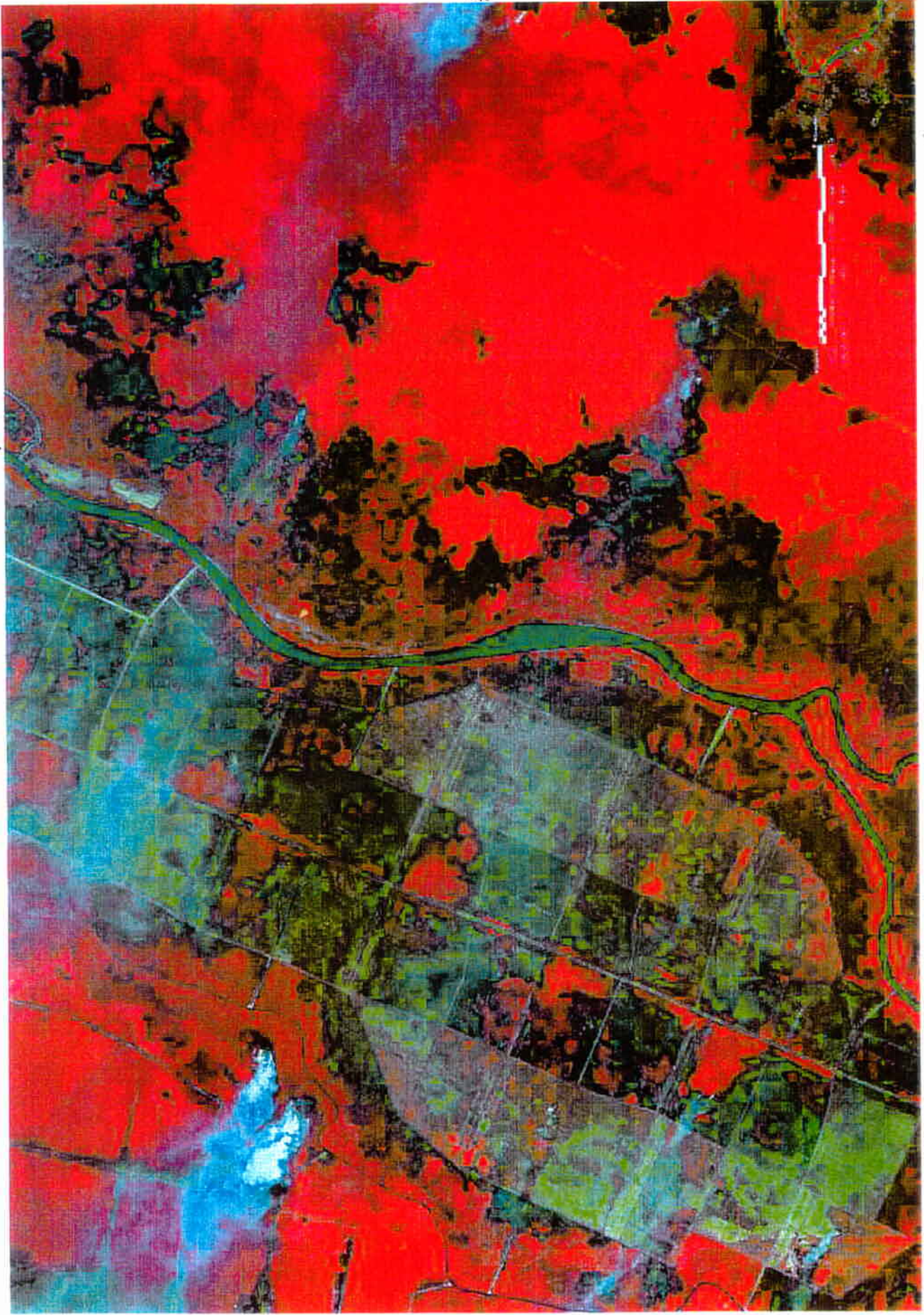
↑ New fires

Spot-Image taken 20.8.1997 Over the total area is smoke

No
5

Fire

Barito



Spot-Image taken 8. Sept. 1997 After a short raining periode. Several small fires





Large canals are constructed





The water flows away and disappears from the peat – sometimes up to 20 metres thick



and the forests dry out and die



Burned areas in Central Kalimantan near Palangkaraya

