



UNORCID

Summary of Proceedings

El Niño: Advancing Coordination to Address Haze Impacts and Sub- national Response Systems

Bogor Agricultural University (IPB) Food and
Agriculture Organization of the United Nations
(FAO)

United Nations Children's Fund (UNICEF)

United Nations Office for the Resident
Coordinator in Indonesia (UN RCO)

United Nations Office for REDD+ Coordination in
Indonesia (UNORCID)

United Nations World Food Programme (WFP)

World Health Organization (WHO)

7 October 2015, Papua Room, Menara Thamrin
Building, Jakarta, Indonesia

Executive Summary

The on-going El Niño episode is causing droughts resulting in water scarcity and an increased numbers of fires hotspots across Indonesia. The event therefore aimed to strengthen the coordination among stakeholders to address the impacts of the 2015 El Niño, focusing on peat and forest fire issues, related response systems in Indonesia, and the options for further international support. Experts from the Government of Indonesia, research institutions, and the UN System presented on the current state of forest and land fire haze, water security impacts, sustainable peatland management, agricultural impacts, and international support and cooperation.

The event was organized on 7 October 2015 by UNORCID in collaboration with Bogor Agricultural University (IPB), the Food and Agriculture Organization of the United Nations (FAO), the Office of the UN Resident Coordinator (UN RCO), the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the United Nations World Food Programme (WFP). Key messages articulated in the course of the event were as follows:

1. **Emergency funding should be used for mitigation activities.** Upgrading the status of the 2015 El Niño to an emergency would increase funding from the central government that could be used to improve water access, increase food security, and reduce incidence of fires.
2. **The 2015 El Niño is leading to an increase in fire hotspots and haze levels,** which have major social and economic impacts. Haze poses a serious threat to human health with increasing levels of Upper Respiratory Tract infections.
3. **El Niño related drought is impacting drinking water security.** The Government has put short- and long-term actions into place to improve access to drinking water, but increased coordination and additional funding is needed.
4. **El Niño related drought is impacting food security** by causing delayed and decreased planting areas likely resulting in lower harvests. Early warning systems, farmer education educating, and appropriate planting techniques could improve yields.
5. **Sustainable peatland and hydrology management is key to addressing the fire and haze problems and the prevention of future land subsidence in Indonesia.** Solutions should focus on early warning systems, rewetting the peatlands, and other measures of peatland management including policy changes, canal blocking, replanting, and community engagement.
6. **Incentives and disincentives for companies and local communities should be in place in order to reach a permanent solution for forest and land fire control.** While the government undertakes various efforts of prevention, suppression and post-fire actions, fires are still on-going. Cost-effective and sustainable alternatives and incentives are essential to prevent the use of fire to clear agricultural land, as is education and awareness raising on the importance of environmental protection.
7. **Coordinated international support for forest and land fire prevention and control is required.** Solutions to fire and haze problems are available. Insights from previous work can be used to develop innovative solutions with the support from the international community.

Welcoming Remarks

Mr. Satya Tripathi, Director of UNORCID, initiated the Dialogue Series event by drawing attention to the current high-risk- potentially life threatening- impacts of the current El Niño episode, including related fire and haze that are prevalent across Indonesia. In addition to emitting large quantities of CO₂, fire and haze are serious threats to human and animal health and biodiversity; they are the cause of various other socio-economic problems, including relocation of people, loss of jobs, and closed schools and airports. This brings about major social and environmental costs for Indonesia and neighbouring countries. Mr. Tripathi emphasized that international and national stakeholders play a significant role in supporting the Indonesian government to address these issues and hoped that the event would spark discussion and information sharing, building on the previous El Niño Dialogue Series event and leading to long-term solutions.

Panel Session

Moderator, **Mr. Mark Smulders**, FAO Country Representative in Indonesia, encouraged participants to discuss comprehensive coordination strategies - which require a multi-stakeholder and multi-sectorial approach – to respond to the broader impacts of El Niño and the subsequent La Nina and to identify where interventions are most needed.

Mr. Untung Suprpto, Deputy Director for Prevention and Fire Control at the Directorate General for Climate Change Control in the Ministry of Environment and Forestry (KLHK), delivered an update on the recent developments of forest and land fires and related haze. KLHK is currently monitoring six vulnerable provinces, namely Riau, Jambi, South Sumatra and Central, West and South Kalimantan, which show high levels of air pollution and haze that cause multiple socio-economic impacts, including a significant increase in levels of Upper Respiratory Tract infections in Central and South Kalimantan and disruptions in flight schedules. In their fire and haze mitigation efforts KLHK uses various methods divided into three phases: prevention, fire-extinguishing, and post-fire management. Prevention efforts undertaken include the coordination of stakeholders; installing a forest fire and land fire control brigade and a stationary post; increasing awareness by counselling, information sharing and trainings; establishing early warning and detection mechanisms; seeding clouds; and improving water management approaches, which include canal blocking and locating water sources to extinguish fires. Fire-extinguishing efforts consist of extinguishing fires on land, water bombing by air, and weather modification, while post-fire management aims at identification, monitoring, and law enforcement. With worsening droughts exacerbate fires and limit the availability of ground water to extinguish fires, Mr. Suprato presented new fire management efforts and suggestions for incentive and disincentive mechanisms for communities and companies to control forest and land fires. He stressed the need for a permanent solution and requested experts to assist villagers in finding cost-effective, fast, and sustainable alternatives to the use of fire for clearing land for agriculture.

The second panellist, **Mr. Oloan Simatupang**, Head of the Sub-Directorate of Technical Planning, Directorate of Drinking Water Development, Directorate-General of Human Settlements, Ministry of Public Works showed the impacts of the 2015 El Niño on drinking water security, noting how the government intends to accelerate the goal of universal access of drinking water in Indonesia. He discussed short-term and long-term actions that have been undertaken at different government levels to mitigate the drought impacts on the drinking water supply. Measures include ways of preserving and retaining water, the deployment of water tanks, preparing an emergency task force, allocating budget to areas where long droughts are anticipated, and building open water storages in five locations to prepare for emergencies. A lack of sufficient funds was identified as a serious limitation to ascertain sufficient drinking water, calling for outside assistance to fill the funding gap. There is also a need for a joint and coordinated approach and more socialization activities to tackle the recurring drought and water security challenges. While the central government has a supporting role, water management is effectively under control of the local government and the district head, explained Mr. Simatupang. He expressed hoped that inputs from the meeting could lead to a more comprehensive management across different sectors, which could be used to create a roadmap to address El Niño and future climate change impacts on water availability.

Dr. Nina Yulianti, a Professor at University of Palangka Raya and Regional Coordinator for IJ-REDD+, presented on sustainable peatland management in Central Kalimantan demonstrating data of historic events of peatland and forest fires in Kalimantan during weak and moderate El Niño years. She explained the dynamics underlying peatland fires: canals dug as part of the Mega Rice Project (MRP) drained the naturally humid and water-logged peat swamps lowering the ground water level, leaving dried, carbon-rich land that is extremely prone to fire and land subsidence. Though the canal network, access to peatland areas was made easier, which has led to an increase in human-induced fires. The suppression of peat fires is difficult as fires burn below ground and water sources are not always available. Health impacts of the resulting haze and toxic gas emissions from these fires are enormous, and specialized oxygen tubes that are required for safety are expensive, limitedly available, and not suitable for infants. Dr. Yulianti further showed how the peak of the fire season coincides with low ground water levels (lower than 40cm) that can be used as an indicator of severe incidences of peat fire. Key to sustainable peatland management is therefore wise hydrology management with a focus on monitoring groundwater levels that vary greatly between El Niño and non-El Niño years. Solutions include rewetting the peatlands, canal blocking, replanting, and teaching communities to support with measuring groundwater levels.

Prof. Dr. Rizaldi Boer, Executive Director, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific (CCROM-SEAP) at Bogor Agricultural University (IPB), presented on the impacts of El Niño on rice production in Indonesia. Wet season and dry season rice planting in Indonesia is dependent on rainfall patterns, which are affected by El Niño. Currently, the El Niño droughts and the delayed monsoon- mostly affecting West Java, East Kalimantan, South Sumatra and South Sulawesi- are causing delayed planting in the dry season, a decrease in planting areas, and a likely delay and decrease of planting in the wet season.

Meteorological forecasts predicts high chances of rainfall in December in West and Central Indonesia, whereas further delays are predicted for the Eastern parts of Indonesia, possibly leading to a rainy season of less than three months, causing serious problems for farmers. The delayed rains reduce the total number of seeds planted and are expected to reduce the harvest yields by 10-20% of the average production in El Niño affected areas. Irrigation is not possible due to insufficient water availability in the reservoirs, but human management can still influence the areas affected by droughts. For this an early warning system has to be further developed that can estimate the conditions of the upcoming 3-6 months, preventing farmers from second plantings by warning and educating them. Other response measures include accelerating planting and intensifying the efficiency of planting per area to avoid the delay of the second planting, but the availability of sufficient seeds is problematic and requires anticipation.

Mr. Johan Kieft, Head of the Green Economy Section at UNORCID, presented on existing international cooperation to support for forest fire control and sustainable peatland management. He explained how historically weak forest and peatland management is a major cause Indonesia's fire and haze problems- one of the worst present-day environmental disasters- that occurs even during normal dry seasons. Past international support has consisted of prevention, control, and management approaches, including the integrated forest fire management project (IFFM) in Kalimantan, the Fire Danger Rating System (FDRS), community based fire management approaches, and hotspot supported fire suppression. Due to the large amount of carbon emitted during peatland fires, the focus of international support has shifted from forest fires to peatland fires and efforts concentrated on peatland rewetting and rehabilitation, peat fire management, the development of fire early warning systems, and research and policy on the underlying causes of the fires. However, so far there has been little impact: fires continue to be a major source of emissions, and haze continues to affect Indonesia and neighbouring countries. Mr. Kieft explained that since there is no effective approach towards peat fire suppression, the emphasis should be on anticipating fires, improving peatland management, changing policies, and engaging communities. Canal blocking efforts by the Kalimantan Forests and Climate Partnership (KFCP) saw promising results, yet, overall, pilot activities have been limited, health impacts not assessed, and challenges remain in developing a coordinated approach and learning from past experiences. Response measures should use a humanitarian approach that focusses on health impacts and integrates science to fully assess the risks and unintended impacts of proposed measures. Ultimately, future assistance from the international community will depend on what the Government of Indonesia prioritizes and how this can be delivered most effectively, concluded Mr. Kieft.

Discussion on the Possible Options for International Support

Mr. Giorgio Indrarto, consultant at the Rainforest Foundation Norway, questioned the accuracy of the government's data, and asked for further details about anticipatory measures and the response to the present situation. Subsequently, **Mr. Djoni Ferdiwijaya**, from Mercycorps Indonesia asked about the government's efforts to address the increasing hotspots and its current system to identify and monitor

water needs and its distribution. Acknowledging the need for further action, Mr. Simatupang re-emphasized that the responsibility for water availability is with the district heads. He added that the Ministry of Public Work's mandate is limited to empowerment activities and technical support, as they cannot directly intervene at the sub-national level unless it concerns an emergency response. However, financial assistance and technical trainings will be provided more often in order to deliver services to the people to achieve the 100% water access target. Responding to Mr. Indrarto, he noted that all ministries have not yet approved the data presented.

In terms of action further actions to combat fires and haze, **Mr. Heru Prasetyo**, Former Head of the National REDD+ Agency, suggested creating a group of fire fighters and volunteers that operates during extreme occasions to ensure a continuous emergency response. Pointing out the limitations of hotspot indicators, he proposed looking at comprehensive cross-sectoral, multi-level cooperation approaches and thematic coordination efforts among the government and all other parties concerned. Solutions he offered were immediate canal blocking assisted by the international community and coordination on canal and peatland management, which requires detailed and updated data and mapping. In addition to rewetting of peatlands, he emphasized endorsing the Indonesian Palm Oil Pledge (IPOP) on zero deforestation for palm oil development and expanding it by including zero use of peatlands as medium- to long-term solutions for fire prevention. Mr. Untung agreed on the ideas of rewetting the peatlands and the need to coordinate with all stakeholders, in particular the communities, to address the fire problem. Currently, hotspots monitoring systems suffer from a lack of incomplete data and procedures. Following up on the current inputs, preventative measures will hopefully be prioritized next year, with improved ground checking patrols and community empowerment, he added.

During the discussion several questions were addressed to Dr. Boer. A representative from the Central Agency on Statistics (BPS) asked about the accuracy of the data on rice production decreases, and requested Dr. Boer's advise on strategies to increase production, particularly with regards to mitigating planting season delays as a result of drought. Mr. Tripathi asked about the effects of diminished harvest on Indonesia's food crop imports and exports. Dr. Boer explained that the reduction in harvest depends on the net reduction in production- reductions that could be partly mitigated by additional planting in the dry season to increase yields. On planting and water use, he drew attention to different planting techniques, the need for more seedlings, and the importance of advising farmers on available technologies to increase production. Concerning food security, he stated that the import of rice should be prevented, especially since Indonesia is already highly dependent on wheat imports. Dr. Boer further suggested the government declare the situation an emergency in order to access additional emergency funds that will be needed in case of extreme losses in harvest.

Mr. Prasetyo suggested looking into an anti-disaster fund and asked Dr. Boer about the current anticipatory measures to predict and address the impacts of the El Niño, including the possibilities of water catchment by dams. Dr. Boer pointed out that in terms of food security there is no disaster yet; however, he proposed establishing a threshold of a 'likely disaster' after which emergency funding can be used for anticipatory measure. He again stressed the need for an early warning system and explained

that they are investigating different options for reservoirs and catchments, looking not only at the big reservoirs but also at developing community-based reservoir systems.

Addressing a question on the willingness of the international community to support a major project by the Indonesian government to address El Niño and peatland management, Mr. Kieft commented that the answers to the problems are available, but challenged by limited research and market developments. A shift towards sustainable cropping and a change in policy maker's mind-sets away from acacia and palm oil are needed. Best practices and lessons learned from the work of KFCP and JICA in Kalimantan can be used to develop innovative solutions and pilot projects for sustainable peatland management. He stressed that these issues need to be addressed now or Indonesia will face substantial land subsidence over the coming twenty to thirty years.

In the final statements of the event Dr. Yulianti mentioned that the conditions in Kalimantan are likely to occur for another twenty years; she fears this may result in a perceived reduction in urgency in the public's concern to address fire and haze as it becomes a normal phenomenon. Extensive education efforts are therefore needed from the national to local levels focusing on raising community and private sector awareness on the importance of maintaining the environment. Mr. Smulders noted that the El Niño is a complex and recurring phenomenon that requires improved prevention actions that are developed by learning from past experiences and applying existing knowledge.

Closing Remarks

Mr. Tripathi closed the dialogue by emphasizing that addressing the impacts of the El Niño- particularly in regards to the social impacts of fire and haze, and food and water security- is a challenge that requires a long-term perspective and a collective, well-coordinated approach. In this respect a database of projects in Indonesia that work towards improving peatland management and supporting the green economy transition is being prepared. Mr. Tripathi invited all participants to contribute to this database that will be shared with government.

Annex 1: Agenda

Time	Item
8:30-9:00	Registration
9.00-9.10	Welcoming Remarks - Mr. Satya Tripathi, Director, UNORCID
9.10-11.50	<p>Panel session and discussion on possible options for international support</p> <p><i>Moderator: Mr. Mark Smulders, FAO Country Representative in Indonesia</i></p> <p>Mr. Untung Suprpto, Deputy Director for Prevention and Fire Control, Directorate General for Climate Change Control, Ministry of Environment and Forestry.</p> <ul style="list-style-type: none"> • <i>Current status of forest and land fire haze</i> <p>Mr. Oloan M. Simatupang, Head of Sub-Directorate of Technical Planning, Directorate of Drinking Water Development, Directorate-General of Human Settlements, Ministry of Public Works.</p> <ul style="list-style-type: none"> • <i>Water security impacts of the 2015 El Niño</i> <p>Dr. Nina Yulianti, Universitas Palangka Raya / Regional Coordinator IJ-REDD+</p> <ul style="list-style-type: none"> • <i>Sustainable peatland management in Central Kalimantan</i> <p>Prof. Dr. Rizaldi Boer, Executive Director, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific (CCROM-SEAP), Bogor Agricultural University (IPB)</p> <ul style="list-style-type: none"> • <i>Lessons from previous El Niño events for future international support</i> <p>Mr. Johan Kieft, Head of the Green Economy Section, UNORCID</p> <ul style="list-style-type: none"> • <i>Existing international cooperation on forest fires and sustainable peatland management</i>
11:50-12.00	Closing remarks – Mr. Satya Tripathi, Director, UNORCID
12.00-13.00	Lunch and Informal Interaction

Annex II: List of Participants

Australian Embassy
Badan Pusat Statistik (BPS), Government of Indonesia
National Development Planning Agency (Bappenas), Government of Indonesia
Bogor Agricultural University (IPB)
Carbonfund.org
Danida
De Altin Group
Embassy of Canada
Embassy of Colombia
Embassy of Fiji
Embassy of Sweden
Embassy of the Federal Republic of Germany
Embassy of the Socialist Republic of Vietnam
Food and Agriculture Organization of the United Nations (FAO)
Forest Carbon
Green Works Asia (GWA)
IDEA
IFI - French Embassy
Indonesia Pulp and Paper Association

Millennium Challenge Account – Indonesia (MCAI)
Ministry of Environment and Forestry, Republic of Indonesia
Ministry of Public Works, Republic of Indonesia
United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)
The Indonesian Palm Oil Research Institute (PPKS)
The Center for People and Forests (RECOFTC)
Rainforest Foundation Norway (RFN)
Royal Thai Embassy
Salim Ivomas Pratama
Sinar Mas
SMART
UNESCO
Unilever Indonesia
University of Palangkaraya, IJ-REDD+
Universitas Indonesia
Universitas Pancasila
USAID
Wana Subur Lestari
United Nations World Food Programme (WFP)

World Health Organization (WHO)
World Resources Institute (WRI)
Yayasan Spektrum Pelangi