Summary of Proceedings

El Niño: Learning from Past Experiences to Inform Planning and Response

Bogor Agricultural University (IPB)
Food and Agriculture Organization of the United Nations (FAO)
United Nations Children's Fund (UNICEF)
United Nations Office for REDD+ Coordination in Indonesia (UNORCID)
United Nations World Food Programme (WFP)

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

Executive Summary

The purpose of this Dialogue Series was to assess the possible risks of the current El Niño episode; compile experiences and lessons learned from past El Niño events; and to discuss and develop preparatory, preventative, and response measures to be taken by all stakeholders to support the Government of Indonesia in mitigating impacts. The event was organised on 7 September 2015 by UNORCID in collaboration Bogor Agricultural University (IPB), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund (UNICEF), and the United Nations World Food Programme (WFP).

Data from the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) predicts the current strong El Niño will continue until February or March 2016, peaking at the end of the calendar year. Experts from BMKG, the National Disaster Management Agency (BNPB), the Ministry of Health, the Ministry of Environment and Forestry, and UN System presented on the multidimensional impacts of El Niño on food security, water availability, health and nutrition, poverty, and the environment.

Key messages articulated in the course of the event were as follows:

1. **There is an urgent need to take action now as El Niño is already happening,** and it may be comparable in strength with the 1997 event.
2. **Development partners can support the Indonesian government's El Niño response particularly through assistance to technology, systems, and monitoring** to support, for example, the health sector by monitoring the five most threatening infectious diseases, and the Ministry of Environment in terms of technology, information, and knowledge to implement fire management policies.
3. **The El Niño threatens food security and food sovereignty, in addition to having negative impacts on health and nutrition across the country**. There is a need to diversify crops and shift the focus from rice to a wider variety of locally available foods with high nutrient values
4. **There is a positive correlation between El Niño episodes and forest and peat land fires.** The subsequent haze from fires impacts health, biodiversity, and environmental capital. There is a need for improved fire prevention actions, including sustainable peat land management, stricter law enforcement, and addressing the health impacts of haze.
5. **The El Niño is causing a clean water crisis,** a driver of disease particularly in vulnerable groups including children, pregnant women, and the elderly. Central coordination to improve access to safe drinking water is required. BNPB acknowledged their capacity to deliver sufficient amounts of water is lacking, but that they provide guidance and action plans for other stakeholders to take action.
6. **Coordination and capacity building is needed among different government sectors,** starting with the central government focusing on the needs and responsibilities of the local government to implement policies. There is an urgent need for Coordination, Integration, Synchronisation, Synergy, Monitoring and Evaluation (CISS-ME) among all stakeholders from the central to the district levels.

Welcoming Remarks

After welcoming speakers and participants of the UNORCID dialogue series, **Mr. Satya Tripathi**, Director and Executive Head of UNORCID, emphasised that El Niño impacts in Indonesia are of far greater proportion compared to other countries. Impacts extend beyond the climate in general to affect forest and peat land fires, health, and greenhouse gas emissions, among other negative impacts. The common interest of development partners to address this challenge is reflected in the collaborative effort to organise this event with Bogor Agricultural University (IPB), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund (UNICEF), and the United Nations World Food Programme (WFP). Mr. Tripathi expressed his hopes that outcomes of the discussion will contribute to the efforts of the Indonesian government – and other stakeholders – to put in place preparatory and response measures to lessen the impacts of the current El Niño episode.

Opening Remarks

Mr. Douglas Broderick, UN Resident Coordinator in Indonesia, thanked participants and the efforts of four UN Agencies - aligned with government partners – to deliver as one to address the complicated and crosscutting issue of El Niño. He stated how building resilience and capacity to prevent and mitigate El Niño impacts is a priority for the work of the UN in Indonesia and also a part of the upcoming Sustainable Development Goals (SDGs). He acknowledged the progress made by the Indonesian government towards dealing with natural disasters, and expressed his interest in hearing about El Niño from Government experts as to identify where the UN can assist to mitigate impacts.

Keynote Speech

Mr. Ageng Herianto, Assistant FAO Country Representative, gave a Ministry of Agriculture (MoA) presentation entitled "El Niño: Drought mitigation actions for available food and production". Data from the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) showed El Niño impacts across Indonesia, with extreme drought in the southern parts of the country – a phenomenon expected to last up to the end of 2015. He stressed the adverse impacts of El Niño on food security, water availability, health and nutrition, poverty, and the environment. At the national level, El Niño threatens food sovereignty and self-sufficiency (especially for rice) through decreased agricultural productivity as a result of low and delayed rainfall which impacts on rice production patterns. Often these impact are compounded by a following La Nina episode which leads to floods, low soil fertility, and erosion. At the individual level, food security challenges are exacerbated- especially among the poor- as a result of decreased purchasing power as a result of increasing expenditures on items such as water and food. The MoA date, however, showed that so far a smaller proportion of arable land has been lost during this El Niño episode in comparison to last year's unseasonably dry weather as a result of weak El Niño circumstances.

In terms of response mitigation actions to combat the drought, the MoA has established a task force to ensure water availability and the government is well-prepared in terms of distributing water pumps. Mr. Herianto explained that health and nutrition impacts had not yet been assessed. He cautioned against

an overemphasis on the impacts on rice production as El Niño impacts multiple agricultural sectors and the economy as a whole. A strong La Nina will follow the El Niño, he explained, which also greatly impacts the agricultural sector, and therefore increases the importance of assessing the short-, medium- and long-term impacts of El Niño to determine areas for targeted investments to mitigate impacts.

Panel Session 1: Status and actions to be taken

Moderator, **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), encouraged panellists and participants to use the discussion to look forward at a long-term strategy to anticipate El Niño.

Dr. Ardhasena Sopaheluwakan, Head of Climate Analysis and Information Subdivision, Centre for Climate, Agroclimate and Maritime Climate, Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), presented insights on El Niño from a meteorological perspective. In comparison to the strong El Niño episode of 1997/1998, the current El Niño has deviated more severely from the norm than that of 1997 (see slide 11). BMKG predicts the El Niño will last until February or March 2016, peaking at the end of the calendar year. He forecasted dry to extremely dry conditions in central Indonesia in September and October, whereas Central Sumatra and Aceh will not be affected until the end of the year due to cooler ocean temperatures due to the Indian Ocean Dipole phenomena. From mid-November the Asian monsoon is predicted to reduce El Niño impacts.

The second panellist, **Mr. Medi Herlianto**, Director of Disaster Preparedness, National Disaster Management Agency (BNPB) explained the El Niño disaster management response systems. He noted that early actions have been taken and that BNPB has programmes in Java for short-term actions, including technologies to increase supply water. BNPB is preparing a short-term action plan for facing drought in cooperation with the MoA, hopefully to be used as a reference for municipalities and governments in the over 700 districts that are predicted to be affected by drought. He explained how the responsibility of disaster prevention is at the local government, who is assisted by the provincial government, the National Armed Force (TNI), and National Police Institution (POLRI). Given that the economic loss of the current drought is expected to be double that of the 2004 tsunami, Mr. Herlianto emphasised the importance of taking early action to anticipate and mitigate impacts.

Mr. Johan Kieft, Head of Green Economy Section at UNORCID, presented on the impacts of the El Niño on peat land fires, the key cause of transboundary haze. He noted that the positive correlation between a strong El Niño and a significant increase in fire hotspots, especially in Kalimantan. He discussed the short- and long-term impacts on public health (including an increased risk of cancer caused by haze from peat fires), biodiversity, and environmental capital (including a decrease in green GDP). The current vulnerability to fire is related to- and caused by - unsustainable peat land development, fuelled by palm oil and pulp wood production, increasing land conflicts, and the use of fires to clear land for agricultural production. Suppression of peat fires is difficult and expensive and there is no comprehensive method to suppress these fires on a large scale. He therefore emphasised the need to focus on anticipating the events and working towards a sustainable solution of peat land management. To prevent and suppress

fires, action is needed to address land tenure issues, focus efforts on the most affected districts, and undertake fire vulnerability mapping based on climate predictions. He concluded by stating that preventing fires on a large scale is already to late for this El Niño period, but that post-El Niño actions have to be taken, such as fire audits and risk and vulnerability reviews to reduce the impacts of future El Niño episodes.

Q&A and Discussions Session 1

Dr. Agus Sari, Special Advisor, Ministry of Environment and Forestry, presented the issue of legal deforestation- particularly on peat lands- leading to dry soil conditions, which exacerbate the impacts of the El Niño. Central to this mitigating this challenge, Mr. Herlianto explained, is reducing the economic vulnerability of the communities as smallholder farmers often clear land for agriculture using slash and burn techniques, a major contributor to the start of fires. When it comes to land clearing policies, BNPN needs to discuss this with other high-level government bodies, Mr. Herlianto responded, adding that BNPB has made efforts to coordinate their disaster prevention and mitigation activities, including through the national disaster management plans. Mr. Ageng concluded that there is a need for improved peat land management and to optimise planting areas through capacity building and the use of appropriate technologies. Acknowledging the lack of a coordinated short- and long-term overarching strategies to deal with the current and future El Niños, Dr. Boer saw value in developing an high-quality online database for the government to use to improve strategies to address El Niño related challenges. Both developing the database and improving strategies are possible areas for government-development partner collaboration, he added.

Regarding the roles and responsibilities of the local government, including their autonomy, **Mr. H.S. Dillon**, Senior Government Advisor at the Centre for Agricultural Policy Studies (CAPS) and former Poverty Envoy to the President of Indonesia, asked why the central government is not doing more to focus on the needs and responsibilities of the local government to implement policies. Dr. Boer drew attention to the role of information technology (IT) for surveillance and monitoring to improve the strength and transparency of the check and balances system, making it more difficult for local governments to forgo their responsibilities. Assistance is needed from all stakeholders to determine ways to improve the system and to develop the necessary IT, as current resources and tools are not being optimised. When Mr. Boer was asked which institution he considers appropriate for improving surveillance and monitoring, he explained it is a cross-sectorial issue within the system requiring Coordination, Integration, Synchronisation, Synergy, Monitoring and Evaluation (CISS-ME) across sectors and institutions. Mr. Kieft called for human focused solutions that build capacity at the local level.

On fighting and preventing fires at the local level, Mr. Ageng said that mobilising volunteers to fight peat land fires is more effective than water bombing. He suggested improving law enforcement for concession holders to deter unsustainable land use; and mobilising the police or military to prevent people from setting fire in high risk areas. Part of the permanent solution is disseminating knowledge about fire risk vulnerability, he concluded.

Mr. Harlan Hale, Regional Advisor, USAID-Office of US Foreign Disaster Assistance inquired about water availability: how many people are dependent on delivered water and how many have been reached? He commented that the number of people depending on delivered water will increase until early next year, and that currently the issue is being dealt with on a fragmented level, while there is a need for central coordination. Mr. Herlianto replied that the capacity of BNPB to deliver sufficient amounts of water is lacking, but that they provide guidance and action plans for other stakeholders to take action. BNPB is aiming to develop policies to address this issue on a larger scale. Local water supply is very much affected by local leaders who need to be aware of the issue in order to take action, he said. BNPN is ready to support the local governments, Mr. Herlianto said, as large monetary investments- often beyond the local government's disaster management budgets- are required at times of drought to secure water supply.

Panel Session 2: Analysing past El Niño episodes

The second panel session, moderated by Mr. Ageng, included presentation on risks of El Niño as they relate to public health, forest and land fires, and food security and nutrition.

Dr. Indro Murwoko, Head of the Emergency Response and Recovery Unit, Centre for Health Crisis Management, Ministry of Health (MoH), presented the risks of El Niño for public health. He identified possible drivers of health issues during El Niño, namely a crisis in clean water, poor air quality, an increase in mosquito breeding, lack of nutrition intake, and decreasing access to healthcare. These drivers can lead to various diseases such as diarrhoea, malnutrition, pneumonia, malaria, and dengue, particularly in vulnerable groups including children, pregnant women, and the elderly. The situation is worsened by poor quality and availability of health services for many Indonesians. Actions to reduce risks include community empowerment efforts by raising awareness through socialisation and knowledge sharing; and coordination, capacity building, and vulnerability mitigation by cross-programme involvement between health clusters, private actors, NGOs, and civil society.

Ms. Siti Nissa Mardiah, Head of Division for Community-based Fire Management Development, Sub-Directorate of Partnership Systems and Community-based Fire Management, Ministry of Environment and Forestry (KLHK), gave a presentation on forest and land fires. For the five priority provinces - Riau, Jambi, South Sumatra, West Kalimantan, and Central Kalimantan - data on the number of hotspots so far in 2015 compared to the same time period in 2014, showed increased hotspots in Jambi, South Sumatra, and Central Kalimantan, and decreased hotpots in Riau and West Kalimantan. Considering that in Indonesia humans cause 99% of forest and land fires, she explained how the KLHK has passed several laws that regulate forestry-related activities. Further, forest fire management has been conducted through several steps, starting with preventative measures at the local level. Such measures taken include socialisation and campaigns, monitoring of conditions, seeding clouds for rain, and water management. Forest and land fire control focus on prevention, suppressing fire, and post-fire management. KLHK establishes forest fire control brigades and provides forest fire management basic training in addition to providing management support for local facilities, infrastructure, software, and budget.

Ms. Anthea Webb, Representative and Country Director, United Nations World Food Programme (WFP) in Indonesia, presented on food security and nutrition in relation to El Niño. She emphasised the importance of looking at past events to inform planning and response to the current episode. Food security involves availability (is there enough food?), access (can people get the food?), utilisation (once you have the food, it is nutritious, safe and healthy?), and stability (continuous throughout the year?). She noted that food security in Indonesia has improved since 2000, but that there remains a need to look at the availability of food during this El Niño, including its impacts on the health and nutrition status of Indonesians across the country. Previous presentations discussed the similarities of the current El Niño to that of 1997. It should be noted, however, that the impacts of the 1997 El Niño on food security were linked to the unprecedented financial crisis in the region. In Indonesia in 1997 the Rupiah was volatile and depreciating, rice prices were high, rice output decreased by 8%, poverty rates doubled, unemployment increased, and the government's purchasing power was greatly reduced. Looking at impacts of the current El Niño, 11 million people are affected by drought, and those requiring the most help are often in the most difficult to reach locations- far more scattered than they were in 1997. Stunting and malnutrition in children is of concern in both low and high incomes groups, with stunting rates in children reaching 25% in the highest development area. Ms. Webb concluded by stating a willingness to recognise the problem is the first step in mitigating the issue of food scarcity.

Q&A and Discussions Session 2

Mr. Tom Owen-Edmunds, Head of the UKCCU, DFID, UK Embassy in Jakarta, was keen to know as to what can partners of the Indonesian Government do over the next few months to mitigate the El Niño impacts? Ms. Webb replied that they can do more than what they are doing now: focus on climate change mitigation and adaptation, and work towards providing alternative livelihood options that are economically competitive with climate-harming activities. Dr. Murwoko added that improved monitoring and surveillance of the five most threatening infectious diseases is an example of assistance required by the health sector. Ms. Mardiah noted a need for guidance- in terms of technology, information, and knowledge- to the government to successfully implement their current measures to suppress fires.

Dr. Ujjwal Pradhan, South East Asia Regional Coordinator, World Agroforestry Centre (ICRAF): noting the emphasis on rice in the food security discussion, asked, to what extent we can start to look at different food systems that are more appropriate considering nutritional value and food shortages? In addition to crop diversification, Dr. Boer asked for panellists' input on the options of localising food production, and reducing reliance on food imports. Ms. Webb agreed with Dr. Pradhan, stating that we ought to diversify crops and shift the focus from rice to supplementing with a wider variety of locally available foods. She emphasised that changing dietary preferences requires time. Dr. Indro added that the MoH has provided some guidance in food diversity in relation with the ability to access food, but that they are afraid that communities will not accept foods other than rice, even if they are provide for them.

Ms. Harriet Torlesse, Chief of Nutrition at UNICEF, emphasised the significance of monitoring the nutritious status of people to spot emerging malnutrition and other trends. Ms. Webb expressed concern about nutritional status during normal conditions, so that especially this year this is problematic. **Mr. Hari Bagindo**, Environmental Statistics, Central Agency on Statistics (BPS) explained that nutrition statistics of Indonesians are collected annually across the country and that the results will most likely be posted on the website by the end of this year.

Closing Remarks

Mr. Tripathi closed the dialogue by emphasising that action is required now to ensure water and food security. He concluded by highlighting that such a severe and complex situation requires collaboration from all stakeholders to provide support for the Government of Indonesia in addressing the challenges of this and future El Niño episodes.

Annex 1: Agenda

Time	Item
8:30-9:00	**Registration**
9.00-9.05	**Welcoming Remarks -** Mr. Satya Tripathi, Director, UNORCID
9:05-9:10	**Opening Remarks -** Mr. Douglas Broderick, UN Resident Coordinator
9:10-9:30	**Keynote -** Mr. Ageng Herianto, Assistant FAO Country Representative *Facing El Niño: Drought Mitigation Actions for Available Food and Production (Presentation from the Ministry of Agriculture)*
9.30-10.55	**Panel Session 1: Status and Actions to be Taken** *Moderator:* Prof. Dr. Rizaldi Boer, *Executive Director, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific (CCROM-SEAP), Bogor Agricultural University (IPB)* Dr. Ardhasena Sopaheluwakan, Head of Climate Analysis and Information Subdivision, Centre for Climate, Agroclimate and Maritime Climate, Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) • *El Niño forecasts and current status* Mr. Medi Herlianto, Director of Disaster Preparedness, National Disaster Management Agency (BNPB) • *Disaster Management Response systems* Johan Kieft, Head of Green Economy Unit, UNORCID • *Prevention and mitigation of peat fires*
10.55 –11.00	**Panel Change**
11.00 –12.25	**Panel Session 2: Analysing past El Niño episodes** *Moderator: Mr. Ageng Herianto, Assistant FAO Country Representative* Dr. Indro Murwoko, Head of Emergency Response and Recovery Unit, Centre for Health Crisis Management, Ministry of Health • *Public and child health* Ms. Siti Nissa Mardiah, Head of Division for Community-based Fire Management Development, Sub-directorate of Partnership Systems and Community-based Fire Management, Directorate of Forest and Land Fire Control, Directorate-General of Climate Change Control, Ministry of Environment and Forestry • *Fires and climate* Ms. Anthea Webb, Representative and Country Director, United Nations World Food Programme (WFP) • *Food security*
12.25-12.30	**Closing remarks -** Satya Tripathi, Director, UNORCID
12.30-14.00	**Lunch and Informal Interaction**

Annex II: List of Participants

APRIL
ASEAN Youth
Atma Jaya University
BBX
Biodiversity Foundation (Yayasan KEHATI)
BMKG (Indonesian Agency for Meteorology Climatology and Geophysics), Government of Indonesia
BNPB (National Disaster Management Agency), Government of Indonesia
BPS (Central Agency for Statistics), Government of Indonesia
Centre for Agricultural Policy Studies (CAPS)
CARE International Indonesia
Center for Climate Risk and Opportunity Management in Southeast Asia-Pacific (CCROM-SEAP) at Bogor Agricultural University (IPB)
Conservation International
Crops For the Future
Danida Business Partnership (DBP)
Depok Municipal Child Forum
DFAT - Australian Embassy
DFID/UKCCU
Dreamers Radio
Embassy of Canada
Embassy of Colombia
Embassy of Mongolia in Jakarta
Embassy of the US
European Union
FAO
FAS/USDA/US EMBASSY Jakarta
Finish Embassy in Indonesia
Forest Carbon Partners
GCP
German Embassy
GIZ
GIZ PAKLIM
Global Canopy Programme
ICRAF
IDH
IEC
ILO

IOM
Karya Mandiri
Kementerian Lingkungan Hidup dan Kehutanan
Kemitraan
KpSHK
LIPI
LPDP Kementerian Keuangan RI
Manager
Mercy Corps Indonesia
Ministry of Women Empowerment and Child Protection, Government of Indonesia
National Child Forum
Pacto
PT. Kalptaru Investama
PT. Lintas MEDIASATU
PT. Smart
PT. Wana Subur Lestari
PT. Evolution Teams
PT. Indonesia Environment Consultant
PT. Maheswara
Senamhi
SMART TBK
Startup
STIS
STT-PLN
Sutrisno
TechnoGIS
TNC
TNI AD
UK Government, DFID
UKCCU
UN Office of the Resident Coordinator
UNDP
UNESCO
UNICEF
United Nations Information Centre (UNIC)
UNOCHA
UNRC
USAID-Office of US Foreign Disaster Assistance
Usos Indonesia

WCS
WFP
World Bank
WWF Indonesia