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16 August 2018

Executive Office of the President, Republic of Indonesia
Attn: Dr Yanuar Nugroho
Deputy Chief of Staff for Analysis and Oversight of Strategic Issues on Social, Cultural and Ecological Affairs
Executive Office of the President, Republic of Indonesia
Jakarta, Indonesia
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Dear Mr President:

Re: Tapanuli Orangutan and PT NSHE

It was a pleasure to meet with your staff key and others at the Royal Palace last year, and to have an opportunity to summarize our research on the wider benefits, costs, and optimal investment strategies for infrastructure networks in Indonesia and beyond.

I am writing now to express my concerns over elements of the present debate over the Tapanuli Orangutan in North Sumatra, and to provide a scientific perspective from relevant experts on the issue.

As you know, 25 leading scientists (of which I was one) wrote to you last month expressing a range of concerns about the Batang Toru project (http://alert-conservation.org/tapanuli-orangutan-scientist-letter-english/ http://alert-conservation.org/tapanuli-orangutan-scientist-letter-indonesian/). That public letter has helped to raise wider concerns within Indonesia and internationally.

My colleagues and I are particularly concerned by certain assertions being raised by the project proponent, PT North Sumatera Hydro Energy. In the addendum below, we have responded to what we regard as four of the most important misinterpretations or distortions of information around this planned project by the project proponent—assertions that have wide-ranging financial, environmental, economic, and socio-political implications.

We emphasize that, on the strength of this and other evidence, we believe that this project should not have been approved initially by the North Sumatra provincial government.

We also wish to highlight what we believe are key wider considerations: that this project is rapidly escalating into a controversy of global dimensions—given, in part, the project's very clear connections to the world-spanning Belt & Road Initiative.

It is our considered view that, were this project to proceed, it could have long-term impacts on Indonesia in terms of national prestige and attractiveness for international investment. The project's repercussions, we believe, would be long, enduring, and a continual subject for headline-grabbing missives—concerns that would distract from, rather than enhance, your strong emphasis on the need for wise infrastructure investment and development in Indonesia.

We are also concerned about certain tactics being employed by PT NSHE, and are preparing a wider, documented analysis of their financiers, corporate linkages, and connections with other projects nationally and internationally—information that may soon be released publicly.

As part of our concerns, we also note recurring suggestions of untoward pressures and 'inducements' being applied by PT NSHE toward certain scientists, journalists, and others prepared to speak out in opposition to the project. This issue has provoked ongoing investigations by high-level journalists.

I write to highlight these growing concerns and to note my personal view that an opportunity for open public discourse on the potential benefits and wider costs around the Batang Toru hydro-energy project within Indonesia, under your leadership, would garner wide plaudits and support.

With all due respect and admiration, I thank you for your consideration of this studied perspective.

Sincerely,

William F. Laurance, PhD, FAA, FAAAS, FRSQ
Distinguished Research Professor & Australian Laureate
Prince Bernhard Chair in International Nature Conservation

Director, Centre for Tropical Environmental and Sustainability Science
Director, ALERT—the Alliance of Leading Environmental Researchers & Thinkers

cc: Dr Siti Nurbaya, Minister of Environment and Forestry (sitinurbaya_bakar@yahoo.co.id); Mr Laksmi Dhewanthi, Senior Advisor to the MoEF Minister (LDhewanthi@menlhk.go.id); Mr Herry Subagiadi, Secretary Directorate General of Natural Resources and Ecosystem Conservation (herrysubagiadi1980@gmail.com)

Key Falsehoods or Misinterpretations About the Batang Toru Hydro-Project in northern Sumatra, Indonesia from PT North Sumatera Hydro Energy (PT NSHE) and its Corporate Affiliates

Falsehood 1: Tapanuli orangutans do not use the area that would be affected by the hydro project.

False. In fact, the area to be affected is their *prime habitat*, where they occur in their highest abundances. These habitats are rainforests on rich alluvial soils, which may well be functioning as a crucial 'population source' (an area with a high number of breeding animals), which is vital for sustaining the overall population.

PT NSHE cites the "Aek Nauli Environment and Forestry Research Agency" in claiming the project area is not the orangutan's primary habitat, but this entity has been identified to independent scientists for receiving funding for unreliable analysis of the hydro project.

Crucially, the Tapanuli orangutan has an extremely *low rate of reproduction* (with females only giving birth to a single (or occasionally two) young once every 8-9 years and then only beyond age 15), and thus is intensely vulnerable to mortality. Moreover, the species is *strictly arboreal*, living only in trees and never down coming to ground. Even a small forest clearing, such as a road without overhead canopy connections, could disrupt and isolate its population.

Falsehood 2: The apes are already fragmented into separate western and eastern populations by the existing Batang Toru River.

False. High-resolution remote-sensing imagery reveals numerous *forest connections* over the Batang Toru River, which would permit Tapanuli orangutans to cross the river. This makes it very likely that the species persists in a 'meta-population'—a series of smaller populations that are linked to one another genetically and demographically.

Overall, the orangutan's surviving population is tiny and extremely vulnerable, and would become far more precarious if fragmented into even smaller, isolated sub-populations.

Falsehood 3: The Batang Toru Hydro Project will not harm the ape or its ecosystem.

Strikingly false. The project will *cut across the heart* of the geographic range of the Tapanuli orangutan with roadways, powerlines, earthworks, dam flooding, and massive earthworks—that would be comparable to a major branch of the *London Tube excavation* in the U.K. (a 9.7 meter-wide tunnel that is 12.4 kilometers in length, with at least 6 lateral access tunnels along its length, requiring enormous excavations and tunnelling, using several thousand tons of dynamite and requiring large-scale roading and spoil dumps in forests).

In Indonesia, an almost universal consequence of such infrastructure projects is to open a *Pandora's box* of secondary impacts caused by poaching and illegal logging, mining, farming, and forest burning. These secondary effects typically magnify the spatial scale and intensity of environmental impacts of the original project by many times over.

The project would also *destroy the major river* that runs through the heart of the ape's habitat. The river's water will be diverted to flooded dam, with only a trickle of its original flow maintained (1-2 cubic meters of water per second, compared to its natural flows of 40-400 cubic meters per second).

This river destruction will kill the fish and aquatic life that rely on the river and sustain local fisheries. It would also allow the river itself to become a *'corridor of death'*—by permitting poachers and encroachers to hike into the heart of the orangutan's habitat along the dry riverbed.

Collectively, the habitat loss, habitat fragmentation, fires, poaching, and other threats from the hydro-project and its secondary impacts could be utterly devastating to the Tapanuli orangutan—whose tiny geographic range is just 1,200 square kilometers in area, smaller than most cities (one-tenth the size of Sydney, Australia, and far less than half the size of Hong Kong).

Many other rare species, including the endangered Sumatran tiger, will also be harmed by the project and its aftermath.

Falsehood 4: The Batang Toru project is strongly justified and largely free of risks

False. The project has among the *lowest benefit-to-cost ratios* of any planned hydro-energy project in the world. It would produce just 510 megawatts of energy for 6 hours each day, with a projected cost of over $1.6 billion.

There is no pressing need for this energy, and there are viable alternatives for energy production that would likely be sufficient to meet general demand and peak-load requirements. For example, a proposed geothermal project nearby is slated to produce 330 megawatts of energy but could easily be upgraded to 1,000 megawatts. This is by one of several projects that are being planned or proposed in the nearby region.

The area where the Batang Toru project would be located is intensely active geologically and carries a high *risk of earthquakes* that could potentially cause catastrophic project failure and downstream flooding. In 2004, a tsunami produced by a nearby sea-quake killed 250,000 people in Aceh in northern Sumatra. On August 5, an earthquake killed over 430 people and caused enormous property damage in Lombok, eastern Indonesia.

Finally, there appears to have been almost no discussion about this project's impacts on *downstream communities*. As a 'peaker' system, the hydro-dam will store water for 18 hours and then release it for 6 hours only, causing drastic daily fluctuations in river levels, affecting several thousand people who depend on the river for fisheries, transportation, irrigation, and their daily water needs. These water fluctuations may also cause dramatically accelerated erosion and river sedimentation, causing loss of downstream farmland and infrastructure.

To the knowledge of the scientific community, PT NSHE has not published any hydrological-modelling study of the project's impacts. As of May 2018, many downstream Batang Toru communities had received no information about such impacts (notably, aside from NGOs, the only party to have even broached this issue is PT Agincourt Resources, which manages the

Martabe Gold Mine whose tailings-waste water-disposal system into the lower Batang Toru river would be seriously impacted by the Batang Toru project).

Strikingly, the EIA documentation for the Batang Toru project also makes no mention of the *drastic river-level fluctuations* the project would impose. This impact is likely to become intensely controversial publicly and politically for its enduring effects on downstream communities. This issue has been so poorly considered publicly that it would be highly advisable for the Ministry of Energy and Mining to suspend all proposed 'peaker' projects in Indonesia until urgently needed hydrological studies can be completed.