Beyond Smoke & Fire:
A field school on Peatlands in Indonesia

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Notes and Reflections from New Colombo Plan Scholarship students.

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“Imagine this. Oil palm – the world’s most efficiently and sustainably produced oil crop. Given the current global climate and the many contentious issues surrounding palm oil production, this is not a sentence that just rolls off the tongue… but could it be the future?”

“I came to Indonesia with preconceived ideas, ‘palm oil production in Indonesia is environmentally insensitive and has not been undertaken in a sustainable manner’. In today’s society, the media releases much negativity how the peat land in Indonesia is destroyed and habitats loss of the culturally significant animals such as orangutans. “

“Australia’s best interest to build relationships with Indonesia. From an economics standpoint, Only $15 B out of $667 B of trade in Australia is with Indonesia… Australia needs to open import and exporting borders to make Indonesia richer and more economically prosperous.”

“Due to the haze caused by peatland fires, schools are forced to close, health care systems are strained and there are generally decreases in overall productivity … the haze affects diplomatic relationships and foreign investments into Indonesia, which directly effects Australia’s future prosperity. In return, the Australian embassy were given relatively small budget of $10 M (2017-2019) to form an action plan.”

“… an Australian funded project on peat restoration is only about to begin in 2018 “

“Historically peatlands in Indonesia were treated as marginal lands. This view arose as a result of peats poor agricultural production predominately due to its high acidity. Additionally peatland has less land conflict.”

“The growth of agricultural land use for industries such as oil palm and wood fibre is leading to a loss of immense areas of natural peat forest across Indonesia. The most practiced method for clearing is the use of fire which causes a cacophony of consequences for Indonesia and the world. However, while this tremendous loss of natural ecosystems is far from ideal, it is vital to reflect that much of Europe and the United States (and Australia) underwent an equally rapid destruction of their natural ecosystems a century or two ago before the environment was a global concern. Until a more economically viable method is developed and widely and easily available to the general populace, Indonesia is likely to continue its path of land use change over the coming years, albeit at a slower pace. “

“In order to prepare land for crops such as oil palm, farmers employ techniques including water table drainage and slash and burn clearing. Not only have these practices led to the extinction and critical threat status of many species but they have also altered the environment of the peat, causing a shift from anaerobic to aerobic conditions. These changes have led to widespread subsidence of peat soils and the consequent release of significant volumes of CO_2 into the atmosphere.”

“It was interesting to learn that the price for uncleared land is $665/ha compared to the price for ‘burnt-ready oil palm land’ which is $3800/ha, a considerably higher profit which must be a big incentive.”

".. farmers who grow oil palm on peat were portrayed as villains ….. Yes, there are issues associated with farming on peatlands, however the notion that it must be stopped as there is no potential for it to be sustainable is ridiculous"

“Despite the negative issues associated with production, palm oil has many positive features championing its continued production. Oil palm surpasses all other oilseed crops in terms of yield per hectare. In 2012, while occupying only 5.5% of total land area used for oil crops, oil palm accounted for 32% of global oil production. Additionally palm oil demands fewer inputs, requiring less fertiliser and pesticide application than other oil crops. Further to this, palm oil processing can be extremely streamlined and with further research could achieve a completely closed loop process.”

“the challenge is how to balance the environment with production. While not a particularly profound statement, I found its sentiment mirrored my own position. Its simplicity in acknowledging the economic value of the land alongside its ecological significance was clear and to me it demonstrated a willingness to move toward a balanced solution, something that was not so openly acknowledged by others we met throughout the trip.”

“No commodity could possibly take the place of palm oil, due to its already big foothold and demand in the international market. Therefore, acknowledging need for significant government policy intervention regarding these issues associated with palm oil production is crucial.”

“One of my biggest takeaways has been the sheer volume of activity that is transpiring from Government, NGOs, civil society and business towards managing and controlling the fires to ensure they do not again get out of hand. My previous study into this topic was likely biased against Indonesia as much of my information was from non-Indonesian academics and reporters. I failed to delve into Indonesia’s activity from an Indonesian perspective, largely because most of this information is in Indonesian.”

“After climbing to the top of a 30m tower, I had a 360 degree view of the plantation and production was as far as the eye could see. At the top of this tower were gas monitoring devices which can take up to 10 measurements per second, used to measure the greenhouse gas concentrations and compare natural vegetation with plantation vegetation.”

“One interesting characteristic of tropical peatlands is the formation of a peat dome. This is the convex shape the peatland takes, rising to a nutrient poor peak in the centre. One particular peatland we visited in Riau province rising 11m over 60km. As the convex shape forms it becomes entirely dependent on rainfall as a water source with its own perched water table following its contours. The peat dome provides several ecosystem services including acting as a source of water for people, regulating climate and biodiversity conservation. “

“Indonesian palm oil producers, who rely on peatlands, are looking for ‘best practice’ parameters in order to quell criticism of the palm oil industry and move towards sustainable management of peat. Water table depths are at the centre of this debate as water table drainage leads to peat subsidence. In response to growing pressures, the Indonesian government introduced directives that require producers to maintain water table depths of less than 40cm …. It is clear that recommended water table depths for peat conservation vary dramatically within the literature and there is very little quantitative research to demonstrate the relationship between these recommended values and oil palm yields ….”

“.. BRG is now installing hundreds of groundwater monitoring sites throughout in Sumatra and Kalimantan”

“An example of this was Kuala Nanas a small Javanese village we visited. Villagers will then often burn the forest to clear the land so they can start a livelihood but these can often get out of control. A lack of education gives rise to the large scale fires. Our source says that people need to eat and to do that they have to have land to grow things on for income. She thinks it's unfair to blame the local villagers for the fires because she believes the government should be providing firstly more education for them on management and conservation and equally needs to protect and monitor the areas of organic forest better. “

“Fire management strategies such as wide-scale canal blocking, microfinancing and education, all promoting alternative methods to land clearing and increasing production are the right strategies moving forward for Indonesia for the country to slow down and prevent the catastrophic fires as seen near-annually in recent years. Moving forward the government needs to continue to develop its system of monitoring and regulating fire, but similarly move on from the merry-go-round blame game between smallholders, industry, itself and multinationals and begin to look for innovative solutions that are economically viable.”

“The trip showed me the importance of analysing information from all sides of the argument, especially field observations, before making a judgement… “

“While there is no denying the environmental costs of production following current land management practices, there remains significant scope for research, education and regulation to advance Indonesia’s palm oil industry towards a sustainable future.”

“By increasing farmers’ understanding of the issue, it provides a more successful long-term solution, an area I see Australia as having a strong role to play. I also believe that further R&D into lower-cost land clearing would be instrumental, together with breeding program for more water tolerant species.”

"I see one of the major opportunities for Australia and Indonesia to further enhance their relationships through extension work regarding the prevention and management of fire in peat… I believe there should be a greater focus on implementing methods that train and lead to long-term sustainable solutions and programs rather than just short term 'band aid fixes'"

"… the most successful programs were those that trained the locals who had a presence within the community, rather than just telling farmers what to do and then threatening them with fines."

“Traversing the unending metropolis of Jakarta, exploring the verdant Kebun Raya gardens of Bogor, relishing the specialty ikan patin – fish – of Pekanbaru and culminating at the highly anticipated and duly enthralling ASTRA Palm Oil Plantation, week one was a rollercoaster of excitement, experience, and education. I was informed Jakarta was a roaring chaotic city blanketed in an endless smog that ensured sunglasses were an unnecessary item beneath the intense equatorial sun. The city did not disappoint. The people we met during the last week have been extraordinarily friendly, generous and welcoming. I do not expect any students visiting Australia would have received such warm hospitality at every company, organisation and university they visited, and boy, did we visit a lot! “

“Overall, Indonesia is a beautiful country full of amazing people. There are still many environmental concerns along with social issues. With limited resources, they are really trying their best to address these issues.”

“Throughout these last two weeks my senses have opened to the tastes of Indonesian cuisine, the smells of the occasional peat fires we witnessed, and the sounds of motorcycles weaving around our bumpy bus and the feel of the interchanging profiles of fibric, hemic and sapric peat. But most of all I have been privileged to witness the essence of local, corporate and governmental management of peat forests, peat lands and peat fire. This trip has opened my eyes to Indonesian culture and provided the framework and on-the-ground activities of real individuals tackling peatland fire management throughout Indonesia. A problem as multifaceted as the traffic quagmire of Jakarta. I will most definitely be back.”

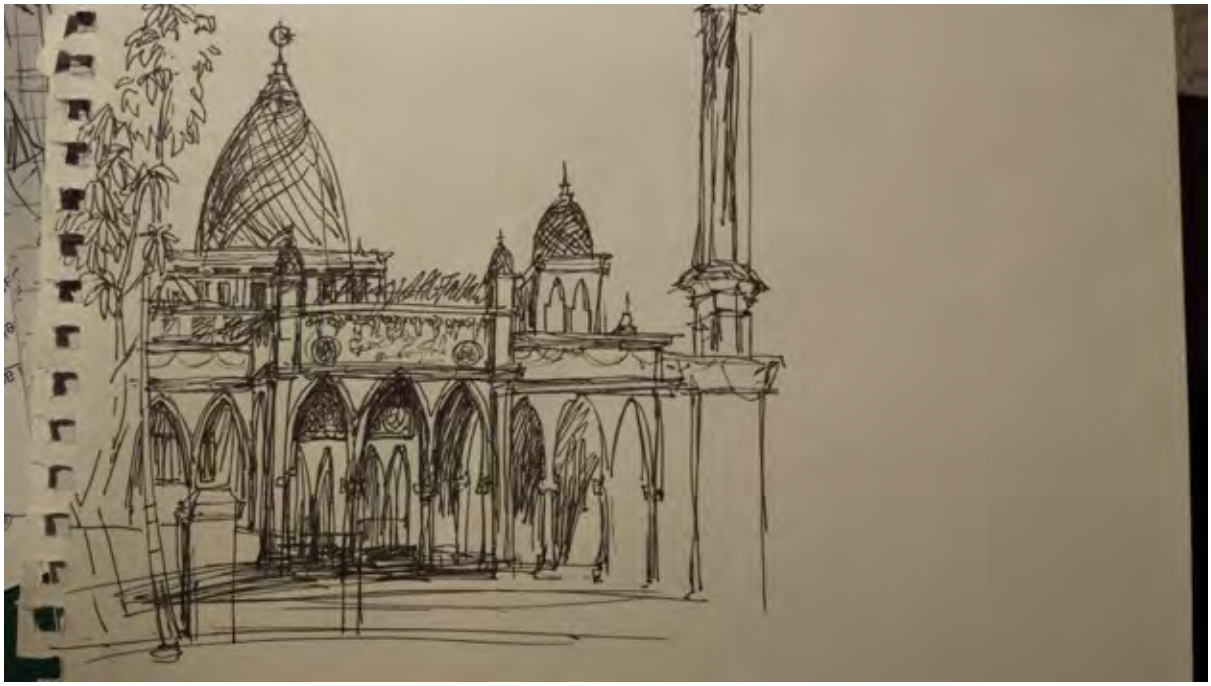
“Through the whole experience, I achieved all my expected outcomes and more; I identified and understood connections between communities and palm oil production companies, improved my critical analysis abilities, questioned my own preconceptions and assumptions and evaluated various social issues associated with palm oil production.”

“It was very thrilling to see all the positivity around the precautionary methods to make peat land management, palm oil production and acacia tree plantations sustainable, as well as witnessing communities employing no burn practices and fire preventative measures. I was also pleasantly surprised to see that these were taken on with pride. Each villager or business worker was proud to uphold sustainable non-fire peat land management practices.”

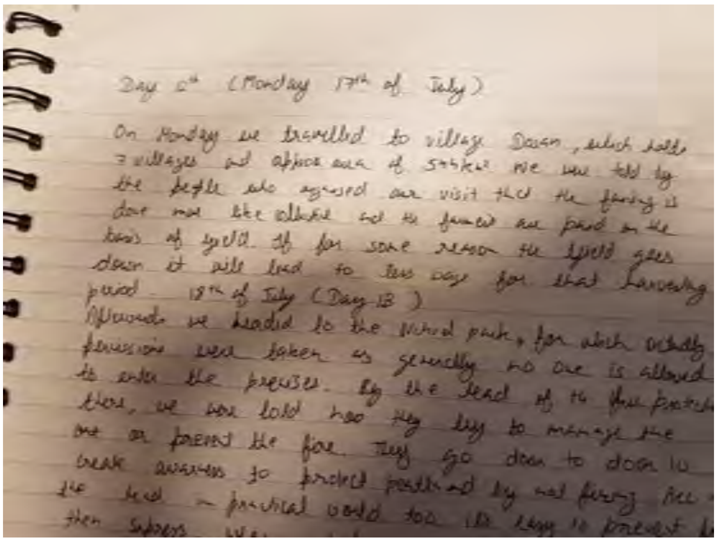
“I thoroughly enjoyed my time in Indonesia and it has reaffirmed my already strong interest in agriculture and the balance of increasing both sustainability and production to feed a growing population.”

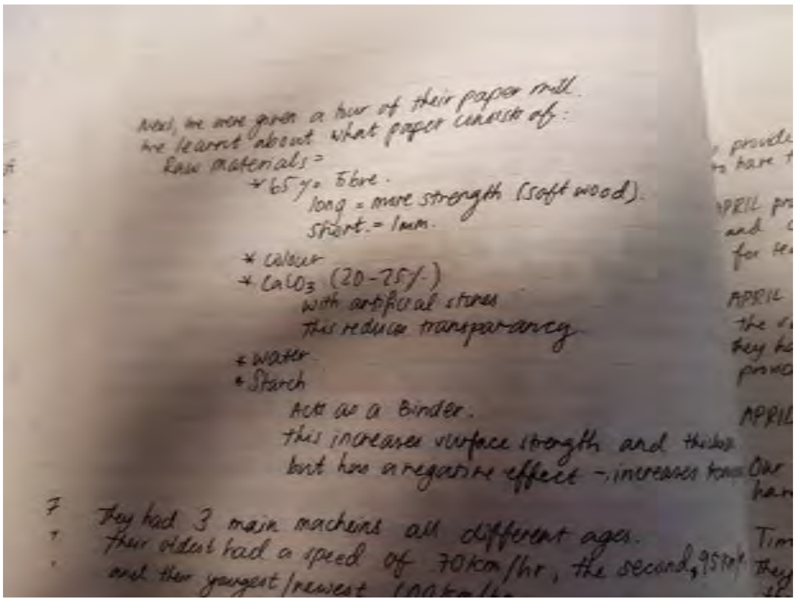
“It shows me that using peatlands doesn’t have to be all bad, and not only the negative impacts can be managed, but peats help to produce an income to the communities to enable a higher standard of living, which would otherwise would not possible”

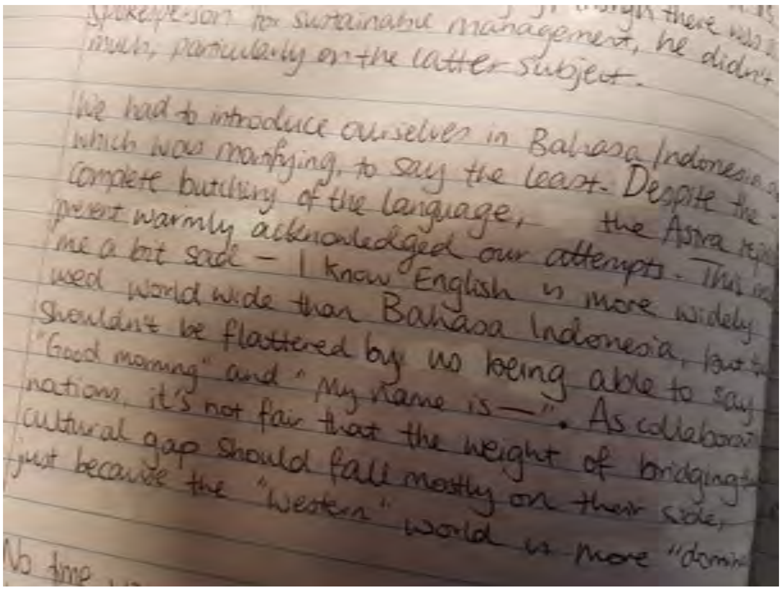
“This trip has significantly impacted my attitude towards our neighbour, Indonesia. It also has impacted my attitude towards palm oil production…”



“these two weeks gave me a the experience I will be grateful for. Whether it’s the cultural experience as well as the lifelong practical experience I gained on peatlands”


Day 6th (Monday 17th of July)
On Monday we travelled to village Dosan, which holds 3 villages and approx area of 5 ... We were told by the people who agreed our visit that the farming is done not like ... and the farmers are paid on the basis of yield. If for some reason the yield goes down it will lead to less pay for that harvesting period. 18th of July (Day 13)
Afterwards we headed to the natural park, for which ... permissions were taken as generally no one is allowed to enter the premises. By the head of the ... there, we were told how they try to manage the ... or prevent the fire. They go door to door to ... awareness to protect ... by not ... fire ...
the head – practical would too ... easy to prevent ...
then ...


Next, we were given a tour of their paper mill.
We learnt about what paper consists of:
Raw materials =
* 65% fibre.
long = more strength (soft wood).
short = 1mm.
* colour
* $CaCO_3$ (20–25%)
with artificial stones
this reduces transparency
* water
* Starch
Acts as a Binder.
this increases surface strength and thickness
but has a negative effect – increases ...
They had 3 main machines all different ages.
their oldest had a speed of 70km/hr, the second, 95km/hr
and their youngest/newest ...


spokesperson for sustainable management, he didn't ... much, particularly on the latter subject.
We had to introduce ourselves in Bahasa Indonesia which was mortifying, to say the least. Despite the complete butchery of the language, the Astra ... present warmly acknowledged our attempts. This ... me a bit sad – I know English is more widely used world wide than Bahasa Indonesia, but ... shouldn't be flattered by us being able to say "Good morning" and "My name is —". As collaborat... nation, it's not fair that the weight of bridging ... cultural gap should fall mostly on their side, just because the "Western" world is more "domin...
No time ...