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Southeast Asia: demand growth and trends in the mix between nutrients

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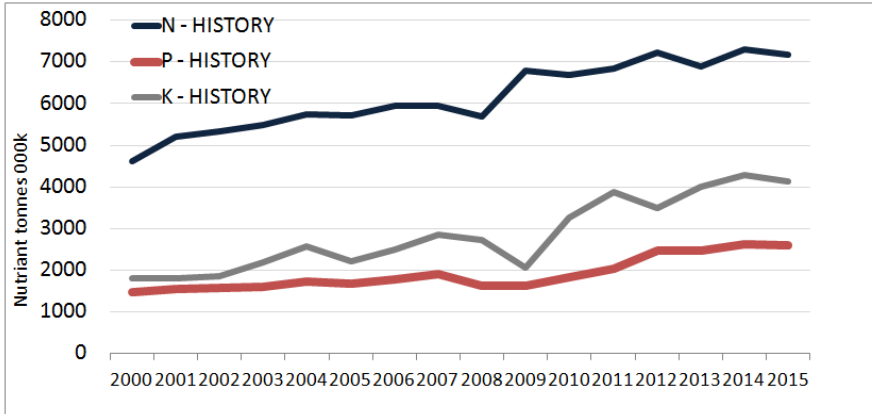
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Summary

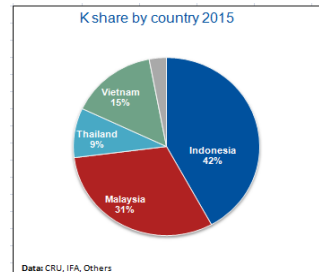
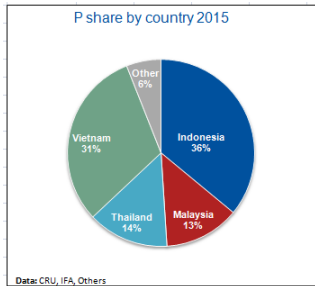
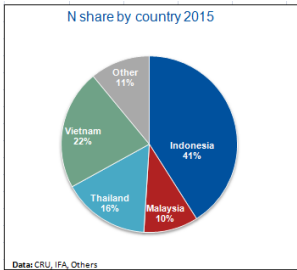
1. SE Asia nutrient demand 2000-15: the growth story
2. Relative N, P, K growth: the rise of Potash
3. 2016-20 N, P, K demand prospects
4. The long view: 2040 nutrient outlook

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SE Asia nutrient consumption 2000-15



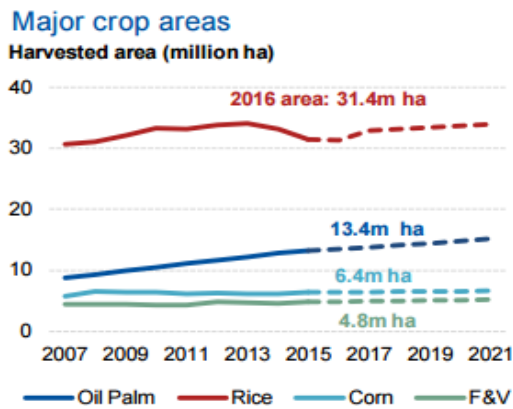
Nutrient share by country 2015



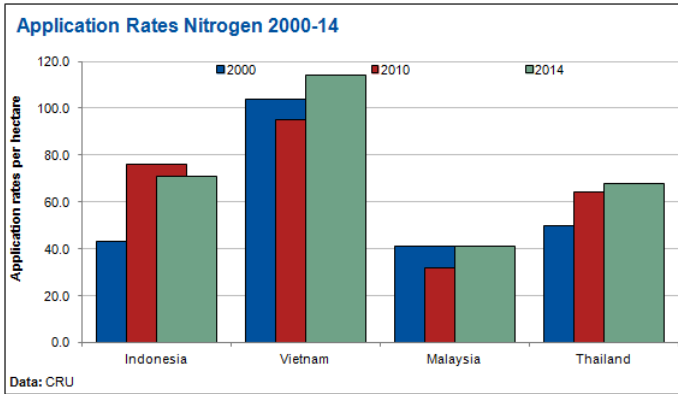
Key drivers of historical demand 2000-15

1. Population growth 20% for SE Asia 2000-15.
2. Calorie per person had only grown more slowly by Indonesia 14% and Vietnam 12% over the period.
3. Harvested area rises by 10% over the period.
4. Application rate rise: K sharp rise for Indonesia and Malaysia; N weak growth trend since 2010 and P consistent upwards trend.

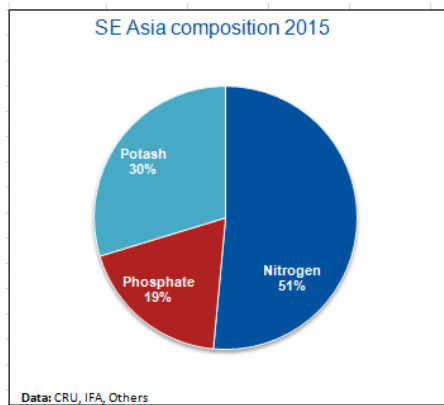
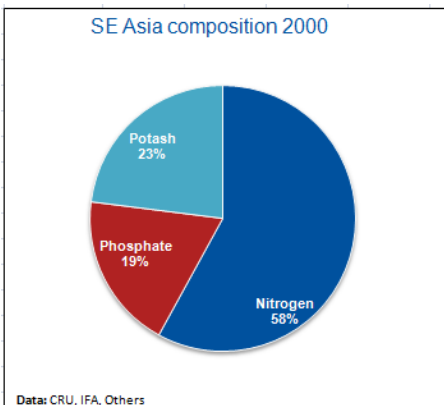
SE Asia harvested area: Oil Palm fast growth



Application rate change 2000-14



Composition changes SE Asia 2000-15



Relative N, P, K consumption drivers

- Potash market share rise has been driven by 2 reasons:
 - a) Surge in harvested area for Palm oil. Oil palm harvested area: Indonesia 275% and Malaysia 60% between 2000-15. In contrast overall SE Asia acreage has grown by 10%.
 - b) Increased K application rates. Indonesia 12kg per hectare to 40kg between 2000 to 2015. Malaysia 116kg per hectare to 189kg between 2000-15. This has largely been driven by Palm oil.
- Nitrogen application rates Vietnam/Philippines and Thailand have grown more slowly between 2000-15.

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Fertilizer very affordable

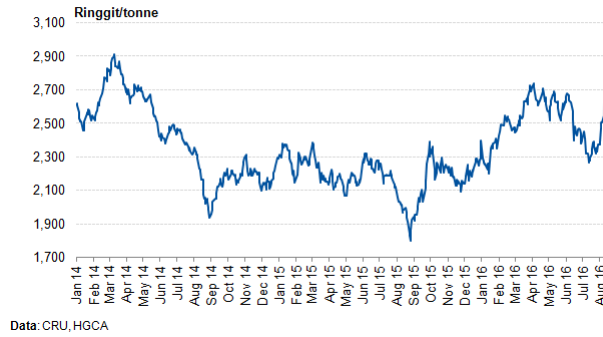
SE Asia Affordability Index



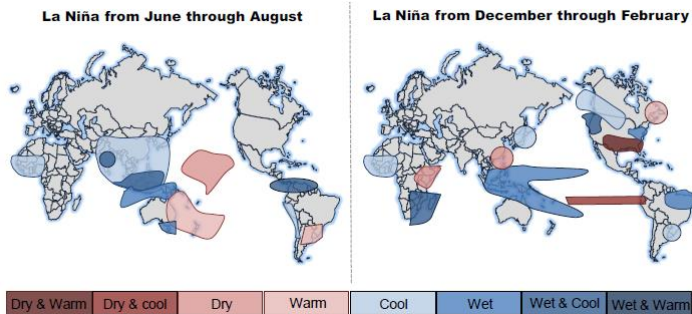
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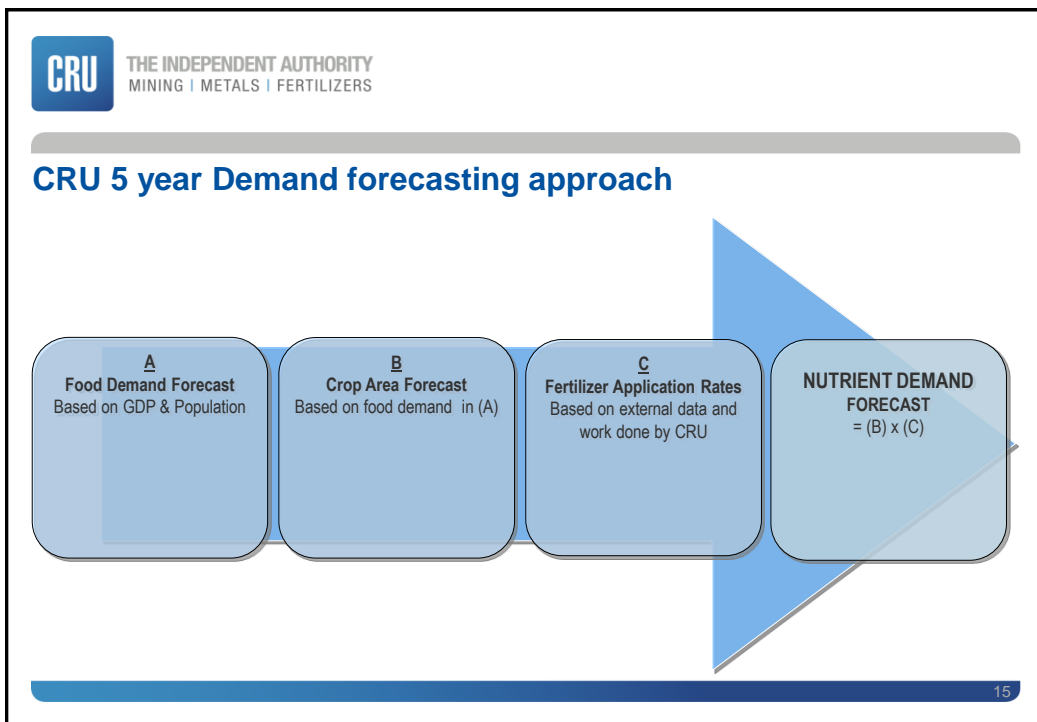
Oil Palm Prices

Malaysia: Palm oil futures on the rise



El Niño ending followed by normal weather or La Niña?





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Key demand drivers 2015-20

- SE Asia Population growth only 5% 2015-20 according to UN.
- Calorie demand per head marginal increase.
- CRU forecast SE Asia harvested acres to increase by 4% between 2015 and 2020.
- Indonesia, Thailand, Vietnam 8-11% over the period, but Malaysia flat acreage.
- Forecast application rates flat Nitrogen and modest rises Phosphate. Potash application rates should see the best growth e.g. Malaysia 189kg (2015) to 259kg per hectare (2020).

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Indonesia government policy

- Indonesia 5yr moratorium on new palm oil concessions (April 2016). Driven by 2015 forest fires and associated impact from toxic fumes.
- However, the government wants to ensure more productivity from existing palm oil plantations, which should see higher yields and Potash application rates.
- Biodiesel use of palm oil could also be boosted if oil prices rebound, given the continued government subsidy of palm oil and aim for 30% biodiesel for transport usage by 2020.
- Indonesia climate change policies are also balanced. The COP 21 INDC notes climate change desires balanced against growth and need to alleviate poverty.

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Myanmar



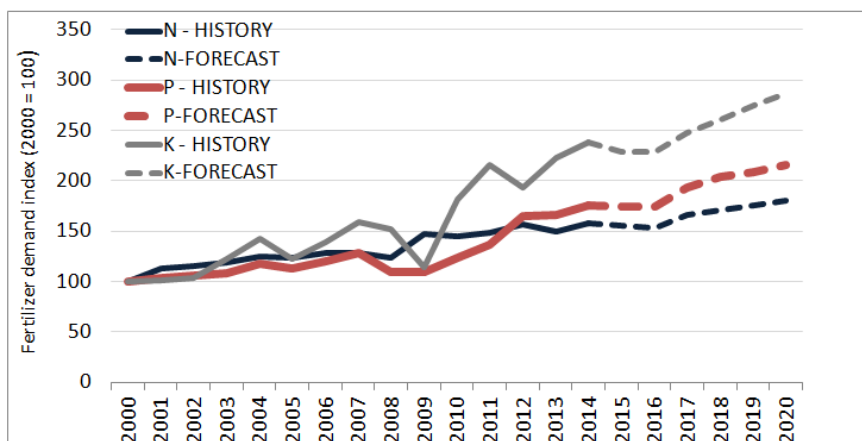
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Myanmar Fertilizers

- **Opportunities:** Myanmar acreage growth 12% to 22mln by 2020.
- Application rates are very low and 2014 nutrient tonnes at 500k (IFDC) – mainly Chinese Urea imports.
- Government aspirational desire for food self sufficiency.
- 80 large agro importers and retail market is driven by private sector and can expand.
- **Challenges:** 4 R awareness low and retail dealers not focused on plant nutrition.
- For rice, seeds are poor quality and this contributes to low yield and restrained farm revenue. Farm labour productivity is also low and Irrigation mixed.

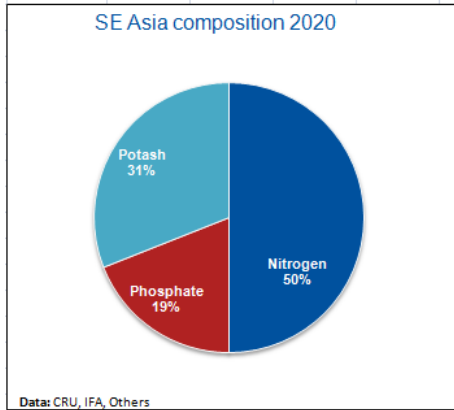
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Demand growth 2015-20 N (16%),P (23%), K (25%)

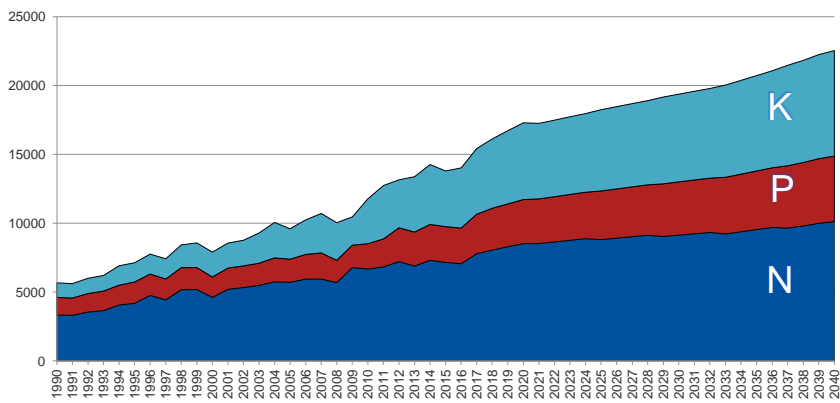


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Composition changes 2015-20: Potash a greater share



2040 SE Asia long term demand forecast



Summary: demand drivers and the growth of Potash

- SE Asia nutrient demand has been driven by rising application rates and population growth more than calorie demand or increased acreage in the last 15 years.
- An associated story has been the relative surge of Potash driven by palm oil acreage growth outstripping the regional average and a smart pickup in application rates.
- For the period through until 2020 these 2 underlying stories should remain, though the pace of overall demand growth will be more moderate.

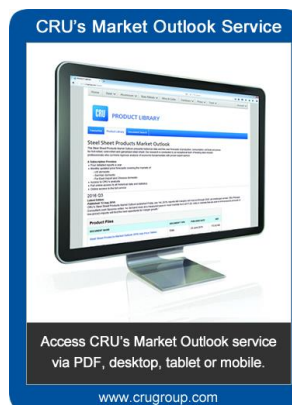
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