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Title: Impact of Land-Based GHG Mitigation Policy in Indonesia

Indonesia has become one of the most significant greenhouse gas emitters in the world mostly because of the high rate of deforestation and land-use change. To reduce its emission, Indonesia ratified several international commitments including the Paris Agreement and put a target to reduce the emission by 29% by 2030. However, this commitment is criticised by several parties because Indonesia seems not ready yet for this ambitious GHG reduction commitment. In one side, Indonesia wants to double its economic growth, but on the other side, it also needs to reduce its emission. Indonesia economic itself highly rely on the commercial plantation products (e.g. palm oil and rubber) that need land resources to keep its supply. This condition is possible to increase the deforestation and emission in the future if there is no effort from the government to control this issue. Using the Land Use Change matrices information and CGE modelling, this study simulates the economic and environmental impact if Indonesia started to introduce emission mitigation plan for the land use change until 2030. The mitigation introduced in this paper consist of improvement of yield for agricultural crops, the yield for commercial plantation, and reforestation. We found that doing reforestation without additional effort to improve the yield will not economically promising. Increase the productivity of the crops, especially for the commercial plantation, will give significant implication to the economy and environment because it has potential to reduce the conversion of the forest to the plantation, especially palm oil, that dominate the land conversion of the forest. However, we also notice that yield improvement policy in Indonesia has not shown a significant improvement yet, mostly because there are still some people are not getting clear information about how they can get the compensation of making productivity improvement for their land. We recommend a clear policy package for compensation to the farmers should be well distributed to the farmers.