In last five years, rubber price jumps down to 20% level as compared to 2011 price. Meanwhile, rubber is mainly cultivated by smallholders, their number is about 2.1 M whose livelihood depend on rubber. Smallholder rubber plantation constitutes 85% total rubber cultivation area in Indonesia. They contribute significantly to foreign exchange. As a consequence, current rubber price falling hit rubber farmer hardly. Some emerging questions then how the small farmers cope with price shock. What are the implications of farmer’s response to the falling price with regards to natural resources utilization, what are the economic and environmental consequences of their responses?

Based on a visit to Mapat Tunggul sub-district, at the heart of Barisan Mountain Range, in a border between West Sumatra and Riau Province, I argue that falling of rubber price push the small holders to return to their shifting cultivation system to fulfill their need for staple food. This response threatens forest sustainability especially threaten the environmental service provision. It also indirectly reveals the price of environmental service should the farmers maintain forest by discontinuing forest clearing for shifting cultivation.

I start by showing world rubber price that decline from US 250 cent per pound in Jan 2011 and jumped down to US 50 cent per pound recently in Fig. 1. For domestic rubber price, it reveals that rubber prices at farm level dropped drastically to Rp 5,000 per kg, especially since the beginning of 2014. Prior to that, farmers had even enjoyed a price between Rp 18,000 - Rp 20,000 per kg in 2011. According to the news, world rubber price would remain low until next few years.

Many smallholder rubber farmers live in the area surrounding the forest. Their current rubber farm was formerly shifting cultivation plot that has been transformed into perennial rubber cultivation, they normally have less wetland to grow rice. In recent past, they terminated
growing rice for their subsistence using shifting cultivation technique and turn to the market for rice and staple food by involving in the market economy as rubber producers. This was begun by integrating rubber cultivation into shifting cultivation plot.

The transformation from shifting cultivation into sedentary rubber cultivation was seen by many as a sustainable livelihood as compared to shifting cultivation system. However, with declining of rubber price, they have to re-practice their shifting cultivation. Since most of the former shifting cultivation land have been converted into rubber plantation, they have to clear old forest for shifting cultivation. Fig. 2 – 5 show current re-practice of shifting cultivation as a response to declining rubber price, it begins with forest clearing up to harvesting and continue with the next clearing. This shows a full scale of shifting cultivation practices, please take note the size of the cut tree.

Fig. 2. cleared forest for shifting cultivation

Fig. 3. shifting cultivation land after rice harvest

Fig. 4. Cleared Forest has reached top of hill with steep slope

Fig. 5. Slashing is being started at a new plot for next cultivation season
The resurgence of shifting cultivation is a real threat to forest as it increases deforestation and forest degradation to which global community has been fighting for REDDS (reduced emission from deforestation and forest degradation). Ironically, the clearing of the old forest only gave a small return in term of rice which is only enough for six-month rice consumption. I argue here that shifting cultivation on old forest has a very high environmental cost.

The locations of shifting cultivation plot are at important catchment area where water has been used for hydropower plant downstream. Hence, the resurgence of shifting cultivation threat energy supply. What most wondering is that after rice harvest, the plot is planted with gambier and patchouli oil plantation, shrub type of crops that are not conducive for catchment area but has a higher market price.

With the decline of rubber price due to stagnant of global rubber market, domestic rubber consumption must be increased. The government of Indonesia through Ministry of Public Work has committed to using rubber for road construction work. But, I argue, the action must be immediate and cannot wait longer even until one financial year. As field evidence proves, next cultivation system is beginning.

What is an ideal level of rubber price to make smallholders terminate their shifting cultivation practice? Farmer quote price above Rp. 8,000 per kg of farm get the price is sufficient to provide them enough food and cash as happened four years ago. This is due to the small scale of rubber cultivation and also with low productivity. With the current price, they are indebted to local traders and push them to re-practice shifting cultivation

The same also hold true for payment environmental service (PES). If shifting cultivator as upland poor to be rewarded for environmental service, the formula is simple, rubber price must be insured. The subsidy is provided if rubber price decline below Rp. 8,000 per kg.

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