

## Forest Fires, Ecology Crisis, and the Impacts on Women in Riau

In 2000, Indonesia had 161 million hectares of forest cover, and approximately 50 to 60 million Indonesians were directly dependant on the forest. Data records that the forestry sector contributes USD 14 million or 1.7% of Indonesia's Gross Domestic Products (GDP).<sup>1</sup>

Forest is also an ecosystem that holds an important role in maintaining the climate's stability while serving as a habitat for a majority of the world's biodiversity. Indonesia has one of the world's largest tropical peatlands with a total area of approximately 21-22 million hectares (1.6 times larger than Java Island). Tropical peatlands capable of saving carbon 20 times more compared to normal tropical forests. This is why Indonesian forests greatly influence the world's climate.<sup>2</sup> Due to its forests' abundant natural resources, Indonesia has a tremendous carbon reserve saved in forest biomes, amounting to 12.477 million metrics of carbon.

### Climate Disaster: Global Consequences of Forest Fires

The existence of Indonesia's forest ecosystem is increasingly under threat. Forest fires seem to be an annual climate disaster that the government has accepted as common. For almost two decades, the local people of Sumatera, Kalimantan, and Papua have greatly suffered from the impacts of forest and land-related haze. From 2010 un-

til 2014, the average forest cover loss every year amounts to 1.5 million hectares. This condition is disproportionate compared to the rate of reforestation in Indonesia, which is only at 866,750 hectares each year. With the uneven rates of deforestation and reforestation, Indonesia's forests are increasingly destroyed, leading to detrimental effects to the global climate change and other extremely negative impacts.

Land and forest fires are often carried out with the aim of converting the land use functions. The Food and Agriculture Organization of United Nations (FAO UN) recorded that in 2011 Indonesia released 61.6% greenhouse gas emissions caused by the change of land use and forest activities. In 2015, Global Forest Watch Fires reveals that more than half of forest fires in Indonesia are carried out on peatlands.<sup>3</sup>

Peatland fires have a significant impact on the increase of greenhouse gas emissions due to the characteristics of peatlands that are formed from an accumulation of dead organic materials for centuries. In a dry condition, organic materials tend to be burnt easier and harder to extinguish. As a result, peatland fires result in thick haze.

A research from World Bank states that peatland fires are a source of 90% of the haze.<sup>4</sup> This condition further contributes to a significant increase of carbon emission. In October 2015, the daily emis-

sion from forest fires in Indonesia surpasses the emission of the US economy, or more than 15.95 million tonnes of CO<sub>2</sub> emissions each day. This places Indonesia as the fourth country with the largest gas emission,<sup>5</sup> an ironic fact for a country with the world's largest tropical peat swamp forests.

Riau is the second province after Papua with the largest peatlands in Indonesia. Jikalahari records 4,106,242.976 ha or 45.71% of Riau's total land area consists of peatlands. From the total area of peatlands, more than 50% is deprived of its forests, due to conversion for business purposes. Currently there are only 2,065,773.908 ha or 22.99% of Riau's total land that still has natural forest covers. A majority of forest covers in Riau has been converted to non-forestry purposes, and as much as 321,996.3 ha of Production Forests permits are located on Preservation Areas.<sup>6</sup> In addition, 457,201.122 ha of the Industrial Forest permits are located on Preservation Areas.<sup>7</sup> Therefore, due to its large area of peatlands, Riau also has the largest fire sources as many of its peatlands and conservation areas are converted to Production Forests and Industrial Forests. A majority of these fire hotspots are located on peatlands. In 2013, 624 fire hotspots (73% of all fire hotspots in Riau)

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are found in peatlands. In 2014, the number of fire hotspots in peatlands increased to 5,461 fire sources (92% of all Riau fire hotspots).<sup>8</sup>

The conversion of function of peatlands carried out by burning trees will result in the dryness of peatlands and a large amount of carbon emission released to the atmosphere. This accelerates ozone layer depletion, causing the increase of temperature on Earth from direct, unfiltered exposure of sunlight. The sun's UV radiation is then

reflected to the Earth, resulting in an increased temperature on the surface. This condition is called the greenhouse effect.

The result of the greenhouse effect is an unstable climate. An extreme change of weather in various areas contributes to the failure of harvests of various crops, leading to a scarcity of food. Moreover, the increase of temperature in earth also causes the melting of ice in the North and South Poles and the rise of sea level. The increase of sea level and sea tides can cause flooding, and to an extent, drown islands. The ecology crisis as described above demonstrates the massive impact of forest and peatland fires in Indonesia to the global climate change. Damages to the nature due to forest fires greatly the forest ecosystem, as well as human beings whose lives depend on it, especially women, due to their closeness with the nature.

### **Women as Victims**

Due to women's social role as the family's caretaker, they tend to have an especially close relationship with nature. Their access to natural resources encourages them to prioritise environmentally friendly values and preserve the nature for the sake of their future generation. Women's reproductive functions enable an emotional tie between mother and children. They thus feel a need to ensure the Earth is an adequate place to live for their offspring. Land and forest fires are a form of crime to the nature, and because of patriarchy, most of the victims are women; particularly in aspects such as reproductive health, family's food security, and social prosperity. It should be noted that women experience different impacts from the ones experienced by men, especially since women are not sufficiently included in decision-making processes related to forest and land management.

During the initial stages, i.e. grants of concessions to the companies, both local men and women are victimised as the concession process often only involves the government and companies, while the people's limited involvement is only a form of formality. The small number of locals involved is also unrepresentative of the people's, particularly

the women's, general needs in the village. In the consultation process between the company and the locals, women's involvement is still nowhere near ideal. Consequently, the locals receive little to no information, causing land conflicts due to the overlap of land ownership statuses. A long-term negligence without any resolution leads to severe casualty-inflicting conflicts. Scale Up's data demonstrates that in 2015, the number of natural resources-related conflicts in Riau is still alarmingly high. A majority of such conflicts in Riau happen in the forestry sector (18 conflict points or 32% of the total natural resource-related conflicts) and plantation sector (36 points or 65% of the total conflicts).<sup>9</sup>

As soon as companies start their operation, the locals are hindered from accessing the forests. Companies would utilise their security guards and guard dogs to secure the forests' borders from the people. This situation directly affects women. Owing to the domestic roles they are subjected to, women are considered responsible to fulfil the family's food and medicine needs, and now their access to the forests—as a source of food and herbal medicines—becomes more dangerous and limited. As a logical consequence of the short supply of and limited access to natural resources, the prices of food and drugs experience a considerable surge. Fulfilling the need of clean water is also a great concern following the conversion of lands to palm oil and acacia plantations.

During its cultivation, palm oil and acacia crops are sprayed with a great amount of pesticide, which trickles down through the canals to the river, a source of clean water. People commonly access river water for bathing, washing, and cooking; and when the river is polluted, clean water sources would become scarce. Due to their domestic and reproductive roles, women are more affected than men, as they have more need of water during menstruation, birth labour, and child-caring. In addition, as they are considered responsible to provide food, when sources of clean water are polluted, women are forced to find alternatives to fulfil the need of clean water by purchasing water, leading to an increase in household expenses.

When families have to allocate extra budget to fulfil water needs, women experience a direct impact because their socially-constructed domestic role puts their family's financial management on their shoulders too.<sup>10</sup>

Furthermore, although companies have been operating in the area for years, there is no significant development benefitting the people living around the plantations. For instance, the poor infrastructure in Siak District, Riau, often causes clouds of

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dust to enter the people's houses and kitchens. The air pollution causes issues such as respiratory infections that people, including children, suffer greatly from; cooking difficulties; and dirty household equipment and furniture.<sup>11</sup> The one most impacted are women, as it burdening their domestic workload. In Pelalawan District, Riau, a particular plantation company has operated for decades, but the economic disparity between the staff and the local people is vividly apparent in their residential areas. Villages near the company have yet to have electricity in their area, and as such, domestic works that need electricity can only be carried out in the evening with the help of diesel generators. As a result, women's working hours are stretched longer than men's.<sup>12</sup>

When companies leave or are replaced, lands are cleared by way of burning. Burning lands is a cheaper method that is often preferred by companies. This causes a scarcity of food resources and clean water sources, and breathing problems among children. Women are again impacted the most due to their domestic roles. This situation is worse during evacuations of haze victims, as women's reproductive organs create specific

functions (menstruation, pregnancy, and breast-feeding), subjecting them to undergo different disaster situations altogether compared to men. Apart from women, children and infants are also more vulnerable to impacts of the disaster.<sup>13</sup>

It is indeed a tragedy of the commons—the people suffer from actions taken by companies based on their own interests. Despite the abundant natural resources around them, the people are unable to improve their prosperity; instead, they are subjected to the cycle of grinding poverty and torn away from nature as they know it. The massive exploitation of natural resources leads to nothing but never-ending disasters and misery for the people. Women, as part of the people, are the main victims. Women's close relationship with the environment does not necessarily make women's involvement considered imperative in decision-makings concerning forest and land management. Women's closeness to nature should be able to afford a different perspective in preserving the nature. Instead, women are still perceived as the second in line to receive adequate information, despite being the first to suffer from the impacts.

## End Note :

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