



## The Script Production of International Years of Soils Series

### **“Deforestation and Soils Damage”**

**by JRKDem – RKD FM Sidoarjo**

The destruction of forests due to deforestation remains a threat in Indonesia. Data from the Ministry of Environment says that forest cover in Indonesia went from 49% in 2008 reduced to 48% in 2012, or suffer environmental degradation rate about 1.6% in the last 4 years.

The rate of deforestation in Indonesia, the greatest threat being contributed by industrial activities, especially the timber industry which is often do the illegal logging.

Deforestation has a significant impact for the communities and the natural environment in Indonesia. Logging activity which is not attentive to forest conservation has resulted in the decreasing of the environmental quality and an increase of the events of natural disasters, such as landslides and floods.

The removal of forests also causes the soils to be unprotected. They then are very susceptible to erosion or landslides. Along with the erosion, the soil nutrients, which are necessary for life - such as soil organic matter content – are being displaced by clay and leaching. Silting of water bodies, especially reservoirs will eventually affect the society especially the needs of clean water, irrigation water and energy from hydropower.

On this occasion, we present the results of an interview with Mr. Amien Widodo, a Lecturer in Engineering Geophysics in Technology Institute that was recorded on 10 November – Surabaya. He also serves as Chairman of the Center for the Study of Earth disasters and climate change. In the interview, we will discuss the theme of "Deforestation and soils damage". Here are the results of the interview.

**Noor (host) : Please can you tell us, how you look at the condition of Indonesian environment currently?**

Amien : So if we look so far, one of the causes of many disasters we experienced is deforestation. Deforestation began a long time ago, since the days of the Dutch. At that time a lot of them made villas in the mountains. After the Dutch left, the villas were owned by the Indonesian people and were developed into a tourist place. So, many people came over, lived there and finally, the forests began to be felled

(cut). But it's not just too significant at that time. And, in 1997- 1998, in conjunction with the euphoria of reform, then the logging of forests was two-fold in the period of 1997 to 2000.

**Noor : How did that happen?**

Amien : Because at time of the reform, the citizen wanted their land to be returned. Later, together with that moment, there was some exploitation by some actors (could be from industry, authorities, government). If for the community maybe 1, 2, 3 trees felled while at the same time, the actors doing the logging was very massive and very broad because they were using machinery and heavy equipment.

**Noor : The government at that time, they didn't have any control? Or did the perpetrators from the apparatus itself became the actors?**

Amien : There was no control at that time, such as they only prohibit and just talk while the deforestation is still running until now still occurs.

**Noor : Can you give a brief explanation about the deforestation so it is easily understood by the public?**

Amien : The deforestation is denudation of forest

**Noor : Deforestation in Indonesia mostly occurred in which regions?**

Amien : Throughout Indonesia almost of all, the most severe indeed in Java Island and in Borneo is also fixed.

**Noor : If it is associated with the soils, what is the impact of deforestation on the soils?**

Amien : It specialized in mountain areas - a mountaintop, actually the mountain began as the form of stones, then because of the heat and the rain so it obsolete become the soils and then there are seed of trees that fell at there which is carried by birds then the soils becomes thickened simultaneously to the length of the roots of the tree, the soils can be sticking on the mountain during this time because there are trees because the roots bind has functions to binding the soils in there so that it could survive. Because the leaves of the tree fall down there, known as the very thick sersah so it's means when the rain comes, almost 100 percent of everything entered to the land. When it rains, the rain water entered to the land and exit as springs around the mountain. If the trees have been felled, eventually for the land there is no protection at all; the rain comes directly flowing because there is no soils to hold it. The rain brings the soils, erodes the soils and soils enters into the water body, it is taken to the river, lake, reservoir, etc. Finally, because it brings the soils so it will silted the body of water surface of the rivers, lakes, reservoirs.

The silting above could affect the volume of the river itself, it should have a large volume cause it is covered by sediments so the water which is collected there becomes smaller. When a big rain come, so the water will overflow as the flooding, while at the lake he would shallowing the lake so the water of lakes or dams for electric energy, for irrigation, clean water for all will be reduced.

**Noor : So finally, it means that it will also affect water with pollution?**

Amien : Yes pollution, it's right. Because in the mountainous areas it is occupied by people; there are tourism, there are hotels, settlements, agriculture carried out with pesticide and others. So, the water that seeped into the land and in a septic tank, finally broke the water which is coming out the ecoli was high, in addition the number of springs was reduced but also the ecoli is high or the pesticide also high because it was tainted.

**Noor : What is Ecoli?**

Amien : Ecoli is a bacteria that carries the source of stomach ailments.

**Noor : Are landslides also due to the deforestation?**

Amien : Yes, when the rain come, lands becomes wet and then, there could be a landslide. Moreover, land is sometimes mined from underneath, sometimes barren above and below the mined or below someone is makes a house by cutting the hill... So, there is a cut to make a road... Eventually, soils become critical if it is exposed to rain and there could be landslides. So the land was like that in the paddy fields when it dry it will harden, if it is exposed to wet water as flow same like in the mountains that had been able to sticking due the roots when there is no so if exposed wet it will flow directly.

**Noor : So far, how do you see the actions or efforts of the government to reduce the occurrence of deforestation?**

Amien : Already launched relating to climate change that we have to reduce emissions either by reforestation. But, in fact so far, nothing significant has been done. If we look at the barren mountains, there are still many beign already used by the population as paddy field, there are the settlements, there are the hotel. So we must put a hard effort, be a little bit radical to bring change.

**Noor : Like what for example?**

Amien : For example, the region in the peak of the mountain has to be reforested. There should absolutely be no other, there is no houses, there is no hotels and tours, so (we keep it) purely for the forest. The goal is obviously to absorb the water and get

it out as springs. If nearby for a buffer around it, there can be settlements and tours could be allowed but with the special proviso, so the function of absorption must remain. For example, they make septic tanks, sewers and so forth. It should be through the channel, it should not be discharged directly but through the channel or known as communal so all should be included in the pipeline continue to be processed later. At the time of reforestation should be followed by engineering the vegetation.

**Noor : What is that, sir?**

Amien : I mean, so far in the forest, seed of trees have been planted and had turned out very small chance to live. It is now most likely to plant steknya. So cuttings for example, the length of 3 meters, 2 meters put into the ground, one meter appears on the surface, 2 meters was expected to appear along the roots continue to bind the soil there so that it becomes strong, if such it is probable that the people would not bother it. Average during this time I have seen they usually only planted it but do not keep it until it grows. The term just planted, take photos and finish they had planted a million trees but it is only ceremonial course no effort in order to keep it grow. We can see the simplest example is the Lamong river, the border between Surabaya – Gresik. A spring water is there. Now, it's because there is no forests, automatic the silting continues and water of rain will overflow further if the silting is not prevented. Prevent the silting with reforestation in mountainous areas.

**Noor : We have to fix on the top area first, isn't it?**

Amien : Yes it should be, absolutely we must. Indeed, the State should propose to make a reservoir. Making a reservoir around to catch the rain water, but it will be futile if the mountain does not exist... (We must do) reforestation because (without it) sedimentation will continue. So if they make a reservoir like that, it will be filled with soil because the erosion will persists. So, the mountain should be reforested first.

**Noor : What's the message you want to convey to the public in a small scope to begin to reduce deforestation?**

Amien : Deforestation should be a joint affair. Not only of the civil society but to have to include everyone, starting from the government. If the government has no intention to reforest, probably there is nothing.

**Noor : So that, maybe if it started from the grassroot community, it will embarrass the government?**

Amien : Perhaps the society who especially want to conserve their forest, they should maintain it as well as possible. Moreover, if the water springs is still good also must be maintained as well. If possible there are some sort of people group to keep the springs and infiltration earlier. Is expected to get in touch with several people in town to develop a business there but it does not depend on the forest, so it does not depend on wood, cultivated not destroy the forest. If barren yes indeed must plant together.

**Noor : if you look at the role of some organisation which are engaged in environmental issues so far what is your assessment?**

Amien : I saw that there are some organizations who care for the environment. They are segmented; some of them are concerned in guarding the river, there are keeping the springs, there are keeping the forests, keeping water sources but they should be a unity, the forest from top to bottom it's called the area of river streams should be united.

**Noor : It's mean from upstream to downstream must be done together?**

Amien : Yes that's right. So that's what we do at our university (ITS) we use the motto that should be done by everyone. Our motto is a disaster we have to know, we will be safe and able to safe the others, so for example the landslide if we know the characteristics, the cause we know so we will be able to safe and to safe the people, it is motto that we develop.

Listeners, there are the results of our interview with Mr. Amien Widodo, hopefully what is presented, can raise awareness and spur us to jointly prevent the deforestation and soils damage for the future sake of the environment and natural Indonesia. I'm Noor Chasanah that guides the interview this time will withdrew from the air wave. Greetings Democracy.

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