Use it or lose it

– The environmental case for property rights

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> *"Ideally we would live and see wildlife and let it be, but it's not the reality. If we continue with the attitude that wildlife cannot be touched and should just be looked at, then there's no real future for it."*
> – **Ali Kaka**, executive director of the East African Wildlife Society (England 2006)

When I was young they served cod in the Swedish school canteens. It was a cheap fish in almost unlimited supply. At least we thought so. The school children today are not as lucky. Today we have to go to the luxury restaurants in Sweden to get it. The cod stocks in the Baltic Sea have collapsed.

Since the Baltic Sea is a common, open to everybody, the individual fisherman has no incentive to be responsible and avoid over-fishing. Even if that would mean bigger supplies in the future, he would only benefit very marginally compared to all the others. As one fisherman put it recently:

> "Right now my sole interest is in getting out and catching as much fish as possible. I have no interest in replenishing stocks, because every fish I leave behind will be caught by the next fisherman." (Wheelan, 2002, p. 35)

In a classic article in *Science* 1968 **Garrett Hardin** popularized the term "the tragedy of commons" for this problem. The individual always benefits from fishing more, whereas everybody has to share the cost of depletion. Individual gain becomes collective pain. If the other fishermen catch as much fish as possible, without thinking about replenishing stocks, I will suffer tomorrow anyway, and my only interest is to catch the last fish before they do. If I limit my activities, the fish will be gone tomorrow anyway, and I will have lost not just the income of tomorrow, but also the one today. Hardin pointed out that it doesn't help to rely on individual conscience and goodwill. If we did that, good people would always lose out against bad people.

Fishing is just one example. A tragedy of the commons appears everywhere where we have commons from which it is impossible to exclude people from the use of a particular resource. Hardin's original example was about herders sharing a pasture. Since the cost of degradation is shared collectively, every individual herder wants to maximize his yield by increasing the size of their herd. The result is overgrazing and the loss of pasture.

1. A few words from Aristotle

The Greek philosopher **Plato** (470-399 B.C.) envisioned an authoritarian utopia, ruled by philosophers, where property was collective which would supposedly create unity and stability. His student, **Aristotle** (384-322 B.C.), had a less utopian and more empirical view of the world. He looked around and saw that there was private property in all types of societies,

and draw the conclusion that there was a reason for this, in human nature. As Aristotle put it in *Politics*:

> "how immeasurably greater is the pleasure, when a man feels a thing to be his own; for surely the love of self is a feeling implanted by nature and not given in vain" (1263a-b)

This interest would mean that people took responsibility and cared about their property for the long-term:

> "Property should be in a certain sense common, but, as a general rule, private; for, when everyone has a distinct interest, men will not complain of one another, and they will make more progress, because every one will be attending to his own business." (1263a)

At the same time, Aristotle saw that "there is much more quarrelling among those who have all things in common" because on the one hand there will be "those who labor much and get little" and on the other hand "those who labor little and receive or consume much". In explaining this problem, Aristotle formulated the problem of the tragedy of the commons. That which everybody owns, no one owns, and that which everybody has responsibility for, no one will take responsibility for:

> "For that which is common to the greatest number has the least care bestowed upon it. Every one thinks chiefly of his own, hardly at all of the common interest; and only when he is himself concerned as an individual. For besides other considerations, everybody is more inclined to neglect the duty which he expects another to fulfill; as in families many attendants are often less useful than a few. Each citizen will have a thousand sons who will not be his sons individually but anybody will be equally the son of anybody, and will therefore be neglected by all alike." (1261b)

In other words, people often litter public areas but clean up their private homes.

Aristotle's ideas on private property have been vindicated by history. Especially the socialist experiments have convinced people on all sides that we need private property rights to encourage work, responsibility and long-term investments. That which was held in common was neglected. But that knowledge has not been used as much in the environmental discussion, even though the socialist economies also proved to be very destructive for the environment. When the government owned everything, and didn't need to compensate anyone else for the destruction of water, forests and air, nature was seen as a free resource, or in other words, as a worthless resource.

2. Forests

A photography of Sahara's frontiers a couple of years showed dry, barren land where nomads had let their herds deplete the savannah. If they didn't let their herds take the last straw, someone else would. But there was an exception. There was a small green dot that stood in a dramatic contrast to the surroundings. On closer inspection it turned out to be a privately owned farm. In a nature film shown on Swedish television some time ago, something similar

was shown. The camera panned over enormous stretches of depleted forestland in Argentina. It used to represent an incredible biological diversity and richness, now all of it was gone. Except in one place: A privately owned farm, where the diversity was still on display. (Nordin 1992, p.154)

The Swedish speaker was indignant, since the best land was privately owned, and not in the hands of the government that owned the surroundings. But he never contemplated the fact that the reason why this was the best land could have been precisely the fact that it was private property, which means that someone had the right to use a resource, keep the income derived from it and transfer those rights in whole or parts.

Someone who saw a connection between private ownership and long-term conservation of natural resources was the Swedish writer and military commander **George Adlersparre**, the leader of the revolution in 1809, which gave the country a constitutional government and freedom of the press. After these changes he observed that vast government forests was not taken care of, and they were unproductive. He thought that the problem was that the forests were not owned privately so no one had an interest in investing in them long-term and making sure that they were well-kept. Therefore, Adlersparre suggested a massive privatization of the Swedish forests.

The liberals in parliament supported these ideas. When the priests warned that private ownership might lead to the devastation of the forests, the liberals responded that this is precisely what happens when ownership rules are unclear. But when individuals or companies have safe property rights, they don't destroy what they have, they invest in it so that the value of their property increases. In 1823, the parliament decided on a large-scale privatization of the forests, something that was important for the timber- and paper industry, which were essential for the Swedish industrial revolution. (Norberg 1998, p. 79f)

In retrospect Adlersparre has been proven right. **Fredrick Federley**, head of the youth movement of the Swedish center party, the rural-agrarian party, has said that you don't need maps to learn who owns a particular forest in Sweden. You can see the difference with your own eyes. The moment you leave government-owned forests and enter a forest owned by a family business, you see that you enter something better and healthier. The fears of the priests also proved wrong. The forests in Sweden are growing bigger, since private owners invested in better technology that makes it possible to get the same timber from smaller areas. Today, politicians think that farmers need subsidies to keep the landscapes open, otherwise the forests would take over.

This is not a Swedish phenomena, this goes on in all developed economies with well-defined property rights and increased agricultural productivity. Since the 1950s, the American forests have been growing, and since the 1970s we see the same trend in Europe. The European forests (excluding Russia), expands by around 11 000 square kilometers (4250 square miles) per year. In proportion to the surface, the American forests expand four times faster. (FAOSTAT data 2005, EEA 2003, chap. 2, Hayward 2005, chap. 8)

At the same time, a Kuwait-sized area of the Amazon rainforests is deforested every year. Most often this is because poor farmers clear the forests for agriculture, or because people use wood for fuel. And what they don't carry away, loggers take. But beneath all of this lies the lack of clear property rights in the tropical rain forests. The basic problem is often that traditional property rights systems developed by forest-dependent communities are not

recognized. Cash-strapped governments often sell logging rights to companies which fills the state coffers rapidly. Witness for example how the Cambodian government gave private companies the right to chop down trees which villagers used to tap for resins.

Only a quarter of the Amazon is recognized as private property. In many cases farmers and speculators grab land and defend it by force. Sometimes they burn it down to prove their occupation and scare away intruders. There is no reason why plantation forests couldn't be as profitable as logging the virgin forests. And it would also create stability and give the loggers the opportunity to choose which trees to cultivate. But if you don't have a formal title to the land, you don't invest in plantation and wait a couple of decades for the result. You take whatever you can before someone else does. Cattle ranching is popular for this reason. If someone else takes your land, you can just move on with the cattle.

Since companies don't get the property rights, but only the logging rights, they have few incentives to think about the very long run. You don't treat a rented car in the same way you would your own. This is also why many NGO's have designed schemes for people to buy a part of the rainforests, so as to protect it from farmers and loggers. It is ironic that many NGOs that clearly see the benefit of property rights to protect the forests in action don't acknowledge this when they talk about political solutions.

When that happens, most often they say that the government should protect and conserve the forests. But that utopian notion faces the real world problem that incentives matter. There is always an incentive for a government to get easy money by selling logging rights. The benefits can be seen immediately and the problems will only be visible much later. And even if they try to control it, what is to say that forestry officials with low wages do not sacrifice the trees for an extra income? And even if they aren't corrupt, they rarely have the means to protect the forests from powerful interests. According to the Brazilian government around 80 percent of the timber in the Amazon is harvested illegally. (*The Economist* 1998)

In 2006, the UN's International Tropical Timber Organisation published the first exhaustive survey of tropical-forest management ever. And it came to the surprising conclusion that forests where logging is allowed are in a better shape than forests set aside by governments for protection. The proportion of production forests that was sustainably managed was almost three times bigger than the proportion of the forests earmarked for conservation. Even though timber concessionaires don't own the land they have an incentive to look after the forests if the concessions are fairly long-term. (ITTO 2006)

As *The Economist* (2006) summarises the study:

> "Timber concessionaires at least have an incentive (and probably the wherewithal) to look after their property, while ill-paid and ill-equipped forestry officials often have neither. Exploiting forests may prove the best way to preserve them."

The understanding of this problem is now growing. Since the late 1980s, the forest land that is owned privately and by communities rather than the government has increased by more than half. A forest area the size of Bolivia has been privatised in Latin America.

One example is the Mexican effort from 1997 to give the indigenous people in Oaxaca rights to their local forests, but also help them to organize businesses and market forest products.

According to Forest Trends and the Centre for International Forestry Research this has given them revenues of about $10m a year, 1 000 new jobs, and most importantly – an incentive to manage the forests in a sustainable way. (Scherr, White & Kaimowitz 2003, *The Economist* 2002)

3. Fish

The world's fisheries are in a terrible shape. Many stocks are completely depleted and some might never return. The world's richest fishing grounds used to be outside New England and Atlantic Canada. Once upon a time it was joked that you could walk on the water there, because there was cod everywhere. But in the last 100 years the stock of cod, tuna, flounder and haddock has been reduced by around 80 percent. The only thing that has kept the catch from falling dramatically around the world is more aggressive methods and better equipment. Today we use ten times more energy to catch a fish as we did in the 1950s. (Hadley-Kamptz 2003)

Supertrawlers the size of football fields cross our oceans with enormous sonar-directed nets that could snare several jumbo-jets. Because of their size they sweep the ocean-bottoms clean from everything. In a single netting, they can capture several hundred tons of fish, including a lot of by-catch that they have no use for.

Wouldn't it be possible to deal with this problem by government regulation? Once again, the idea that government will act long-term and strike the right balance between actors finds no support. For years, marine authorities have presented the problem and the science, but the politicians have largely ignored it. On the contrary, they have given enormous tax subsidies to fishers so that they could deplete the oceans even faster. In 1989 a FAO study showed that the global fishing fleet costs $92 billion to operate, whereas revenue was only $70 billion. (Kurlansky 1998, p. 232)

Different regulatory solutions have failed again and again. Strictly limited quotas has meant that the fishers take the same catch as always but dump the lowest-value products back into the water. About a third of the netted fish is thrown back, and by then it is already dead. Limiting the time that they are allowed to fish has led to investments in bigger nets, which can catch as much as possible in a few days. As larger nets are stopped more horsepower is introduced. And outlawing certain boats is a way to reduce the efficiency of the industry and punish those who invested the most.

The attempts to limit the catch fail because everybody has an incentive to cheat, and it is impossible to control them all. Even in a relatively non-corrupt country such as Sweden there is no chance to uphold the limits. The Swedish Coast Guard has ironically reported that they seem to bring luck whenever they enter certain waters. The fishermen usually report that they have caught something like 300 kilo cod per ship. But every time the Coast Guard boards a ship, it has 3 to 7 times more onboard. SFR, the interest group for Swedish fishermen, has indignantly denied the accusations of cheating. Until one of the board members was caught with 32 tons of herring in an area where fishing was forbidden. (Hadley-Kamptz 2003, p. 6)

Once again, the problem is that no one has an incentive to think long-term. Coral reefs in the South Pacific have suffered for a long time because of fish practices involving dynamite and cyanide. It kills the fish, alright, but it also happens to kill the reefs. The World Wildlife

Fund's Hong Kong office has reported that the reef fisheries "work in a sustainable way only in those few places where the rights to fish a particular reef are clearly established". Reefs are incredibly valuable assets and whenever a family or a clan had the right to it, they lost their interest in blowing it up. Instead they established strict rules for fishing, supervised by the local community, and sometimes employed wardens to watch over the reef.

The same result has been found in Japan, where fishery cooperative associations have the rights to coastal resources. Reports find that private oyster beds in Washington state and elsewhere in the US are healthy, well-maintained and well-protected, whereas the publicly owned oyster beds in Maryland have collapsed and the harvests are 1 percent of what they used to be. (De Alessi 2000, p. 99f)

It's more difficult to establish property rights to fish than to trees, but it's possible to approach such a situation. In the last decades several countries have established Individual transferable quotas (ITQs), which grants the owner the right to harvest a certain proportion of the total allowable catch every year (which is usually set by scientists and fishery organisations annually according to the state of the fisheries). The owner can fish when and how he wants, and he can also sell the right to someone else. That is important, because at last it gives fishers in an over-invested market an opportunity to make money by leaving it.

The ITQ also means that the owner gets an interest in the prospects for future harvests. The better the long-term outlook, the more his ITQ will be worth. In a public system, they would never benefit from using equipment that spares young fish that hasn't reproduced. But if they invest in the future under an ITQ system, they reap the reward now. Of course there is still a problem with supervision and control, but now at least all the fishers have an incentive in the long-term health of the stocks and to keep an eye open for cheaters.

In 1986, New Zealand introduced ITQs. The result was more responsible fishing and healthier fish stocks. Fishers began to cooperate to finance science and set up conservation measures, to increase the value of their asset. As the country's minister of agriculture commented: "It's the first group of fishers I've ever encountered who turned down the chance to take more fish." But precisely as a result of this long-term thinking, the stocks could improve and the deep-sea fish that was threatened by extinction is now back. The total marine production in New Zealand could double in 10 years. The subsidies have been abolished and the fishers act on a free market. (De Alessi 2000, pp. 96-99)

Iceland has done the same. In the 1970s and 1980s, the cod stocks were being constantly reduced. For an island as dependent on the fisheries as Iceland, this was a lethal threat. So they began to implement ITQs, which were turned into a uniform, national system in 1990. Since then the stocks have slowly but steadily climbed back.

When I visit the restaurant Perlan in Reykjavik, the capital of Iceland, the waitor supplies me with a cod carpaccio as a starter, and then a lightly grilled cod in cous-cous. I had almost forgotten what it tastes like.

Property rights taste good.

4. Conclusion

As we have seen from the examples of fish and forests, a lack of clear property rights result in the same problem environmentally as it does economically: A lack of individual responsibility and long-term thinking and an attitude where you take whatever you can get when you can get it. Aristotle was right when he wrote “that which is common to the greatest number has the least care bestowed upon it”. But we have also seen that it’s possible to do something about it. Clear and enforceable property rights introduce incentives to take care of that property. These are just two examples, but it can be applied to other problems as well. One way to deal with the problems of pollution is to force the polluter to compensate owners and users of natural resources, for example.

Ralph Waldo Emerson once said: “If a man owns land, the land owns him”. He made it sound like a burden. It is. Owning something means having to care for it, but happily also an incentive to do it.

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