Pieter Hoff, Inventor; Founder of AquaPro Holland

The Netherlands

Pieter Hoff with a one-year-old tree in the biodegradable Groasis Waterboxx, San Mateo, Spain.

How can academics have a more powerful influence on the development of practical environmental solutions and improve the likelihood of their being adopted by society at large?

Mr. HOFF: In general academics can have more influence if they accept the realities of: (1) life—a person needs a house/roof, water, food and (some) income; (2) businesses—they have to make profit to survive; and (3) cultural differences—influence the way we look at problems, and the way we accept solutions to them.

It happens too many times that academics find solutions, or propose solutions, that are too much based on their own point of view, forgetting that the implementation of their proposed solutions has to be done by others, that might have a different point of view from them.

Given that the public and governmental debates on environmental issues often include discussions about science, technology, and business practices, what do you think is the most constructive path to achieving active working relationships with all members of society?

Mr. HOFF: To propose solutions that solve every person's or company's issues in a practical, logical way, offering advantages for them. Many times, solutions from academics offer restrictions instead of advantages; that constrains the implementation of them and maybe even prevents the implementation of them.

What global activity/process/innovation would you put in place immediately to address environmental challenges?

Mr. HOFF: Please read the autobiography below for my thoughts about this issue.

AUTOBIOGRAPHY

I am from an agricultural family that has been practicing producing food since the Middle Ages. This education has colored my life, formed my character, and helps in developing practical solutions. As a 10-year-old child, I had to cooperate with my grandfather and father, harvesting vegetables, seed potatoes, and flower bulbs. I had the luck that after World War II, the Dutch government started to understand that it is very important to offer education to growers. That offered me the possibility to study and finally become a breeder. I was able to develop one of the leading tulip and lily growing companies of Holland, with export to over 50 countries. While travelling to my clients, I found that big parts of the world that were once forested and fertile are now eroded and degraded. And everywhere, governments allow the use of drip irrigation without any control or payment, to solve the infertility of the soil. Because of this erratic policy, already four countries have no groundwater anymore, and I expect that within 100 years, over 50 percent of the populated areas will have no fresh groundwater anymore, if nothing changes. But in order to change, we must have the possibility to change. So, in 2003 I decided to develop a planting technology that allows us to plant and grow without drip irrigation. After 10 years of investigations, errors, and experiments, I have succeeded in doing this. I call it the Groasis Technology: grow + oasis = Groasis!

There is an instrument in nature that can help solve what I call the "seven world problems": the Tree. FAO [the Food and Agricultural Organization of the UN] and IUCN

[the International Union for Conservation of Nature] have published that we have over two billion hectares of human-made deserts. So, if this area was once green, and we were able to cut it, then this area can be green again, as we are also able to plant it. This is what happens with the "seven world problems" if we implement the Groasis Technology:

- Erosion—trees will cover the soil and make it fertile again.
- Poverty—each hectare of trees creates approximately 10K US$ of revenues. That is 20 trillion US$ of extra economic development.
- Food crisis—each hectare of fruit trees can produce five tons of sound food. Two billion hectares is one trillion tons of extra food.
- Climate change—each year, two billion extra hectares of fruit trees "disconnect" 10 billion tons of CO_2. That is more than we annually produce with fossil fuels. So, we can neutralize all the present CO_2 pollution to zero by planting trees that produce food.
- Unemployment—each hectare of trees creates one direct/indirect job. Two billion hectares of fruit trees create two billion jobs.
- Rural-urban migration—when there are two billion extra jobs in rural areas, people will migrate back to the rural areas.
- Sinking ground water levels—trees change the eroded soil into a sponge again and water tables will rise instead of drop.

Our solutions must be based on a sound business model. The challenge is too big to solve if the solution is based on receiving subsidies. So I have worked on making the use of the Groasis Technology so cheap, that the one who uses it is able to make money with it. If making money is possible, finding capital will be easier. I worked on the dream of finding a cheap solution to replant our human-made deserts with economical and ecologically interesting trees. I hope that before 2050 the Groasis Technology will have helped to change the world into a green and fertile area where people love to live, are able to feed and educate their children, and have decent lives. There are 300 million small farmers in the world—just as small as my grandfather and father's company was when I was a child. If each of these small farmers plants seven hectares of fruit trees, the job is done. The Groasis Technology is now available; it is up to our governments if they want to have it happen. Governments have spent eight trillion US$ since 2008 in order to save banks. We need only two trillion US$ for using the Groasis Technology in order to plant two billion hectares with fruit trees. So, money cannot be the problem. If we vote for governments who are willing to do this, then we will be successful. So to conclude, it's up to you if you want to have it happen!