

# BLOWIN' IN THE WIND

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Chief Correspondent Elizabeth Farnsworth talks with Peter Hayes, director of the Nautilus Institute at Berkeley, about his wind power project in North Korea.

JIM LEHRER: Finally tonight, windmills in North Korea, and to Elizabeth Farnsworth in San Francisco. ELIZABETH FARNSWORTH: At a time of increasing tension between the United States and North Korea, a Berkeley-based think tank, the Nautilus Institute, has opened a unique window on that seldom-visited country. In a small North Korean village, Nautilus developed a project some might call quixotic. It involved building windmills, or, to use the proper technical term, "wind power turbines," in Unhari. Nautilus documented the work on home video. Five technicians from the US, headed by Nautilus Director Peter Hayes, spent a total of five weeks last year in the village, most recently in October. They were joined by up to 50 North Korean counterparts, some from the Ministry of Electric Power. In all, the bi-national team built seven wind turbines, plus the powerhouse and control systems for delivering reliable electricity to 20 households, a medical clinic, and kindergarten. The project was funded by the W. Alton Jones Foundation, which focuses on environmental and nuclear issues. Most of the wind turbines were erected by hand in village fields planted in cabbage for the Korean dish Kimchee. An old tractor pulled the larger windmills into place. Because of the US trade embargo of North Korea, the Nautilus team had to get special US export licenses for the equipment used in this project, and North Korea, for its part, had to allow the foreigners an unusual amount of access to a rural village, not only for the windmill work. The bi-national team also surveyed 70 households in the village, asking questions about energy and other economic needs. About 40 kilowatt hours per day will be generated by the new turbines, and Nautilus plans a return trip soon to expand the system. I spoke to Project Director Peter Hayes in San Francisco.

ELIZABETH FARNSWORTH: Mr. Hayes is an Australian who got a Ph.D. in energy and resources from U.C. Berkeley and has lived in the US ever since. He is director of the Nautilus Institute, a development think tank. He's traveled to North Korea six times since 1991, including twice with the United Nations Development Program. Thanks for being with us.

PETER HAYES: It's a pleasure. I'm glad to be here.

ELIZABETH FARNSWORTH: How did the US team and North Korean team work together? These are engineers with very different training, I would imagine.

PETER HAYES: We found that they were actually very skilled and where the differences came up, they were to do with really fundamental culture. Americans work by devolving responsibility to different teams. And then work sort of comes together towards the tail end. Different bits of this jigsaw puzzle fit together --- whereas, they would work on one task at a time in sort of a vertical command hierarchy and try and work very, very quickly to get the task done and then move on. So these issues actually really came up in very explicit ways but because the politics of the project were so pervasive at the sort of level of leader of delegation of which I was one - I had a counterpart, a North Korean by the name of Mr. Che.

ELIZABETH FARNSWORTH: By the politics being pervasive, you mean a desire to get it done, to make it work, to make it happen.

PETER HAYES: Well, yes. I mean, they had literally moved mountains and ships to make this project happen. They literally moved a ship out of the harbor so they could unload our one container when the crane broke and to get that container into the village when our team came. So, they went to extraordinary lengths. But we were able by always going back to the politics -- in other words, the centrality, the critical issue that this project succeed at being the first such non-governmental project by an American group in North Korea, we are able to work out a new understanding and move ahead and solve the problems. And I must say that one thing we discovered, and I think demonstrated quite clearly was that the North Koreans fulfilled their commitments. And these were written commitments. We had a written understanding. It was on that basis with which we got an export permit from the United States Government to do this project-- and that it is possible to do business with the North Koreans but you have to actually deliver on your commitments as well.

ELIZABETH FARNSWORTH: Why did they move a ship for when you the crane broke? Why was this important to them and what is so special about this? There are many people in North Korea from the United States working on food aid and other sorts of projects. Why was this one a big deal?

PETER HAYES: Well, the food aid projects are primarily about bringing food in ships, and then it's delivered to the North Koreans who then actually distribute it in the country to the actual folks who are starving. And there are very few examples of westerners, let alone Americans, working shoulder to shoulder, side by side in a development project as against an aid delivery project. And so to our knowledge, this, in fact, is the first instance.

ELIZABETH FARNSWORTH: And did they not have electricity until you came in with the turbines?

PETER HAYES: This village was a previously electrified village but the tidal wave that hit their fields in the previous year - combined with the fact that the electric power system has pretty much collapsed in North Korea -- there are now these regional grids, very intermittent power, the voltage is fluctuating wildly - means that, you know, you can start a task with a, you know, piece of end-use equipment like a drill or threshing to extract the grain from say the rice and then you're halfway through it and the power goes out. So you have to do it by hand then. So, it's total chaos -- ensues from that kind of collapse.

ELIZABETH FARNSWORTH: And it collapsed why?

PETER HAYES: Oh, that's a good question.

ELIZABETH FARNSWORTH: Is it part of the general economic collapse we keep hearing about in North Korea?

PETER HAYES: Yes. There are a series of vicious circles that feed into each other. The steel plants aren't working. You need steel to have railway lines to get the coal from the coal plant, from the coal mines, the power plants. If you can't have power, you can't make steel - and these vicious circles like that. So, in any given place you'll find that the electricity now is extremely unreliable. And this was a very electrified society in the past. And now the power is basically off or can go off at any moment. And what we have done is introduced reliable power that people can, you know, literally rely on day and night.

ELIZABETH FARNSWORTH: Let's talk about the village. How poor was the village? You've worked in many other, very poor countries.

PETER HAYES: Right.

ELIZABETH FARNSWORTH: How poor was it and what signs did you see of famine?

PETER HAYES: Right. In this village I would say that we were at the upper end. We were not in a Potemkin village. There are Potemkin villages in North Korea.

ELIZABETH FARNSWORTH: Potemkin village meaning one just set up for you to see.

PETER HAYES: For foreigners to see; they're called friendship villages. This was not a friendship village. However, it was a village that would be at the upper end, I think, of rural income because they not only grow rice, albeit on very poor quality land because this is reclaimed tide land that they are working on -- and you'll also notice in some of the households that there are private plots where people are producing vegetables. And we saw the markets. They are selling food in the provincial towns around this area. But did we see famine? In this village, no, we did not see famine. And of course we were fed extremely well, as you would expect by normal Korean - you know -- generous hosts. What we did see around the city of Numpo, where the food aid is brought in, was kids running out into the road to pick up the tiny grains of rice or corn that had fallen off the trucks.

ELIZABETH FARNSWORTH: What are the accepted figures, though, now from the research you've done for how many people have died in the famine of recent years?

PETER HAYES: I think myself that the upper end is probably 10 percent of the population, which would be 2 million people have died. I think it's conceivable that it's much, much lower than that in the range of 200,000-300,000. which is still an awfully large number of people, but they tend to be in areas that are more peripheral or distant from the capital city than we were working. We were really only two hours' drive from the capital city on the coastline.

ELIZABETH FARNSWORTH: And how free were you in general, you and your colleagues?

PETER HAYES: In the village we were very careful. There were -- they were clearly nervous about our presence, especially on the first mission. On the second mission things were much, much more relaxed. We were not free to just walk around the village and photograph in the village. We were free to walk around anywhere in our work site and photograph, provided we were careful to not basically affront the military base that we could see from the site and start taking photographs of it. At both ends of our project site there was, you know, anti-aircraft artillery here, surface-to-air missile emplacement here - we were here - and over here four miles was a Mig airfield. So - and we saw the soldiers in bare feet going backwards and forwards from the fields every day right past our site. But provided we were focusing on our work, anything pretty much was okay with video or with still cameras. Where it got tight was after a Japanese spokesperson said that they would attack or reserve the right to attack the missile launch base on the East Coast. That happened while we were there. The next day we got a message saying please basically cool it with the photography - you know - everyone is on a high state of alert; things are very tense at the moment. And so for a day we were just very, very careful.

ELIZABETH FARNSWORTH: How does your project fit in to all of the negotiating that's been going on back and forth between North Korea and the United States and involving China and South Korea and Japan, too, over the North Korean nuclear program?

PETER HAYES: Well, that's a great question. I mean on the one hand we want to keep this project disentangled, separated from the high politics of the USDPRK agreed framework and the North-South issue and the nuclear confrontation. On the other hand, the fact that the project exists at all is a result of that confrontation -- and the need for this kind of functional engagement on purely technical issues. So we are really doing two things at once: You know, one, on the ground we are building trust and I think increasing transparency. For example, we have been provided with wind data for this site. Now, wind data is militarily sensitive information. We needed it to implement this project. It was condition of the project. We were given it. We are being given it. So, you know, we are increasing transparency.

ELIZABETH FARNSWORTH: Just very briefly, what is the most important thing you learned about how things look from there as opposed to from here?

PETER HAYES: I think the most important news is that when the electric power grid collapses in a society that is highly electrified, the cost that's displaced on to the society in many, many different dimensions all at once is enormous. They are paying a huge cost at the moment for the collapse of the grid. I think they have three dilemmas: Military dilemmas, food dilemmas, and electric power and energy dilemmas. And so, in that respect, I think having more engagement of Americans in non-governmental organizations to solve that energy dilemma whilst the other two dilemmas are being solved by government is really quite critical to a soft landing in North Korea.

ELIZABETH FARNSWORTH: Well, Peter Hayes, thanks very much for being with us.

PETER HAYES: Thanks, Elizabeth.



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