ACID RAIN RESEARCH CONFERENCE, October 10-12, 1994

Opening remarks by André van Alphen

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Ladies and Gentlemen,

Addressing this conference, while deputizing for Joris Al, the Chairman of the Steering Committee on Acidification Research, is a rather confusing experience. Of course I feel privileged to do so, but I realise that Joris Al, who chaired the entire third phase of the Dutch acidification research programme, is far more experienced in this matter than I. However, I have sufficient knowledge of the subject to know that there is another, more factual, reason for these mixed feelings. This Symposium marks the completion of a ten-year acidification research programme in the Netherlands, at a moment when the call for hard and conclusive scientific evidence coincides with the most drastic cut in research budgets ever. That is why I really feel confused.
In the next ten minutes I intend to focus on three elements of the problem:

- -the desire for hard evidence;
- -the end of a research programme of long standing;
- -future acidification research.

To start with the first, I must say that the sub-title of the conference "Do we have enough answers?" is a perfect description of the policymakers' dilemma:

> we know a lot about acidification, but is it all the knowledge we need for policy purposes and would more knowledge lead to policy measures that are not only easier but also better?

When looking into that question there are two points which have to be stressed. Firstly, results from scientific research can never be a substitute for policy decisions. Both scientists and policymakers may regard this as a truism, but it is still worthwhile repeating it now and then. Secondly, one should not forget that environmental problems like acidification, with a great lapse of time between the onset of the effects and evidence of damage, can only be dealt with on the basis of a risk approach. Action should be taken on the basis of the risk that acidification results in harmful effects which, if we postpone action until damage is apparent, will probably be irreversible.
Since the start of acidification abatement the approach has been to start by gradually reducing emissions while intensifying research into acidification to consolidate the scientific basis for action.
Of course the intention was to ensure that the timing of more drastic measures coincided with the development of further scientific substantiation of the acidification issue.
In real life however, scientific knowledge develops more capriciously: not only does our

understanding of a great number of issues increase in the course of time, but other issues, which seemed clear in the beginning, pose new problems.
This is what is happening at present with respect to ammonia. These questions are not necessarily fundamentale, but they require clarification to prevent the main issue from being confused.
It is entirely understandable that when the social and economic consequences of abatement measures become extremely serious, those who have to pay for these consequences will have difficully accepting any validation that is unclear.
Nevertheless, I do not expect new research programmes to result in a break–through in our knowledge about the risks of acidification.
As I mentioned before, science cannot choose between protection of the environment and nature on the one hand and social and economic consequences of emission reduction measures on the other. It is the task of the government to weigh these interests.
To enable government to come to a balanced decision, it is of great importance to be as clear as possible about what is known with respect to the risks of acidification and the reliability of that knowledge, using the tremendous amount of scientific information now available.
The project team has the important and difficult task to create such clearness after this conference and the subsequent international scientific review process.

And then the second element of the problem that causes the confusion: the end of the coordinated acidification research programme.
A tremendous amount of knowledge has been generated in a unique cooperative venture involving numerous scientific institutes and scientists. Scientific cooperation on a research programme financed all these years by an equally unique form of cooperation between government and industry.
An almost countless number of publications in scientific periodicals and theses has resulted from this acidification research programme over the years.
I am sure that the international review will confirm that the research in the third phase of the research programme was of high quality, as it was in the first and second phases.
Dutch scientists play an importante role in improving scientific understanding of acidifica–ti–on at a European level, and Dutch research has made an important contribution to the development of national and international acidification control strategies. Its role is exempli–fied by the development of the scientific basis for the recently signed UN–ECE Second Sulphur Protocol.
Although this acidification research programme is now coming to an end, there are still questions unanswered and undoubtedly new questions on specific aspects of the acidification process will arise when our national acidification policy is implemented further. In addition, acidification abatement at a European level, preparing "second generation protocols", will require further scientific support.

That brings me to the third element of the problem: the future of acidification research.
To generate answers to remaining questions at a national and international level, further investigations are certainly required. However, there is no specific need to incorporate relevant studies in a new coordinated research programme.
It is considered sufficient that institutes which investigate acidification further can apply for government funding, competing with other air pollution research projects.
In principle there is nothing wrong with such a development. However, it is alarming that at

the time the third phase of the acidification research programme comes to an end, the budget for acidification research of my ministry is drastically cut.
Not much financial support for further acidification studies can be given when budgets considered necessary for the years to come are cut by 50% or more; as this is the probable outlook for 1995 and after.
An important area of environmental research has been developed. After a decade of financial support by government and industry, it seems that acidification research is to be left to sink or swim on its own. Will it be possible to carry on or do we have to fear for the decline of research facilities in the Netherlands?
I don't know. But I do not think it necessary to end on a gloomy note.
Because of the position the acidification issue has acquired in scientific research, because of the enthusiasm and dedication of the scientists and because I believe that in the end its importance will once more be recognized at a political level, but above all, because scientists are extremely creative in raising funds, I have confidence in a positive future for acidification research and in the continuation of cooperation between scientists and policymakers.

I wish you all a successful conference here in Den Bosch, where on earlier occasions other memorable meetings on acidification have been hosted. But, I hope especially that your stay in this charming city and in the Netherlands proves to be a very pleasant one.