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Research Policy Linkages

Case on Developed Countries

D. de Zeeuw

Introduction

The Netherlands never have had an independent agricultural research policy, and it is my sincere hope that my country will stay in this state of blessing as long as the sea level allows us to exist. What we know however, what, in fact, we have known for more than a hundred years, is a Government agricultural policy. Research has always been part of this policy, but never in all these hundred years have our research mandarins felt an urge to establish such a senseless thing as an independent agricultural research policy. Nor have I.

Man has always explored the natural world, in order to understand it better, in order to enhance his chances of survival, in order to improve his life. Our modern day division of labour has delegated exploration of the natural world to professionals, and now professional scientists have to perform the same role for society as a whole. Not in order to improve their own lives, but to improve the society or its communities - bussiness or otherwise - of which they are members. A society or community that delegates the exploration of the natural world to experts does so with a certain purpose in mind, and this purpose determines the direction research should take. It is this purpose too that determines the direction of any number of non-research activities serving the same purpose. So scientific research is only one of many different kinds of interdependent human activities, all harnessed in an effort to achieve a specific or a wide complex of ends and purposes.

This is the way it is in Dutch agriculture.

We want to feed our population, we want to export our products in order to feed other populations - and doing so we like to make some money too. And for this reason our Government has an agricultural policy, not a separate policy for agricultural research.

However, if those of us who have a special responsibility for organising and leading agricultural research want to talk about how they

go about doing their jobs, and if they want to call this "agricultural research policy", it is alright to me, as long as you don't forget my reservation. Not having an independent agricultural research policy is one of the reasons, I think, for the success of Dutch agriculture.

General Background

We founded our first university way back in 1575, and ever since the Dutch Government has been committed to science. However, for reasons that are beyond my comprehension, most present day students of science policy state that Dutch science policy started in the nineteensixties, after OECD's Harvey Brooks told us to start. So we'll take it from there.

First Parliament established by law the Scientific Advisory Council. The Council reports to the Government; its reports are usually made public. On the whole, the Council has performed well, advising on the division of the science budget, pointing out weaknesses, and stimulating new developments. The Council is independent, does certainly not act as a spokesman for the scientific community, but it surely does have a keen eye for the possibilities of scientific research and it has always sympathized with the views of those members of the scientific community who try to keep Dutch science up to international standards.

We have a minister of science and education, and surely one might think that in a small country like ours one Scientific Advisory Council and one Minister of Science and Education would be more than able to handle national scientific affairs. But no, politics decided to have a minister of science policy as well, and so, at the beginning of the nineteenseventies the cabinet was enriched with a new minister, responsible for science policy at the national level. And I am very sorry to say that ever since, whilst the number of the minister's staff increased, the Dutch science budget has been in steady decline. In fact in such a way, that, where we once ranked between the big spenders in the science league, the Dutch science budget per capita is now among the lowest in the industrialized world. Furthermore, the economic recession has forced the Government to apply major cuts in general Government spending, with the result that our budget for agri-

cultural research will diminish by at least 10% over only a few years. We feel very strongly about this, because Dutch agriculture - primary production and agribusiness - is one of the very few sectors of the economy that are still profitable. Of course, the Government faces enormous difficulties, and we feel confident that once the budget is balanced the Government will start to invest in science again, but till then we have to pray that foreign competition will not get ahead of us too much. So you see, if you are interested in policy decisions, do not start looking at research managers, because major decisions are entirely out of their hands and totally unrelated to the needs of the agricultural community.

Our science policy minister coordinates the research activities of all other ministers and he is also responsible for the quality of the Dutch research effort in general. However, his staff tends to be too academic in their views, the main reason being the gap that exists between their position and the position of the science consumer. Its staff does not primarily take ideas from the market, the public or industry, nor from social institutions, but mainly from literature because they are not rooted in the society itself. Of course, I exaggerate to get my point across, but these people tend to break the first law of science policy, which says: "never formulate science policy". The Dutch character, being what it is, everyone keeps minding his own business.

We do not like to boast - the agricultural community certainly has its own defaults - but there is one common characteristic in Dutch agriculture that has a tremendous beneficial influence on its economic performance, and that is the common tendency and will to cooperate. We feel that a more cooperative attitude towards other government departments would greatly increase the usefulness of the department of science policy. Being members of the agricultural community we have always tried to cooperate with the science policy minister and his staff especially when we expected a profit. But, there are only a few formal linkages under the auspices of the minister for science policy, between agricultural research institutions and non-agricultural research institutions. Agricultural research is very much on its own, as is the agricultural community. We

do not like it this way, but I believe it is a common cultural phenomenon in the industrial world. Everywhere you find a gap between city and country. It is very interesting to note that nowadays newspapers that used to depict farmers as backward and grumbling halfwits, guilty of the rape of our beautiful countryside, have discovered that the country is populated by highly skilled entrepreneurs, using advanced technology, and selling their produce all over the world. And this newspaper coverage is meant to set an example to industry. So maybe the gap is closing.

The Dutch Agricultural Research Science

Before we get into the main subject of today, we have to clarify some points about Dutch agricultural research. I will not tell you why we have research at all, because the reason is self-evident. What kind of research do we have, and what do we leave to others?

We may be a rich country by international standards, but we are also a small country, so we have to limit our choice of research subject. The first implicit decision we have made - years ago - is not to duplicate research and development already being carried out by private enterprise. On hindsight, the majority of those innovations that are generally considered to have been decisive for the shape of modern agriculture, have come from industry and other forms of private enterprise. Farm machinery, the internal combustion engine, electricity as a power source, agricultural chemicals, microprocessors and computers have all originated in industry. Farm co-operatives, public sale of farm products, joint marketing organisations, agricultural banking, farmers organisations, all of great social and economic importance, are products of private enterprise. So, there exist vast areas of research and development we never enter, and I believe it is the same in most other countries. We do however, and in this we are not unique either, occupy ourselves with the implementation at the farm of innovations that have originated elsewhere. Next, we have long ago made the decision, implicit also, not to channel major amounts of our restricted budget into subjects that cannot be expected to provide application at the farm level within a period of say 10,15 years. If these subjects are studied elsewhere in the scientific world, be it national or international, we content ourselves with a small scale

involvement in order to stay in the picture. Our experts are stand by. We can not afford, for instance, to spend tens of millions of Dutch florins a year on photosynthesis alone, much as we might like to do so.

So, we limit our research involvement to these subjects we absolutely have to have because they cannot be left to others. We are pragmatic about this, and our position I think, makes good sense.

This still leaves us with a broad spectrum of disciplines and subjects, ranging from soil fertility to plant breeding, etcetera, etcetera.

In our year by year management, but also in our day by day management, we have to make decisions about these subjects. We have to decide what scientific disciplines to have, how much of them, and what subjects their yearly programs should be devoted to.

How do we arrive at our decisions?

Decision making is a dynamic social process, it is an ever continuing process, and if we try to pinpoint highlights of the process, or if we try to identify persons or bodies that seem to hold key positions in the process, we most certainly distort reality. On hindsight so called "decisions" may look like conscious and explicit acts of will of only a few very important individuals, but in reality these kind of decision are hardly ever taken. We always seek after consensus, and we always find it.

Why do people in the Netherlands feel that balancing the budget and getting business on its feet again ought to be the major goals of Government policy? They did not think so five years ago, and they do not think so now because the Government has told them to do so. But the Government has made both goals major objectives of their policy, but has this been an independent decision? No, Government could have done otherwise. It is the same way with agricultural policy. One morning you wake up and you realise that there is a general feeling in the agricultural community some hitherto unknown problem should be tackled. So you tackle it. You can hardly do anything else, it is the logical thing to do. Of course, there are exceptions, but I think one should be very careful to identify this person or that body as the origin of a "decision". Things simply do not work this way.

Our research institutions, our agricultural experiment stations, our agricultural research university, they are all incorporated in an extensive network of formal and informal connections. This network is so closely knit, the flow of information through it is so intricate, that it really defies description. Having said this I will now set out to describe it.

The Agricultural infrastructure

I have already mentioned to you a number of essential facts about the Dutch agricultural community, let us summarize:

- We do not have an independent agricultural research policy.
- The agricultural community and agricultural research are very much on their own. We are not isolated of course, and let me assure you that we do not feel lonely, but we tend to mind our own business, we try to find "in-house" solutions.
However, the size of the agricultural research budget is subject to outside influences.
- In agriculture there exists a strong tradition of cooperation.
- Dutch agricultural entrepreneurs are luckily skilled and they use the latest technology.
- In spite of the recession, agriculture is still profitable (although I have to emphasize that the average farm income is still below standard).
- We only take up research subjects if we cannot leave them to others.

It is my belief that the key to the economic succes of our agricultural enterprise as a whole lies in the highly competitive nature of the Dutch farm population. Our farmers want to be independent, they want to stay in business, and so they try their utmost to produce more, to lower production costs, and to improve the quality of their products. They have developed a keen sense for consumer demand, and they react very quickly to changes in the market. Here we have classical examples of market-pull in innovation. In some cases this pull is really so strong - in glasshouse horticulture for instance - that farmers almost literally pull preliminary results out of our scientists hands and start experimenting on their own. If they hear about developments

abroad, they at once come and ask why we are not doing something about it. Still, many farming families exist on a low subsistence level, and if you are very cold blooded about it you have to conclude that this means there are too many farms in The Netherlands. But this fact does not seem to sharpen rivalry between Dutch farmers. On the contrary, they try to cooperate even better in a concerted action to beat foreign competition.

Our farmers' skill in farm management and in the use of modern technology depends to a large extent on two factors. First, the majority of our farmers learn their profession in one of the many kinds of agricultural schools. We have educational institutions on all levels of schooling after primary school, up to university level.

In the second place, after they have left school, farmers find a vast amount of specialized information at their disposal, ranging from journals and magazines, salesmen and fairs, to highly specialized extension services.

The department of Agriculture and Fisheries is very fortunate to have control not only over the agricultural extension service, but over agricultural education too. In fact, most major policy instruments are in one hand, and this saves us an amount of red tape.

More important, of course, is the fact that agricultural education is incorporated in the agricultural infrastructure. I think this must be the reason why the distance between education and the real world is shorter than in most other sections of the economy. Of course, communication between farmers and extension officers is a two way traffic, and thus, the extension service is able to inform the ministry about farmers' needs. So, we talk to those responsible for education and extension, telling them what scientists are up to, and they tell us what they are doing and what they think we should be doing. To us, this feedback is very fruitful indeed.

In an analogous way all policy instruments of the ministry are linked. Maybe this is the moment to tell you an interesting fact about the ministries' staff, and indeed about the staff of all other agricultural bodies. Many of their academic staff received their degree from our one and only agricultural university, the one here in Wageningen. So they all have a common background, they may even have studied together. They know what agriculture is about - in fact a

great number of them grew up on a farm - and they have to become research-minded. They have learned to value the possibilities of research, they know their way about in the agricultural research community, so they know to whom to turn if a problem comes up. One of the advantages of being a small country is that many fruitful linkages spring up of their own, and do not have to be forced upon the organisation by management. Distances are short, and the common background simplifies communication.

Of course, farmers have their own organisations too. These organisations can bring powerful pressure upon the Government, and over the years they have acquired great negotiating skills. I will not try to give you the complete picture of farmers' organisations. Suffice it to say that we find three kinds of organisations. We have professional organisations - for instance of poultry. Then we know product-organisations, comprising for instance all potato-interests, and lastly we see general organisations, comprising all interests of the agricultural community.

We talk to all of them, they talk to many others of the ministries' staff, so we are certainly well-informed on farmers' needs and wishes. Some of these discussions occur within the formal framework, many are of an informal nature, and naturally we have them at different, appropriate levels. Yet close relationships exist between our research establishments and farmers' organisations.

Our agricultural experiment stations are jointly financed - on a 50/50 basis - by Government and farmers organisations. Farmers have to pay a special levy for this. The stations are governed by boards made up of representatives of both the farming community and the ministry, and so the farming community exercises a decisive influence on the stations' research programmes. Money always buys power. Our research institutes too are governed by board on which the farming interest is represented. Although here the ministry has the main say, the influence of the farming community should not be underrated. Remember, we try to govern by consensus.

This certainly is not all.

Apart from all these organisations and representations, we also have a

National Council for Agricultural Research. This independent advisory body serves as a meeting platform for both Government, science and the science consumer, the latter being either the farming community, the agribusiness or the nature conservation interest.

Among the many sub-committees of the Council are the product advisory groups, mainly comprised of representatives of professional and product interests. Every five years the Council advises the Ministry of Agriculture and Fisheries on the re-programming of agricultural research in general.

The Minister, of course, has to account for his policy in Parliament, and Parliament too exercises its influence upon research policy, usually on a general level. Since the decrease of the number of farmers in our country the agricultural vote has lost part of its importance. Nevertheless, the farm lobby stays very effective, and it has been successful in warding off disproportionate inroads on the agricultural budget.

Usually the major part of the parliamentary debate is taken up by social and economic topics, but every now and again research figures in the debate too.

In summing up we may conclude that The Netherlands do not lack formal linkages between research, other policy instruments and the agricultural community. Nor do we lack linkage at a national level between the agricultural research community and other elements of the Dutch science community, for this linkage is looked after at Cabinet level. As I told you before, I do not believe this description explains much. In a democracy the acts of Government express the will of the People. Government never leads but it always follows developments in society. So if Governmental and non-governmental bodies show linkages, much consultation and cooperation at every level, these phenomena should be interpreted as signs of many linkages and of close cooperation within the community itself. It is my belief that basically policy decisions in agricultural research originate in informal linkages at the personal and small-group level. The decision in 'statu nescendi' as you might call it then spreads around, gains support, and in the end it is formalized by those that are formally responsible.

Privately owned industrial companies are run on a different basis of

course, but you have to bear in mind that the agricultural community is made up of nearly 200.000 tiny private companies, so each scientist has potentially 200.000 customers.

Let me put this whole story in other words.

Ours is a small country. Distances are short, communication is easy, 'everyone knows everyone', most policy instruments are in one hand, agricultural education is excellent, our farmers are highly skilled and are very competitive. They exert a strong technology pull. We have a rich social life, the countryside is covered by all kinds of organisations. We have a strong agricultural lobby. And to all these ingredients you have to add the one ingredient that is the cream in our coffee: a very strong tradition of co-operation. I do not know where and when in history this tradition originates. But experience has taught us that co-operation is profitable, and we like profits. So agricultural research is incorporated in a closely knit network of relationships. Scientists do not only talk to other scientists, they talk to extension officers, they talk to farmers, they talk to government officials. They know what is expected of them, and they try to fulfill these expectations. And even a scientist who is not a leader in his field may still be very effective because his work is not only printed in learned journals but finds its way directly to the customer as well, to the customer who also happens to be his boss.

Now, please do not think that we in management pass our days in idleness, waiting for our policy to shape itself. We have a lot of work to do, and we have important decisions to make. But that is a different story altogether.
