

A woman with blonde hair, wearing a dark blue textured blazer over a patterned top and dark trousers, stands in a lush green field. She is looking upwards and to the right with a slight smile. The background consists of tall grass and a line of trees under a cloudy sky.

PROFESSOR MARTHA BAKKER:

‘Split up extensive and intensive agriculture’

Create zones in the Dutch landscape where all the farming is of the same type, proposes Professor Martha Bakker in a controversial plan. 'I think there is room in the Netherlands for all kinds of farms. But set strict conditions per area.'

TEXT RENÉ DIDDE PHOTOGRAPHY BRAM BELLONI

Look, over there you see extensive livestock farming with varied pastures with flowers in the grass,' points out Martha Bakker, professor of Land Use Planning at Wageningen. We are driving around the peatland area south of Amsterdam, which surrounds old villages that grew up here organically. The route takes winding roads alongside meandering peaty streams and past small fields, and the birdlife is plentiful. It is a popular area with walkers and cyclists from the capital city. 'Lovely, isn't it?' Bakker says frequently. Born and bred in Amsterdam, and trained as a physical geographer, she still lives in the city. 'But I am very fond of the countryside. The conflict between farmers and nature conservationists really pains me.' Bakker is referring not just to nitrogen emissions from agriculture in nature areas, but also the runoff of phosphate, the issues of surface water levels and of water quality, and the impact of gigantic barns and monocultures on the landscape. Now, in a cool, wet late June, the water is high in the rivers and ditches. 'That farmer over there won't mind that at all, because he obviously farms extensively,' says Bakker, pointing out fields of high grass separated by rows of trees, where a few cows are grazing. 'But his neighbour here would prefer a lower water level,' she adds, gesturing towards a large barn with a brand-

new house in front of it and neat, short grass all around it.

For Martha Bakker, there is more to this than a conflict between farmers and nature-lovers: she also points out the consequences of the differences in farming method. 'Ultimately, these two farmers get in each other's way. The intensive farmer wants a low water level for optimal grass growth and frequent mowing. For the other one, that high water level is beneficial for his herb-rich grassland and biodiversity.'

STRIKING PROPOSAL

What we see here, 20 kilometres outside Amsterdam, is precisely the heart of the problem for which Bakker and her colleagues made a striking new proposal this spring. Separate out intensive and extensive farmers and create zones in the Dutch landscape where the same farming method is applied: that is Bakker's message. She distinguishes between three kinds of zone. The A zone is for intensive, field-based livestock farming and arable farming – broadly speaking, current conventional farming. In the B zone there is land-based extensive farming, which is not necessarily organic, while industrial agroparks with high-tech, super-intensive farming are located in the C zone. The intensive, land-based A-zone farming takes place in the coastal zones and the

Flevo polders, extensive B-zone agriculture is on the higher sandy soils, and C-zone agriculture is found in agroparks at 30 locations spread throughout the country. Bakker also proposes that other urgent claims to the scarce space in the Netherlands should be divided up according to the same three categories to some extent. Nature development and tree-planting, climate adaptation with water storage and anti-drought measures, and recreation could all take place in the B zone along with extensive agriculture. The energy transition facilities, with wind turbines and solar farms, should be located in the A and C zones. Housing fits in the B zone and would include 'tiny houses' and would make use of locations where farms are vacated.

We've heard calls for zoning before. Back in the 1970s, there was talk of separating or interweaving agriculture and nature. WUR big shot Rudy Rabbinge argued in favour of an Agricultural Main Structure 30 years ago, and Johan Remkes published a report about the nitrogen problem just last year, entitled 'Not everything is possible everywhere'.

'The Remkes Commission's buffer zones around nature areas, the zoning and extraction ban on water on dry sandy >

‘On sandy soils, agriculture faces multiple handicaps’

soils and reserving highly fertile land for agriculture, as proposed by the supporters of the Agricultural Main Structure, are all sectoral proposals. Each of them follows a different pattern. I am a generalist so using knowledge of many different disciplines, what I’ve come up with is a cross-sectoral zoning system, bringing together the many and rapidly increasing claims to the scarce space in the countryside. It is a pragmatic combination of separating land use types along broad lines, and interweaving functions within the clusters.’



MARTHA BAKKER

Professor of Land Use Planning in Wageningen

Education:

1996 MSc in Physical Geography at the University of Amsterdam

2005 PhD in Land Use and Soil Degradation, Université Catholique de Louvain la Neuve

What led you to the idea?

‘In 2018 I was asked to look at the implications of climate change for the rural areas for the province of Noord-Brabant. That province is a pressure cooker for numerous problems such as the nitrogen issue, which are only being worsened by climate change and could explode. But there are also serious issues around water storage, carbon sequestration and the energy transition.’

‘I started with agriculture, which increasingly has two faces, with overly intensive farmers on the one hand, who are to blame for most of the environmental problems, and extensive farmers on the other hand, who provide a lovely landscape full of biodiversity. Partly thanks to a lack of political leadership, that dichotomy is becoming more and more polarized.’

Clustering highly intensive farms together means giving up on the landscape, a lot of people will think. After all, anything goes in those agroparks?

‘Yes, I have heard that hardliners consider the C zone agriculture in agroparks and the land-based agriculture in the A zone a ‘dead zone’, but that is not true. Intensive farming there has to comply with the environmental norms. And that is possible with capital intensive technology such as precision farming and air filters.’

‘The agroparks of the C-zone agriculture are for pig farms, chicken farms, greenhouses and mushroom farms. There are local companies that supply the farms with waste materials, or that buy them from them. By locating an abattoir or a feed company there, you cut down on transport. You can also combine wind farms with solar farms. Greenhouses use the heat from data centres, as well as the CO₂ from industries. You don’t get protests from local residents, because

there are hardly any local residents. That also often means a better use is found for dying industrial estates.’

And on the extensive farms, the farmer jogs along on his horse and cart?

‘Extensive farming makes full use of modern farm machinery, but uses artificial fertilizer and pesticides sparingly, and doesn’t mow the fields much. The big complication is that farmers in the B zone areas, especially on the higher sandy soils, have been advised for decades to solve their problems with capital-intensive technology. Manure digesters, air filters, separating urine from manure. That is the wrong advice. Because these areas face multiple handicaps. There are nitrogen emissions into the air here and phosphate runoff into the water, and increasingly there are irrigation bans during dry periods, health dangers posed by fine particles, and a landscape blighted by the dominance of huge barns. Not all these problems can be solved with technology, and even when that is possible, farmers can no longer afford it.’

But for several decades, farmers got loans from the Rabobank for things like expanding their dairy herds after the milk quotas were ended, but not for switching to extensive agriculture.

‘That was due to a lack of an overall vision about the problems in the rural areas. Rabobank executives have since realized that wasn’t good. The problem is that many advisors at the local branches of the bank are still thinking along the same lines as 30 years ago and steering the farmers towards bulk production for the global food market. Whereas we are less and less competitive there compared with China and Latin American countries.’



How should the zoning and 'de-intensification' that you describe be done?

'There are plenty of institutions that could buy up the land in the B-zone areas, such as pension funds, insurance companies, drinking water companies, water boards and nature organizations. They finance a land bank, a foundation that buys up land from farmers who want to stop. The bank leases the land at attractive rates under strict conditions regarding the number of cows, the water level and biodiversity. Farmers then get more land to graze their existing herds on and promote biodiversity without excess manure and nitrogen and phosphate problems.'

Does that give farmers a business model? And that land bank?

'The land bank gets lease money from the farmers, entrance money from leisure-seekers and some income from modest building plots, such as for off-grid tiny houses. The farmers generate incomes from the currently developing trade in nitrogen and phosphate emissions, by selling rights to A and C agricultural zones. They also get European subsidies for agricultural nature management, hedgerows and

rural development. They can brand local products and get much better prices for their milk and cheese than they get from FrieslandCampina. And lastly, they save a lot on livestock feed, artificial fertilizer, pesticides and probably the vet, too.'

And the hundreds of millions the government is now allocating to buying out farmers?

'Because the land has been earmarked for B-zone agriculture under strict conditions, it is not worth as much. That is going to cost the state money, but through the restrictions on agricultural land use, we'll get a lot of ecosystem services in return. An important point is that central government will control this zoning process. It needs to outline the larger plan for the countryside and work out which land use claims can be combined, and in which areas. I have suggested not locating energy transition initiatives in the extensive B-zone farming areas, nor water storage in the agroparks.'

'The government should be at the wheel and should set conditions and map out the Netherlands of the future. At the moment, the government lacks vision, and spatial planning has been decentralized to make it easier, and for the sake of 'public support'.

In a way, it was a bit silly to shift those tasks to lower levels of government. At the same time, even with a national vision, the provinces are crucial to the implementation. They have more power in matters of spatial planning than they currently make use of. They often stay in the background. They need to take on their role and pick up speed.'

Farmers' organization LTO says it is not in favour of zoning. Farmers regularly drive their tractors around the Netherlands to protest against nitrogen measures.

'The government is not clear at present and doesn't have appealing possibilities and alternatives to offer the farmers. So the farmers are closing ranks and it looks as though organizations like the Farmers Defence Force enjoy a lot of support. I think there is room for all kinds of farms in the Netherlands, but strict conditions apply per region. And one thing is certain: food production is no longer goal number one for agriculture, but will be in third or fourth place in many areas, after ecosystem services such as landscape management and recreation.' ■

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