

# Protecting Agricultural Resources in Europe: A Report from the Netherlands

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## I. INTRODUCTION

The countries of Western Europe, and especially the Member-States of the European Community, are all more or less in the same position concerning the protection of agricultural resources. The amount of agricultural land is limited and continues to diminish through conversion to other uses, especially urbanization, industrialization, and infrastructure developments. The use of the remaining agricultural land is confronted with a variety of limitations, some the result of natural circumstances. Other interests, such as the value of nature and landscape and availability for recreational use, are playing an increasing role or getting recognition in that same rural area. Additionally, in the last twenty years another concern is increasingly winning importance in our agricultural area: the condition of the environment. More and more agriculture is the cause *and* the victim of serious environmental problems. This complicated situation has given rise to several measures, both on a national level and on the level of the European Community.

Agricultural resources in the Netherlands also stand under heavy pressure. Although the Netherlands is, after the USA and France, third in exports of agricultural products,<sup>1</sup> the area of agricultural land is limited: 2 million hectares (half of the total Dutch area) are cultivated land.<sup>2</sup> As a result of Holland's high population density, the Dutch countryside is a place of much competition between conflicting interests such as urbanization and industrialization, infrastructure developments, outdoor recreation, nature conservation and — of course — agriculture. During the 1970s, the annual loss of farmland to other purposes was about 10,000 hectares, during the last decade the loss slowed to approximately 5,000 hectares.<sup>3</sup>

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1. LANDBOUW-ECONOMISCH BERICHT (Den Haag, Landbouw-Economisch Instituut, Periodieke Rapportage 1-86 (1986)), at 14.

2. MINISTRY OF AGRICULTURE AND FISHERIES, DUTCH AGRICULTURE IN FACTS AND FIGURES 3 (1986). A hectare is approximately equal to 2.469 acres.

3. A. CRIJNS, THE REGULATIVE PHASE OF LAND DEVELOPMENT 1 (Landinrichtingsdienst Information Paper 7, 1986).

This Article first will survey the Dutch legal-administrative land-use structure. Since 1924, the Dutch have enacted legislation to encourage agricultural development of rural areas financed by the government and to ensure that the agrarian productivity conditions are optimal. In large parts of rural Holland, agrarian activity is closely interwoven with nature and landscape. In 1985, new legislation made possible the development of rural areas for agricultural as well as other purposes.<sup>4</sup> That legislation closely connected development to physical planning policy.<sup>5</sup>

In line with the government's policy concerning rural areas, the government tries to ensure that in certain vulnerable areas, farmers adjust their farming practices to the needs of nature and landscape. This Article also discusses governmental land management schemes such as financial subsidies.<sup>6</sup>

Strong agricultural productivity has a negative side too. The production of certain products created substantial surpluses. One of the measures the European Commission took was to stimulate farmers to "set aside" parts of their arable land for nonagricultural purposes. These issues will be dealt with in the third section of this Article.<sup>7</sup>

Agricultural developments can also become a danger for the environment. One of the most threatening problems the Dutch now must address is a gigantic surplus of manure from the Dutch livestock industry. This causes serious pollution of soil, water, and air. The government was forced to introduce strong measures to fight this problem and to keep agrarian land productive in the long run. Section III B of this Article discusses this bizarre problem.<sup>8</sup>

## II. THE DUTCH LEGAL-ADMINISTRATIVE LAND USE STRUCTURE

### A. *Physical Planning Policy*

The high population density of the relatively small area of the Netherlands has, for a long time, required optimal use of the limited land. Thus, the Dutch have adopted stringent measures to control the allocation of land for different purposes. They have a comprehensive system of physical planning.<sup>9</sup> This physical planning is described as "the

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4. See *infra* notes 19-35 and accompanying text.

5. See *infra* notes 9-18 and accompanying text.

6. See *infra* notes 36-50 and accompanying text.

7. See *infra* notes 52-60 and accompanying text.

8. See *infra* notes 61-100 and accompanying text.

9. See generally W. BRUSSAARD, *THE RULES OF PHYSICAL PLANNING* 1986, Ministry of Housing, Physical Planning and Environment, The Hague, The Netherlands (1987); *PLANNING LAW IN WESTERN EUROPE* 216-45 (J.F. Garner & N.P. Gravells eds 1986); R.

search for and the establishment of the best possible mutual adaptation of space and society."<sup>10</sup> Physical planning policy is a concern of the three levels of government: central government, the twelve provinces, and some 650 municipalities.

Because the Netherlands is a decentralized unitary state, each level of government is free to conduct its own policy and to promulgate its own regulations, provided that it does not conflict with the policy or regulations of a higher authority. Physical planning is based on the Physical Planning Act.<sup>11</sup>

At the national level, the government's policy on physical planning is expressed in the Government Reports on Physical Planning, which contains the main outlines and principles of national spatial policy, and the Structural Outline Plans (*Structuurschema's*), which contain outlines and principles that are generally important for national spatial policy but connected to a specific sector of that policy, for instance Land Development. Both Reports and Plans are adopted according to the procedure for national physical planning key decisions, which is a special procedure used for particularly important spatial decisions on the national level.<sup>12</sup>

At the provincial level, the Regional Plans (*streekplannen*) outline in general terms the future development for the province. A Regional Plan is meant to steer the provincial planning process; it guides the province's own policy and is used as a guideline for the approval of municipal land-use plans. Outside the direct field of physical planning, the Regional Plan provides the basis for the assessment of Land Development Plans or Programs.<sup>13</sup>

The municipal level has two spatial plan models: the Structure Plan, indicating the future development of the municipal area,<sup>14</sup> and the Land-use Plan (*bestemmingsplan*), prescribing the use of land in the plan area. The Land-use Plan is the most important because it directly binds the citizen. A Land-use Plan is mandatory for rural areas. The plan indicates

HELD & D. VISSER, RURAL LAND USES AND PLANNING: A COMPARATIVE STUDY OF THE NETHERLANDS AND THE UNITED STATES (1984); Grossman & Brussaard, *Planning, Development, and Management: Three Steps in the Legal Protection of Dutch Agricultural Land*, 28 WASHBURN L.J. 86-149 (1988) [hereinafter Grossman & Brussaard, *Planning, Development, and Management*].

10. Derde nota over de ruimtelijke ordening, deel 1a: Oriënteringsnota (Orientation Report) Tweede Kamer, 1973-1974, 12 757, nr. 2, at 19.

11. Wet op de Ruimtelijke Ordening (Stb. 1962, 286), amended in 1985 (Stb. 1985, 623-625), reprinted in Schuurman & Jordens 64 (1986).

12. Wet op de Ruimtelijke Ordening, arts. 2a-2c.

13. See *infra* notes 19-35 and accompanying text.

14. Wet op de Ruimtelijke Ordening, art. 7.



the appropriate use or designation (*bestemming*) of the land involved.<sup>15</sup> Dutch law prohibits changing the use of the land to a function inconsistent with this designation, and building and construction permits must be refused in case of conflict with the Land-use Plan.<sup>16</sup> Thus, land designated for agricultural use is protected from conversion to nonagricultural uses. Land may be compulsorily purchased on the basis of the Land-use Plan.<sup>17</sup> The plan requires approval by the Provincial Government.<sup>18</sup>

### B. Land Development

For decades, the focus of attention was on improving the agrarian productivity conditions. Since 1924, the Netherlands have had legislation to encourage agricultural development of rural areas financed by the government.<sup>19</sup> But in large parts of rural Holland, agrarian activity is closely interwoven with nature and landscape. This legislation also has diminished the aesthetic value of the land. This situation was acknowledged in the 1970s when new legislation was framed recognizing both agricultural and nonagricultural claims on land in rural areas, especially nature and landscape values and outdoor recreation. This new legislation, known as the Land Development Act (*Landinrichtingswet*), was enacted in 1985.<sup>20</sup>

In this Act, physical planning policy is accepted as a guideline for land development decisions.<sup>21</sup> This is formulated in article 4 of the Land Development Act: "Land development strives toward the improvement of the countryside in conformity with the functions of that area, as they are specified in the framework of physical planning." Land development (*landinrichting*) involves a complicated legal scheme and a high level of government involvement in landownership and use.<sup>22</sup> Because

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15. *Id.* at art. 10.

16. *Id.* at art. 44; Woningwet (Housing Act, Stb. 1962, 287), latest version reprinted in Schuurman & Jordens 19-I (1986), art. 48.

17. Onteigeningswet (Compulsory Purchase Act, Stb. 1851, 125), latest version reprinted in Schuurman & Jordens 24 (1988), art. 77, lid 1.

18. Wet op de Ruimtelijke Ordening, art. 28.

19. See Dam, *De doelstelling van de ruilverkaveling in de ruilverkavelingswetgeving* 11, in VAKGROEP AGRARISCH RECHT, LANDBOUWUNIVERSITEIT, WAGENGEN, RECHT IN ONTWIKKELING (1986); Steiner, *Farmland Protection in the Netherlands*, 36 J. SOIL AND WATER CONSERVATION 71 (1981).

20. Landinrichtingswet (Stb. 1985, 299), reprinted in Schuurman & Jordens 101 (1986).

21. See generally Brussaard, *De Landinrichtingswet in relatie tot de ruimtelijke ordening*, 66 STEDEBOUW EN VOLKSHUISVESTING 527-532 (1985).

22. See THE LAND DEVELOPMENT ACT - AN OUTLINE, GOVERNMENT SERVICE FOR LAND AND WATER USE (1988); Grossman & Brussaard, *The Land Shuffle; Reallocation of Agricultural Land under the Land Development Law in the Netherlands*, 18 CAL. W. INT'L L.J. 209-289 (1988).

the Land Development Act is designed to accommodate varied interests, different land development approaches and decisionmaking processes are required. Thus, the law includes four statutory types of land development:

1. Consolidation (*ruilverkaveling*), modeled after methods long used in the Netherlands and other West European countries, is intended for areas where agriculture is the primary function and other functions such as recreation are less important. It usually involves reallocation of land in the entire area. The decision to proceed with a consolidation requires the approval of a majority of the landowners or users.<sup>23</sup>
2. Redevelopment (*herinrichting*) is a new method and is intended for areas in which important nonagricultural functions must coexist with agriculture. This method is appropriate for areas within the urban sphere of influence or with important nature and landscape values. Reallocation of land will normally occur in a redevelopment area, but redevelopment can also proceed without reallocation.<sup>24</sup>
3. Adaptation (*aanpassingsinrichting*) is also new and is derived from West German legislation (*Flurbereinigungsgesetz*). It is designed to be used in conjunction with an infrastructural improvement or development (a road or a canal) to modify the unfavorable land-use effects of that project.<sup>25</sup>
4. Consolidation by agreement (*ruilverkaveling bij overeenkomst*), the oldest method of consolidation, regulates a procedure by which three or more landowners voluntarily exchange land to achieve better parceling.<sup>26</sup>

The choice between consolidation and redevelopment is especially difficult, and is closely related to physical planning policy. Therefore, the Structural Outline Plan for Land Development provides general guidelines for that choice.<sup>27</sup>

The decisionmaking about land development involves a complicated and time-consuming procedure, which can take between ten and twenty years. This procedure is initiated with a written request to the Minister of Agriculture, Nature Management and Fisheries, submitted by a government or other public body, an eligible organization, or a group of

23. Landinrichtingswet, art. 15.

24. *Id.* at art. 14.

25. *Id.* at art. 16.

26. *Id.* at art. 17.

27. The Structural Outline Plan for Land Development (*Structuurschema Landinrichting*) contains the main principles governing national land development policy and provides special insight into the spatial aspects of that policy. Landinrichtingswet, art. 6. The plan is adopted in accordance with the procedure for national physical planning key decisions. See *supra* note 12.

landowners and users.<sup>28</sup> If the land development is consistent with the land development and physical planning policy, and if land development in the area is desirable, the Minister places the area on the List of Land Development Projects in Preparation (*Voorbereidingsschema Landinrichting*).<sup>29</sup> A local land development commission is appointed, which is responsible for the preparation and implementation of the land development project.<sup>30</sup>

The local commission prepares a Land Development Plan that serves as the basis for a decision as well as the guide for implementing the project.<sup>31</sup> In areas where problems are complex and especially where nonagricultural functions are significant, a rather general Land Development Program is first prepared upon which the decision is based, followed by a Plan that guides the implementation.<sup>32</sup> After several opportunities for public comment, the provincial government makes a decision about establishing the Plan in relation to the provincial physical planning policy. Then, too, the choice between consolidation or redevelopment is made.<sup>33</sup> A choice of consolidation requires approval of a majority of the number of votes calculated by either the number of landowners and tenants or of the amount of ground surface represented in the election.<sup>34</sup>

After this decision, the rather lengthy process of implementation begins. The land brought into the project is appraised; roads, waterways, and other infrastructural facilities are improved or constructed; land is acquired for public purposes and reallocated. Owners and users have a right either to receive the same amount and quality of land that they brought into the project, or be compensated. After the reparceling, the structure and the rights of the owners are established in the Reallocation Plan.<sup>35</sup>

### C. Management Agreements

Rural areas in the Netherlands must fulfill various purposes. Therefore, Dutch land-use policy distinguishes between situations involving

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28. Landinrichtingswet, art. 23. A group of landowners and users must represent at least 30% of the ground involved.

29. *Id.* at art. 18. The List of Land Development Projects in Preparation indicates areas for which consolidation or redevelopment projects are in preparation. The list is amended annually on recommendation of the provincial governments. The provincial states also recommend the appropriate type of land development and preferred method of preparation. See *infra* note 31 and 32; Landinrichtingswet, art. 19.

30. Landinrichtingswet, at art. 27.

31. *Id.* at arts. 73-93. This is the so-called simplified preparation.

32. *Id.* at arts. 33-45. This is the so-called phased preparation.

33. *Id.* at arts. 46 and 51.

34. *Id.* at art. 52.

35. *Id.* at arts. 124-220.



integration and separation of land-uses.<sup>36</sup> Integration is particularly relevant for agricultural land with special landscape or natural values, that is some 500,000 to 700,000 hectares (1/4 to 1/3 of all cultivated land in the Netherlands). Characteristic of these areas is the direct connection between the natural conditions and the farming situation. On one hand, existing landscape and nature values are threatened there by agricultural developments; on the other hand, those values can only exist together with certain forms of agrarian land-use.<sup>37</sup>

In 1975, the Dutch government introduced in the Relationship Report (*Relatienota*), a policy program for specialized agricultural land management.<sup>38</sup> The report distinguishes two types of areas:

1. Management areas: areas where maintaining the present nature and landscape values is just as important as continuing the agricultural use and production. In these areas, integration of land-use functions is the goal. Therefore, farmers are offered the opportunity to enter voluntary contractual management agreements (*beheersovereenkomsten*), under which they will receive financial compensation for adapting their farming practices to the requirements of nature and landscape preservation.

2. Reserve areas: areas where the values of nature and landscape are so high that effective agricultural production will be impossible in the long run. The goal in this area is to end farming entirely by purchasing the land. Farmers cannot be forced to sell, but if farmers offer their land for sale, the government has an obligation to purchase.<sup>39</sup> In the meantime, farmers in reserve areas have the opportunity to enter transitional management agreements.

Thus, the *Relatienota* policy has two goals: the maintenance and development of nature and landscape values in the most vulnerable

36. Vierde Nota over de ruimtelijke ordening, beleidsvoornemen, Tweede Kamer, 1987-1988, 20 490, nrs. 1-2, at 68-70.

37. Brussaard & Van Wijmen, *Natuur en landbouw: enkele juridisch-bestuurlijke beschouwingen over scheiding en verweving*, 46 *AGRARISCH RECHT* 157 (1986); Dauvellier, *Achtergronden en perspectieven van het beleid voor de landelijke gebieden*, in *VERWEVING IN HET LANDELIJK GEBIED* 5-6 (Rijksplanologische Dienst, publikatie 85-4 (1985)).

38. Nota betreffende de relatie tussen landbouw en natuur- en landschapsbehoud; Tweede Kamer, 1974-1975, 13 285, nrs. 1-2 (1975). This *Relatienota* focuses on the relationship of agriculture with nature and landscape conservation.

See generally Grossman, *Management Agreements in Dutch Agricultural Law: The Contractual Integration of Agriculture and Conservation*, 16 *DENVER J. INT'L LAW AND POL'Y* 95 (1988); Grossman & Brussaard, *Planning, Development, and Management*, *supra* note 9, at IV.

39. Regeling beheersovereenkomsten 1988, Ministerie van Landbouw en Visserij, Nr. J 7433 (Stcrt. 1988, 149) [hereinafter *Regeling 1988*]. The *Bureau Beheer Landbouwgronden* (Bureau for Agricultural Land Management) is in charge of purchasing the land, and of concluding management agreements with farmers.

agrarian cultural landscapes by adaptation of agricultural management, and the financial subsidization of farmers who carry out the farm business in those areas. This policy is limited to a number of geographically defined regions of particular value and vulnerability (up to 200,000 hectares). The instruments to carry out this policy are embodied in the Decree on Management Agreements,<sup>40</sup> which also contains the Dutch translation of the EC program for farming in less-favored areas.<sup>41</sup>

For every province the Minister of Agriculture, Nature Management and Fisheries has indicated the number of hectares to which the *Relatienota* policy will apply.<sup>42</sup> It then becomes the provincial government's responsibility to establish the area boundaries, indicate which areas are management areas and which are reserve areas, and establish a management plan for each area. This plan indicates the range of possible practices (actions to be taken or to be omitted in the area) and the corresponding compensations.<sup>43</sup> In every management area there is a limited number of packets of management provisions, depending on the management goals for that area (for instance maintenance of natural handicaps, protection of nearby nature reserves, botanical management, meadowbird management, migratory bird management, or maintenance of landscape).<sup>44</sup>

Once the management plan for an area is established, farmers can enter into management agreements.<sup>45</sup> Such an agreement is a private contract between an individual farmer and the government. A management agreement lists the packet of specific management treatments — measures to be taken and activities to be avoided — to which the farmer is obligated, and the compensation he will receive. In exchange, participating farmers may only choose from the management packets indicated in the plan.<sup>46</sup> The government is not obligated to contract for parcels that would not further the management goals.<sup>47</sup> A management agreement is normally entered into for a duration of six years, and is presumed to be renewed for the next six-year period unless a party gives notice before the end of the period.<sup>48</sup> Although the government's right to end the agreement is limited, the farmer may end an agreement after a trial period of one year.<sup>49</sup>

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40. *Id.*

41. Directive 75/268/EEC on mountain and hill farming and farming in less-favored areas.

42. Regeling 1988, *supra* note 39, art. 8.

43. *Id.* arts. at 9-18.

44. *Id.* at bijlage 1A.

45. *Id.* at art. 22.

46. *Id.* at art. 24.

47. *Id.* at art. 26.

48. *Id.* at arts. 39 and 42.

49. *Id.* at art. 43.



The implementation of management agreements had a very slow start. The procedure for establishing the management plans was lengthy, and farmers were reluctant to enter management agreements. By June 30, 1990, however, management plans were operational for 150 areas, covering some 57,400 hectares, and 2,500 farmers had entered management agreements, covering some 15,600 hectares.<sup>50</sup>

### III. PROTECTING AGRICULTURAL RESOURCES IN THE NETHERLANDS: DEALING WITH PRESENT-DAY PROBLEMS

The strong agrarian productivity conditions resulting from national legislation and the Common Agricultural Policy of the European Economic Community also procure some negative results. In various sectors of agriculture, substantial surpluses have been created now. This led the European Community to take limiting measures with regard to cereals, sugar-beets, and milk.<sup>51</sup> At the same time, the Community encourages farmers to "set aside" parts of their arable land for nonagricultural purposes.

#### A. *Set Aside Regulations*

The "set aside" regulations of the Community<sup>52</sup> are intended to stimulate farmers to take arable land out of production, while maintaining the agricultural productivity of that land. The regulation is applicable to land on which crops are cultivated for which a European market regulation exists. If farmers meet certain criteria, they may require financial compensation. In the Dutch translation of this regulation,<sup>53</sup> the

50. EVALUATIEVERSLAG BEHEERSREGELINGEN 1989, publicatie nr. 33 Directie beheer landbouwgronden, Utrecht 1990; information ir. J. Boelen, Directie beheer landbouwgronden.

51. The Superlevy on milk, for example, based on EC-Council Regulation No. 856/84, seeks to fix the amount of milk delivered from farms in the Community to the amount delivered in 1983 minus a fixed percentage. If milk is delivered above this reference quantity (the milk quota), a levy must be paid (the Superlevy). This is nearly as high as the price of milk. This system was developed to balance supply and demand of milk. Delivery of milk without a levy is only possible for producers if a quota is registered in their name. This EC-regulation was translated by all the Member-States of the Community into national legislation. It has led to much distinction about the interpretation of the decree, much bureaucracy, and a lively trade in milk quotas.

See Walda, *The Legal Status of Agro-Industrial Enterprises and Their Relation with Landowners and Agricultural Workers*, Netherlands report to the 13th International Congress of Comparative Law, Montreal 1990, T.M.C. Asser Instituut - The Hague, 171-185 (1990).

52. EC Council Regulation No. 1094/88

53. Beschikking ter zake van het uit productie nemen van bouwland, Nr. J 88/8620 (Stert. 1988, 158).

farmer who wants to receive these subsidies must be younger than sixty-five years old and is obliged to keep the land out of production for five years.<sup>54</sup> He may choose three possible measures:<sup>55</sup>

- laying fallow his land, with a possibility of crop rotation;
- afforesting; or
- using the land for nonagricultural purposes.

A farmer choosing the option of laying fallow has several obligations. He is not allowed to use organic waste matter or animal manure, and only the insecticides, pesticides, and herbicides approved by the minister of Agriculture are allowed. Furthermore, the land must be cultivated with "green manure" (that is, a conservation cover crop) like clover or marigolds. This green manure may not be removed from the land or used for animal feed or commercial purposes. It is to be ploughed under at the end of the set-aside period or, if the land is taken into use again for crop rotation, within that period.<sup>56</sup>

In case of afforestation, the land must be afforested with quick-growing trees.<sup>57</sup> Although the explanatory note to the regulation assumes that afforesting land is an agricultural activity, the designation of land uses in a land-use plan is actually a municipal activity. Certain areas in northern Holland are characteristic for their treeless and open landscape. The farmers in these areas are already in trouble because of sinking prices. Should they decide to afforest their land, it is possible that municipal physical planning regulations would prevent them from doing so.

If the farmer agrees to use his land for nonagricultural purposes, the third possibility the regulation offers, he is not allowed to use his land for the production of any form of vegetable or animal products.<sup>58</sup> The compensation the farmer receives for setting aside his land is 700 ECU (European Currency Unit) per hectare per year when laying fallow or afforesting, and 300 ECU in the case of nonagricultural use.<sup>59</sup> The set aside regulation is meant to diminish surplus production by diminishing the amount of productive land. Because it is relatively new, its effectiveness is difficult to determine. However, expectations are high.<sup>60</sup>

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54. *Id.* at arts. 3 and 4.

55. *Id.* at art. 6.

56. *Id.* at art. 7.

57. *Id.* at art. 8.

58. *Id.* at art. 9.

59. *Id.* at art. 14. The compensation was raised from 600 ECU to 700 ECU on December 8, 1989. 1 ECU is the approximate equivalent of \$1.50 as of January 1991. For an explanation of ECU conversion see D. WYATT & A. DASHWOOD, *THE SUBSTANTIVE LAW OF THE EEC* 34-35 (1987).

60. In May 1990, set-aside agreements were entered for an area of nearly 8,500 hectares. *Structuurnota Landbouw, regeringsbeslissing, Tweede Kamer, 1989-1990*, 21 148, nrs. 2-3, at 145.

### B. *Manure Legislation*

Until now, the main interest of the European Community in the field of agriculture has been handling the surplus situations. Environmental issues, however, are receiving more emphasis in European policy. Since the 1987 amendments of the European Treaty, the protection of the environment has become an explicit goal of the European Community.<sup>61</sup> The coming years will likely see new regulations regarding the protection of soil and water. These regulations are particularly important because agriculture has become an important cause and victim of pollution. This is illustrated by another surplus product that the Netherlands, Denmark, and parts of West-Germany have to deal with: a surplus of animal manure. This section will concentrate on the Dutch experience and legislation.

1. *Content of the Dutch Manure Legislation.*—In recent years, there have been regular alarming reports of serious contamination of soil and groundwater by nitrogen and of the large-scale depletion of forests due to ammonia. The most important cause of this pollution is the gigantic quantity of animal manure produced by the livestock industry. In past decades, the livestock industry has grown significantly as a result of mechanization, economies of scale, intensified use of land, and especially the wholesale import of livestock feed through the harbour of Rotterdam. These developments have helped the livestock industry make an important contribution to the Dutch economy. The large surplus of manure resulting from this development exists not only in regions where the livestock industry is concentrated, but also on a national scale. At present, the annual production of animal manure in the Netherlands is more than ninety million tons. For years, livestock farmers have been spreading most of this manure on their own land or in the immediate surroundings. This has often resulted in an overdosing, sometimes extreme, of the minerals (nitrogen, phosphate, and potassium) and heavy metals (copper, cadmium, and zinc) found in the manure. This overdosing causes serious harm to the agricultural sector and the environment, such as decline in soil fertility, decrease in crop quality, health hazards for livestock, decline

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61. With the Single European Act (Pb. 1987, L 169) a new title "Environment" was added to the EC-Treaty. Article 130 R provides, among other things, that action by the Community relating to the environment shall have the following objectives: to preserve, protect and improve the quality of the environment; to contribute towards protecting human health; to ensure a prudent and rational utilization of natural resources. According to art. 130 T, protective measures of the Community shall not prevent any Member State from maintaining or introducing more stringent protective measures compatible with the Treaty.



in quality of groundwater, deposition of potentially acidifying substances, and stench nuisance.<sup>62</sup>

To identify the problem, a new word was introduced in Dutch politics: "manuring" (*vermesting*). Manuring is considered one of the most important focal points of environmental policy. Moreover, in a relatively short time, the manure problem has engendered an entirely new system of legislation and regulation.<sup>63</sup> This system became effective in 1987, far too late according to environmentalists, and much too abruptly according to farmers.

This manure regulation encompasses two laws. The Soil Protection Act<sup>64</sup> applies, among other things, to the use of animal manure, and the Fertilizer Act<sup>65</sup> regulates trade in fertilizing products, removal of surplus manure, and the production of animal manure. Government decrees and ministerial regulations have elaborated on the subject matter of these two Acts. Initially, the legislation applied to manure produced by cattle, pigs, chickens, and turkeys because these animal types produce by far the greatest part of the total animal manure in the Netherlands.<sup>66</sup> The Minister of Agriculture has the power to bring other types of livestock and poultry under the force of the law. The minister has announced that beginning in 1991, the manure regulations will also be applicable to ducks, rabbits, and fur-bearing animals.<sup>67</sup>

In attacking the manure surplus, the first problem facing the legislators was to determine a standard for measuring the amount of manure. The solution chosen was to measure the quantity of phosphate found in the manure, because phosphate is one of the polluting substances. Thus, the minister established the quantity of phosphate that the average animal produces per year in its manure.<sup>68</sup> The next schedule gives an impression of the detail of this system. Research yielded a phosphate quantity for each of the animals originally covered by the regulation.

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62. Besluit gebruik dierlijke meststoffen (tb. 1987, 114), *reprinted in* Schuurman & Jordens 191 (1987), at 15-66, Nota van toelichting, at 7 [hereinafter Besluit gebruik dierlijke meststoffen].

63. *See generally* Brussaard & Grossman, *Legislation to Abate Pollution from Manure: The Dutch Approach*, 15 N.C.J. INT'L L. AND COM. REG. 85-114 (1990).

64. Wet bodembescherming (Stb. 1986, 374), *reprinted in* Schuurman & Jordens 147-VIb (1986) [hereinafter Wet bodembescherming].

65. Meststoffenwet (Stb. 1986, 592), *reprinted in* Schuurman & Jordens 191 (1987) [hereinafter Meststoffenwet].

66. Regeling aanwijzing diersoorten en hun mestproductie (Stcrt. 1986, 246), *reprinted in* Schuurman & Jordens 191 (1987), at 84-98.

67. Mestbeleid tweede fase, *infra* note 87, at 8-9.

68. Regeling aanwijzing diersoorten en hun mestproductie, *supra* note 66, at art. 2 and bijlage 1. *See also* Regeling vaststelling hoeveelheid fosfaat per 1000 kg dierlijke meststof (Stcrt. 1987, 81), *reprinted in* Schuurman & Jordens 191 (1987), at 166-172.

*Proportion animals - phosphate (examples):*

		kg phosphate/ animal/year	number of animals at 125 kg phosphate/ year
<b>CATTLE:</b>			
milk cow		41	3
female calve	younger than 1 year	9	14
	older than 1 year	18	7
bull kept for breeding	younger than 1 year	12	10
	older than 1 year	22	6
<b>PIGS:</b>			
breeding sow	from 25 kg till 7 months	7,1	18
	7 months till first service	11,8	11
	25 kg till first service	8,2	15
slaughter sow		11,8	11
meat pigs		7,4	17
SLAUGHTER CHICKEN		0,24	521
SLAUGHTER TURKEY		0,79	151

Because of the close relation between the type of feed consumed by an animal and the composition of the manure produced by the animal, it is possible to influence the phosphate level of the manure through the composition of the feed. Therefore, the regulation was amended in early 1990 so that lower phosphate standards are permitted when phosphorous-poor feed is used. This encourages environmentally sound manure production.<sup>69</sup>

The next step in the system of manure legislation is to relate these phosphate standards to areas of agricultural land. The *application* of animal manure is regulated by a government decree based on the Soil Protection Act.<sup>70</sup> This decree establishes standards for the maximum quantities of manure (expressed in kilograms of phosphate) that may be applied on agricultural land per hectare per year. Because the extent to which phosphate is absorbed from the soil can differ with various

69. Wijziging Regeling aanwijzing diersoorten en hun mestproductie (Stcrt. 1989, 253).

70. Besluit gebruik dierlijke meststoffen, *supra* note 62.

crops, a distinction has been made between grassland, fodder cropland (such as land on which corn is cultivated) and arable land. These standards will be implemented in a number of phases because implementation of a final standard on short notice would have led to an enormous manure surplus and serious problems for the livestock industry.<sup>71</sup>

APPLICATION OF ANIMAL MANURE — MAXIMUM STANDARDS

(kg. phosphate/hectare/year)

Time period	Grassland	Fodder cropland	Arable land
1 May 87-1 Jan. 91	250	350	125
1 Jan. 91-1 Jan. 95	200	250	125
1 Jan. 95-	175*	175*	125*
From 2000*	Final	Final	Final

\* Approximate

For the first and the second phases, the government has already established the standards.<sup>72</sup> The third and final phase standards will be established more specifically depending on further developments.

With much resentment on the side of the environmentalists, the norms have been selected in such a way that in the first phase there was no *national* manure surplus. But in the second phase there will be a considerable national surplus, which can be applied neither on one's own farm nor elsewhere in the country. The frantic search for technical solutions for this surplus continues.

The decree includes rules that allow fewer phosphates to be applied on phosphate-saturated ground, and more on ground with low phosphate levels.<sup>73</sup> An inventory of phosphate-saturated grounds that has been drawn up recently indicates that in large parts of the Netherlands, most grounds are already saturated with phosphate.<sup>74</sup>

The use of animal manure in fall and winter carries the extra risks of nitrogen and phosphate leaching into the soil and running off to groundwater or surface water. During these periods, the crops take up little or no nitrogen while, simultaneously, there is a surplus of precipitation. Therefore, the manure legislation includes provisions restricting manure spreading during those periods.

To alleviate the evaporation of ammonia that may occur when manure is applied, the regulation also contains a provision about incorporating

71. See *id.* Nota van toelichting, at 9.

72. *Id.* at arts. 2 and 3.

73. *Id.* at arts. 9 and 10.

74. See *infra* text accompanying notes 93 and 94.



spread manure into the soil. Phased implementation has been selected for these rules as well. At present, only the first phase (through 1990) has been regulated. Currently, it is forbidden to spread animal manure on grassland in October and November, and on snow covered ground from January 1 through February 15.<sup>75</sup> The Dutch government recently decided that it is unacceptable to have the evaporation prevention measures result in the pollution being pushed off to other components of the environment, especially the soil. Therefore, when systems of manure application with a low ammonia emission will be implemented, the prohibition of spreading manure will be extended at the same time.<sup>76</sup>

With respect to the *production* of animal manure, the maximum quantity of manure (expressed in kilograms of phosphate) that can be produced on a farm is directly related to the amount of agricultural land comprising that farm. Here, too, an elaborate and detailed system of regulations exists. The primary regulation is that manure production up to 125 kilograms of phosphate per hectare per year is permitted; manure producing above that limit is forbidden.<sup>77</sup> Under this rule, manure producers were obliged to submit data on the number of animals on the farm, the quantity of their manure production, and the area of agricultural land belonging to the farm at the time the Fertilizer Act came into force.<sup>78</sup> In addition, producers of animal manure are required to keep manure records updated.<sup>79</sup> If the farm's manure production exceeds the quantity of phosphate that may be applied on the land of that farm, the producer must pay a levy on the surplus.<sup>80</sup> The transfer of manure production to another farm business or to another location is restricted.<sup>81</sup>

The efficient transport of surplus manure is also regulated by the Fertilizer Act.<sup>82</sup> In addition to the record keeping on manure applicable to the producers, dealers in animal manure and managers of storage places and processing facilities are also required to keep records up to date.<sup>83</sup> Furthermore, the sale of animal manure must always be accom-

75. Besluit gebruik dierlijke meststoffen, *supra* note 62, at art. 8.

76. *See infra* text accompanying note 95.

77. Meststoffenwet, *supra* note 65, at art. 14.

78. *Id.* at art. 6; Registratiebesluit dierlijke meststoffen (Stb. 1986, 625), *reprinted in* Schuurman & Jordens 191 (1987), at 100-109.

79. Besluit mestbank en mestboekhouding (Meststoffenwet) (Stb. 1987, 170), *reprinted in* Schuurman & Jordens 191 (1987), at 111-122.

80. Meststoffenwet, *supra* note 65, at art. 13, lid 4.

81. *Id.* at art. 15; Verplaatsingsbesluit Meststoffenwet (Stb. 1987, 171), *reprinted in* Schuurman & Jordens 191 (1987), at 125-135.

82. Meststoffenwet, *supra* note 65, at arts. 5-12.

83. Besluit mestbank en mestboekhouding, *supra* note 79, at art. 3.

panied by proofs of delivery. These proofs must be sent to the Manure Bank.<sup>84</sup>

The Manure Bank ensures the efficient transfer of excess manure. The Bank is designated to supervise observance of the manure book-keeping provisions. It is charged with accepting surplus and mediating trade in excess manure. The Bank is obligated to accept the quantities of manure offered by manure producers.<sup>85</sup>

2. *Transition to the Second Phase.*—On January 1, 1991, the first phase of the manure legislation ended and the second phase, with stricter standards, began. In 1990, the efficacy of the legislation was evaluated,<sup>86</sup> and on account of this evaluation the Minister of Agriculture announced new measures.<sup>87</sup>

As the evaluation shows, manure production in the Netherlands has been decreasing since 1985, both in the amount of manure and in the amount of phosphate. Simultaneously, the manure surplus increased at the level of the individual farm business because of the introduction of the phosphate standards in 1987. The same response will occur in 1991 when the new standards are effective.<sup>88</sup>

The number of animals to which the manure legislation is applicable (cattle, pigs, chickens, and turkeys) has also been decreasing.<sup>89</sup> At the same time, however, there was a considerable increase of animals of the types that do not (yet) come under the terms of the law: sheep, goats, ducks, rabbits, fur-bearing animals (such as minks and foxes), and horses.<sup>90</sup> In light of this development, the minister decided to bring ducks, rabbits and fur-bearing animals under the force of the law in the second phase. Another system of regulation will be introduced for horses, goats, and sheep. For these animals, maximum numbers per hectare will be applicable.<sup>91</sup>

As to the phosphate-saturated grounds, research has indicated that in the areas where the livestock industry is concentrated (the eastern and southern parts of the Netherlands) 270,000 hectares are saturated, according to the standards of the Decree on Application of Animal

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84. *Id.* at art. 8.

85. Meststoffenwet, *supra* note 65, art. 9.

86. Evaluatienota mestbeleid eerste fase, Tweede Kamer, 1989-1990, 21 502, nrs. 1-2 [hereinafter Mestbeleid eerste fase].

87. Notitie mestbeleid tweede fase, Tweede Kamer, 1989-1990, 21 502, nr. 3 [hereinafter Mestbeleid tweede fase].

88. Mestbeleid eerste fase, *supra* note 86, at 65.

89. For cattle this decrease has been caused by the introduction of the Superlevy (see *supra* note 51) in 1984. Mestbeleid eerste fase, *supra* note 86, at 26.

90. Mestbeleid eerste fase, *supra* note 86, at 29.

91. Mestbeleid tweede fase, *supra* note 87, at 8-9.

Manure.<sup>92</sup> Sixty percent of all agricultural land in those concentration areas is saturated, which is much more than was expected. Without preventive measures, saturation areas will expand to an area of 300,000 hectares by the year 2000. If the rules of the Decree on Application of Animal Manure would be applied to this total area (meaning lower standards for manure application on these grounds), a considerable extra manure surplus on the level of farm businesses would exist.<sup>93</sup> Therefore, the Minister decided to limit the designation of phosphate-saturated areas in 1991/1992 to the 60,000 to 80,000 hectares where the risk of phosphate leaching is the highest. At the same time, the standards for manure application on fodder cropland will become stricter more rapidly adjusting to: 200 kilograms phosphate per hectare in 1993, 150 kilograms in 1994, and 125 kilograms in 1995. These standards are applied because the highest quantities of manure are often applied on these fodder croplands, and so the risk of phosphate saturation is the highest there.<sup>94</sup>

The prohibition against spreading manure will be extended. At the end of the second phase (1995) the spreading prohibition will last at least five months (September 1 - February 1). This rule forces farmers to maintain storage facilities for manure for a minimum period of six months including a period for bridging bad weather conditions. If those storage facilities are not realized in 1994, the spreading prohibition will be extended through February.<sup>95</sup>

In addition to these measures, the Minister counts on less phosphate in animal feed, more distribution to areas with a shortage of manure, and more processing facilities for animal manure and export of the products.

Also, with respect to the production of animal manure, new measures will be necessary in the second phase. A new regulation concerning the transfer of manure production to another farm business or to another location is in preparation. According to this regulation, a reduction of thirty percent will be applied when manure production rights are transferred. No transfer will be permitted to areas with a manure surplus.<sup>96</sup>

To cope with the manure problem in the second phase, a manure processing capacity of six million tons at the end of 1994 will be necessary. The minister considers this to be the function of the livestock industry. Therefore, a new levy on manure production will be introduced.<sup>97</sup> Beginning in 1995 no more manure may be produced than can be applied

92. Besluit gebruik dierlijke meststoffen, *supra* note 62, at art. 9.

93. Mestbeleid eerste fase, *supra* note 86, at 12.

94. Mestbeleid tweede fase, *supra* note 87, at 9-10.

95. *Id.* at 15-16.

96. *Id.* at 11-12.

97. *Id.* at 13.



(in conformity with the application standards) on one's own farm or can be disposed of by means of agreements with other users or with manure processing factories. If a farmer cannot prove beforehand that he can meet these requirements, his manure-producing rights will be suspended.<sup>98</sup>

On the whole, the Minister is satisfied with the results of the first phase because the volume of the manure production has stabilized. The Dutch livestock industry has become accustomed to the manure legislation.<sup>99</sup> Interestingly, acceptance of this legislation by farmers is rather high.<sup>100</sup> Nevertheless, the proposed measures for the second phase result in the same tension between the interests of the livestock industry and the need for environmental protections, which was so characteristic in the first phase. For instance, tension exists in the difference between 270,000 hectares of ground actually phosphate-saturated and the 60,000 to 80,000 hectares the minister will designate as phosphate-saturated in the next years. Also, the new measures will mean that the manure problem will spread to other parts of the Netherlands as well. The solution to the problem is sought through technical measures (manure processing). The decision about a decrease in the Dutch livestock population will be postponed until 1995.

The Dutch manure problem is an example of and a warning about the problems of modern agricultural developments, and also about the excessive and detailed regulations required to deal with these problems. Hopefully, this will remain a strange story for the American people that once came from the Netherlands, and never will become a reality in the USA.

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98. *Id.* at 11-12.

99. *Id.* at 2.

100. See H. van Katteler & H. van den Tillaart, *Veehouders en Mestbeleid*, Instituut voor Toegepaste Sociale Wetenschappen, Nijmegen 1989. According to this research report 79% of the manure-producing farmers agreed with the phosphate standards for the first phase; 66% considered the rules about spreading manure to be fair; 76% thought the obligation to work manure into the soil was justified; and 34% considered the regulations about the transfer of manure production to be fair. On certain questions there was much diversity between the different groups of farmers. For instance, 64% of the cattle farmers thought it was fair that they have to pay a levy on excess manure, 45% of the pig farmers agreed so, and only 24% of the poultry farmers agreed.