EVGN 4 Valuation of Agricultural Property

1. Introduction
2. Application of European Valuation Standards
3. Valuation methodology
4. Determination of Market Value

Parts 5-8 are an integral part of this Guidance Note and of EVS 2025. They are on the TEGOVA website, not in the hard or electronic copy of the Blue Book.

5. *Agricultural land, farms and estates*
6. *Agricultural crops and other assets*
7. *Perennial crops*
8. *Forestry*

9. Climate change
10. Technology, data and agricultural property

1. Introduction

All European countries have agricultural and rural property but its nature and uses with associated legislative frameworks and markets can vary greatly between them and so affect valuations. Rural property is typically the property sector most influenced by very different national and local historical and cultural factors and so prevailing custom and practice. Even the Member States of the European Union with its Common Agricultural Policy are now seeing much more divergence as the CAP becomes a looser framework while countries outside the EU have their own differing approaches. There are differing levels of interaction with markets for residential, environmental, forestry, sporting, amenity and other uses. There may then be other calls on land from development from minerals and environmental purposes to renewable energy and leisure. This variety makes it important for the valuer to understand the assets to be valued in their context.

This Guidance Note applies to agriculture and forestry because some countries have the same valuation rules for both. However, it should be noted that other countries have separate and different rules for forestry valuation.

Regardless of the diverse definitions in national legislations, there is a consensus that rurality can no longer be defined solely according to agricultural activities. Rural land is associated with various typologies of areas based on different quantifiable criteria such as demography, employment, accessibility, and other statistical categories.

For most European countries since the 1990s, the analysis of demographic and economic data related to rural areas indicates a decline in agriculture in both economic and demographic terms.

That means that this Guidance Note considers general principles whose application will vary between countries for reasons that may be hard for someone outside the specific market to discern readily. With that caution, markets in agricultural land can be seen to lie at points along several possible spectrums, as to whether:

- There is an active market in the sale and letting of farmland
- There is greater or lesser national legislative intervention in land ownership, transactions and lettings
- The market is transparent or not as to transactions and prices
- The business of food production (and other activity) depends on the land itself as a factor of production or depends on high investment in production facilities on the land when the value may lie more in the business than the land as premises
- The Market Value of land just reflects its food production potential or is influenced by a wider range of factors

The structures for landownership, occupation and use of agricultural and related land will vary with national or local history as between:

- When and where agriculture came to be seen more as a business and mechanised
- Different regimes for the inheritance of landownership
- Past patterns of radical political change and land reform
- The level of official intervention in land transfers, there often being more political concern about rural land than other property
- Legislative intervention in the arrangements for letting farmland
- Those areas that saw the collectivisation of agriculture with the differing ways in which that legacy has been handled

Changing global circumstances are bringing new factors into agriculture and so the valuation of its property, including:

- The unfolding of climate change with its impact, the measures taken to mitigate it and how land-based businesses in global supply chains adapt to increasingly volatile and extreme weather conditions both at home and abroad
- Growing constraints on the availability of water for farming and so the need for its optimal management, especially where it is critical to the farming use of the land
- With many inputs such as fertilisers in global supply chains and much produce being sold into them, changes in and disruption of world markets have an influence as do the changing tastes of consumers around the world
- The rapid development of new technologies for farming, from the use of big data and drones to robotics and other automation
- The growing expectations of environmental management in farming and of rural land to reduce its wider impact on such issues as water quality, flooding, air quality, biodiversity and climate change while also developing new techniques to work within growing economic and regulatory limitations on the use of crop protection products

In many cases, regulatory permissions impose a key constraint relevant to the value of land such that a secure permission may add to the value of land and lack of it might diminish that value.

An important and widespread example is where the farming enterprise depends on having access to water and being able to retain that access on a useful and sustainable basis in the future. If official permission is needed to take water or to store water in reservoirs for use when needed, the limits of the available permissions and their security once granted are relevant to the valuation.

While these permissions are typically site-specific, the example of water shows they can themselves sometimes be tradeable. Indeed, European agriculture has a wider history of production controls being transferable to a greater or lesser extent according to the national jurisdiction and markets.

Equally, environmental restrictions and designations may affect the value of land subject to them. In particular markets, these might make the land more attractive to some buyers (especially the more environmentally-minded) but they might, more generally, be seen as restrictive (especially to more commercial farmers).

Some areas have particular recognition as, or reputation for, particular production which can create a brand value or protection. Land within some French wine *appellations* can have a higher value than apparently similar land just outside. More generally, some areas have the infrastructure and downstream processing to support contracts and value in what elsewhere would be just commodity production.

2. Application of European Valuation Standards

Whichever the country and whatever the nature of its market for agricultural property, valuations are to be conducted according to European Valuation Standards unless national or local laws provide otherwise.

Market Value is the default basis for valuation in the absence of other instruction or statutory requirement. It is to be assessed in accordance with its definition and commentary in EVS 1 and take into account the relevant range of factors in the minds of market participants. There are particular challenges for this in countries or areas where the agricultural property market is illiquid or lacks transparency.

Similarly, a rental valuation is to be on the default basis of market rent in the absence of other instruction or statutory requirement. Market rent is to be assessed in accordance with its definition and commentary in EVS 1. With agricultural property typically rented for economic reasons, it is more likely that rents reflect the economics of production having regard to supply and demand for the land and the quality of potential tenants.

However, there may be national legislation prescribing the basis on which the rent for agricultural or forestry land is to be reviewed.

The methodologies for assessing these values will necessarily vary according to the circumstances and available evidence. Subject to statutory instructions and local circumstances, agricultural valuations often rely on an analysis of the evidence of sale prices of comparable properties, especially in more transparent and liquid markets.

Understanding the specific features of agricultural land valuation requires consideration of the impact of multiple factors arising from economic, demographic, political, technological and natural characteristics of the environment and land use.

The valuation of agricultural property and the factors affecting it can be considered at different levels:

i) Factors affecting the suitability of land for land use, i.e. determining the quality and category of land. This draws attention to factors influencing land use such as climate, hydrology, topography, soils, land cover and vegetation needs, and the need for data availability on present land use and management.

ii) Factors determining the agricultural property market (demand, supply and price) and bearing directly on the Market Value of agricultural land. This includes analysis of the impact of prices of agricultural products and inputs, location of land, production infrastructure, degree of fragmentation of estates, inflation, expectations of future land price changes, transaction costs, etc.

iii) Factors affecting the efficiency of the agricultural property market. These conditions for an efficient agricultural property market are met if the necessary legal, institutional and financial frameworks are in place and adequate regulatory and fiscal policies are implemented.

Unless instructed otherwise, the valuer should consider the highest and best use of the land (HABU), so as to ascertain the feasibility of another type of use (for example: the subdivision of the land following an urban/suburban expansion, the switch from annual to multiannual crops, etc.). Thus the valuer should have regard to potential changes of use if such changes are physically possible, reasonably probable, legal or likely to become so and resulting in the highest value of the property at the date of valuation (EVS 1, paragraphs 4.3.4 and 4.3.5.). The valuer must indicate the time within which the HABU of the land could be achieved. If the valuation is for secured lending, it may be subject to Article 229 of the Capital Requirements Regulation requiring a property value based on prudently conservative valuation criteria. Where other bases of value are required, such as investment value or fair value, they are to be assessed under the provisions of EVS 2.

The valuation of agricultural property is a specialist area requiring a close understanding of often complex, intricate and locally varied markets in specific contexts, to be undertaken by valuers knowledgeable and proficient in these markets, meeting the requirements of EVS 3.

The process of valuation and reporting should follow the requirements of EVS 4 and 5.

A template for an agricultural valuation report is offered in the Annex.

3. Valuation methodology

The same methodological approaches as apply generally to real estate *(see EVS Part II on Valuation Methodology)* apply to valuation of agricultural properties:

- Market Approach — Comparative Method
- Income Approach — Direct Capitalisation or Discounted Cash Flow (DCF)
- Cost Approach — Replacement Cost Method

with the Residual Method cutting across and incorporating all the various approaches. The choice will be driven by the nature of the property, the national or local market and the possible willing buyers.

Over time and in different areas, there will be differing balances between farming and non-farming buyers. With the locational nature of land, farmers may be particularly driven to buy neighbouring land when it is available rather than land beyond easy reach. Larger, equipped and free-standing units may attract a wider range of buyers. While buyers might generally be private individuals and families, traditional institutions and charities, now increasingly environmental ones, can be active.

However, in some areas, larger investment funds and corporate agri-businesses operations will have a role, especially where large units, including ones that can be irrigated at scale, meeting their criteria can be bought or rented, requiring an understanding of their approaches to property. They will look for a level of professional valuation that incorporates these approaches, which can overlap with those for business valuation.

Nevertheless, more technical approaches based solely on production-generated income analyses are unlikely to reflect market prices in most areas, so that where income analysis is used it should be cross checked by comparative market analysis.

3.1. Market Approach — Comparative Method

As with real estate generally, the market approach to valuation of agricultural properties should be based on the Comparative Method.

Almost all agricultural property will usually be valued by comparison relying on appraisals of the property in question and knowledge of the marketplace in which it sits and of sources of information.

When a market is active and therefore the real estate data necessary for the valuation is available, the comparative method is the most direct, probative and documented method for valuing a property. The comparables should be drawn from properties similar to the one being valued,.

In the valuation of agricultural property, the comparative method seeks to assess the Market Value or market rent of a property by means of a comparison between the property being valued and a set of similar, recently contracted comparable properties with a known price or rent falling within the same market segment.

The evidence of the identified comparables should be considered and adjusted for their differences from the property being valued on factors known to be relevant in the market. Among many points, these might include:

- Area, smaller parcels often having a higher unit value
- Quality and nature of the land
- Houses, buildings, facilities such as irrigation and other fixed equipment
- Access to contracts, designations and markets
- Limitations on use from environmental designation to soil depth and field size
- Events since the comparable transaction was agreed

3.2. Income Approach

This method is of greatest relevance for markets that view agricultural property predominantly for its income generating potential or when the property generates income from a lease agreement.

Sometimes the land simply underlies the business upon which it is conducted, rather than being an integral part of agricultural production. Where the value of the property is driven more by the business, often in higher value production with significant investment in facilities on the premises or with access to particular markets, an Income Approach may be more appropriate. This requires care in selecting the appropriate discount rate(s). The extent to which the business opportunity, including relevant contracts, is transferrable with the property may often be a critical factor.

The Income Approach may also be used, at least as a cross check, for land under perennial crops such as orchards and vineyards, or glasshouses. It can also have a direct application for valuing perennial crops for business purposes without

reference to the land, when it might be used for Market Value and for an individual client's investment value.

In some markets, an Income Approach might also be naturally adopted where large areas of agricultural property are available and viewed solely in terms of commercial production.

Some markets may be too limited or opaque for the Comparative Approach to be feasible with any reliability, requiring consideration of the most appropriate approach to assess the Market Value. In such situations, it is common to use an Income Approach based on the income derived from the business. The context requires care in validating the result and the means used to achieve it as a figure that could be expected to be achieved in a transaction.

The Income Approach requires an analysis of the potential for a property to generate monetary benefits and for converting these benefits into a capital value through the application of an appropriate discount rate. A distinction relevant to the rate used is made between working from rents, as property income, and from profits, as business income.

Methodology Section 7 sets out the different methods and models commonly applied under the Income Approach. Thus, both capitalisation methods (perpetual and reversionary models) and discounting models (Explicit Discounted Cash Flow) as well as models based on the accounts of the current or a theoretical occupier are described in some detail.

The income from agricultural property is either derived by the owner from letting or based on the production cycle for the intended farming enterprise. In the latter case the cash flow from agricultural property results from both the production cycle and the market cycle for products. The valuer must consider the impact of these cycles on revenues and costs.

An over-reliance on solely technical use of yield analysis is, in most countries, often unlikely to give Market Value, usually needing a final review for the credibility of the opinion as to value. It is also commonly subject to the risks inherent where yields are low (often a feature of agricultural markets) as only small differences in yield then produce large differences in capital values.

In 'transparent' countries, this methodology commonly relies on capitalisation of the market rents charged, based on a capitalisation rate obtained directly from the market from the relationship between market rents and transaction prices. In areas with more homogeneous agricultural systems, potentially reliable Market Values can be obtained using this methodology though the ready availability of sale transaction might of itself often tend to reduce the need to use this method.

In 'non-transparent' or 'not fully transparent' countries, it is more difficult to apply the income method based on a market rent, so it is common to resort to indirect methods based on the business and the income it generates. Assessing potential

yield, income and costs requires a sound knowledge of production economics, especially for farming given with typically wider range of physical and financial performance between good and bad producers as well as the normal variations between years, that volatility now tending to increase with climate change. Current or future performance may depend on access to particular contracts, which might be for inputs as well as sales. It may be necessary to view any accounts shown by the vendor business with some scepticism.

In this context and depending on the basis of value (Market Value, synergistic value or fair value), EBITDA (earnings before income, taxes, depreciation and amortisation) may often give a structure for analysis.

It may be appropriate to consider income derived from other activities such as tourism, hunting or fishing in inland waters, or long-term income from the installation of telecommunications antennae or power lines or other rights. Market analysis, including the attitudes of likely buyers, must be carried out to determine whether these factors affect the value of the property. If no market evidence can be gathered to support that conclusion, such as historical records and inventories demonstrating that those resources are sustainable over time, such income should not be reflected in the determination of value.

The direct capitalisation method involves converting annual income into a capital sum using an appropriate yield *(Methodology section 7.7.)*.

However, permanent crops, such as fruit, olives or vines, do not give a constant, perpetual income but commonly have a production curve. After an initial establishment phase with substantial costs, production begins to give positive cash flows which increase to a stable plateau but then finally declining towards the end of the plants' productive life with costs of removal. Here, income is variable and time-limited though the cycle may then be repeated, with or without intervening cropping.

The discounted cash flow method relies on determining each year's cash flow over a given period, perhaps the expected life span of a crop, taking the Market Value of the bare land obtained by market comparison or further production cycle of that crop in perpetuity, deducting the investment needed for the next cycle.

As agricultural production responds to market trends, which change over the years, there may be reason for caution in valuing an agricultural property on the basis of perpetual cycles of a particular crop or to allow for an intervening crop. If there are concerns that that crop might cease to be in demand in the future, it could be appropriate to consider one growing cycle and a terminal value corresponding to the Market Value of the bare land. This may matter little for crops with longer life spans.

3.3. Discount rate

Determining the discount rate is one of the most difficult aspects of valuation of agricultural properties by means of a Discounted Cash Flow *(Methodology 7.34.)*.

The optimal way of determining the discount rate is through analysis of market transactions (Methodology section 7.38 and 7.39). But, as already noted, in many countries this methodology is difficult to apply, and other methods should be used *(Methodology 7.40.)*.

In such circumstances it is common practice to refer to ten-year government bonds as the risk-free rate and add a market risk premium. For agricultural properties, this adjustment is likely to be quite different from that for other commercial or residential properties. In principle, the issue is the return that an investor might require to hold farmland with its character and need for management compared to holding risk free bonds. The risk premium might, now in particular, include something reflecting the impact or benefit of climate change.

However, these indirect methodologies cannot be applied in isolation from the realities of the property market, or it might simply result in an investment value. The fact remains, that owners of agricultural property will very often be faced (sometimes after the investment is made) with the dilemma that, if they do not invest in an agricultural operation, even an unprofitable one, their land may end up being abandoned and therefore devalued. Market Values may also reflect what can be paid if there are only very limited opportunities to buy convenient land, perhaps not even for several decades, which can be financed across the whole of an enlarged business.

On the seller's side, there may very often be sentiment associated with the land, related to the fact that it may have belonged to the same family for many years, compelling the owner to maintain activity, even if it is not profitable, for reasons going beyond economic rationality. In these situations, parties may often implicitly apply a yield lower than the opportunity cost of funds to them.

Very low rates may also be found on the market in cases where the expected income does not come solely from crop or livestock production, but from other complementary amenities, such as building a house or a rural tourism facility, with farming managing the landscape supporting the business or helping justify the development permission.

It is therefore important to maintain a critical attitude in using indirect methods of determining the discount rates, so that these do not become disconnected from the realities of the specific local market. For agricultural properties, the market premium may often be lower than that for urban properties and there are agricultural markets where the final rates are below long term interest rates.

In areas where there is an identifiable risk that obtaining the hoped-for potential income may not be possible, such as areas at high risk of fire or irrigated areas with heavy restrictions on water distribution as a result of climate change, the application of a specific risk premium is justified, increasing the estimated cost of capital discount rate.

3.4. Cost Approach

When considering specialist equipment or buildings, it may, on occasion, be appropriate to assess the Depreciated Replacement Cost (DRC), especially where a reinstatement valuation is required. This will not typically be relevant to other agricultural properties. It is a valuation for the continued use of the building, making it inappropriate where the building might be developed for other purposes such as housing.

This method determines the current Market Value starting from a value for it as new, commonly as depreciated for age and obsolescence. The reconstruction cost can be estimated as the cost of replacing a new property with equal utility and functions, possibly considering age and obsolescence.

The depreciated replacement cost method aims to determine the Market Value of a property by adding the Market Value of agricultural land and the cost of reconstruction of the work, structure or construction, which may be depreciated. In the valuation of agricultural buildings, it should be noted that some land investments, such as tree plantations and windbreaks, are biological resources that require medium and long-term replanting and reconstitution and do not depreciate.

If the property is located in an area much in demand for the building of secondary residences, as happens in many coastal zones or zones falling within environmentally protected areas, the objective may be to accommodate a housebuilding rather than agroforestry operation, so that in such cases the comparative market method should be favoured when valuing the existing structures.

If the property is intended to be used above all for agroforestry, the depreciated replacement cost method will be the appropriate methodology for valuing the existing structures. Nevertheless, it must be borne in mind that if the production-based income method is being used to value agricultural property, then there should be no valuation of the structures which are key to the production process, since the income in question depends on the existence of those structures and their value is therefore reflected in the income analysis.

Farms reservoirs for irrigating an agricultural property illustrate this. If the agricultural property is valued on the basis of its potential, and so with the possibility of irrigation, using the cost method to value the reservoir would result in

over-valuation. Its value is already implicit in the enhanced value of irrigated land, so it should not be valued individually.

4. Determination of Market Value

The valuer will have regard to the matters set out above in establishing the type of agricultural property and the likely pool of potential purchasers.

It is important for the valuer to assess the physical and other characteristics of the property and its potential for agricultural production or other purposes. The valuer must always inspect the property and seek out information relevant to its farming and other history and potential. The inspection is essential for the valuation for forming a direct view of its real condition and relevant matters verifying the state of affairs and comparing it with what is reported in the documents. The inspection should be both internal and external, of the entire property and must always be conducted at the level of detail necessary to provide a professionally adequate assessment for the specific purpose. Inspection checks and assessments should cover:

i) The characteristics of the surrounding area, the degree of accessibility and the provision of infrastructure that influence the value

ii) Access methods and location

iii) The characteristics and surface size or volume of the property

iv) The state of maintenance

v) The type of systems, equipment and services

vi) Environmental factors (whether natural, such as land instability, flood risk, etc. or not, such as pollution)

vii) The source of the measurement of the property (surveyor, maps, land register, other)

viii) Verification of the scale of the plans used for the dimensions of the property

ix) The comparison between the actual condition and that described by a) the cadastral or other official documents, b) the building and urban planning documentation c) the title (or titles) of ownership of the property

x) Determining the progress of current works and their conformity with any permission

xi) The assessment of the quantitative and qualitative characteristics that influence market price variations

xii) The features relevant to identifying the market segment

xiii) The verification of any rights over or benefiting the property and other circumstances that may affect value and/or marketability

xiv) Verification of any tenancies affecting the property

xv) Any other appropriate element to fulfil the mandate received

The valuer should establish whether there are any matters affecting title to the property. As well as the ownership itself, these might include rights of way, easements, licence, purchase pre-emption agreements, development control conditions or legal agreements, whether benefiting or burdensome on the property. It should be established whether mineral, sporting or other relevant rights are owned with the land, given the problems which may arise if they are owned and exercised separately. It should be checked whether all material buildings and uses have official development control and other authorisation so that their legitimate use by the new owner is not in doubt.

All occupational arrangements, whether by tenancy or licence, documented or oral, including business arrangements, should be established, together with the code of law relevant to each and its implications, including any imposed security of tenure (with tenant's ages and potential successors where relevant) and rent review rules. The valuer should ensure that the valuation is subject to any such occupancy and business rights where they would be effective against a new owner. This should include all residential tenancies and occupancies. It must be established whether the local practice is to value dwellings subject to long term tenancies on an income approach or a proportion of vacant possession value.

The valuer should consider very carefully whether an element of additional hope value should be allowed for possible (but unapproved) alternative uses. This will require careful checks with the appropriate authorities as well as relevant comparable evidence. Any such expectation should be highlighted in the report and appropriately justified.

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5. Agricultural land, farms and estates

6. Agricultural crops and other assets

7. Perennial crops

8. Forestry

5. Agricultural Land, Farms and Estates

This section covers the general nature of agricultural land to review:

- tenure, occupation and business arrangements
- the distinctions between:
    - bare farmland,
    - land with farm buildings and dwellings, and
    - agricultural property as part of a larger or more diverse estate
- commonly relevant physical characteristics with regulatory concerns and constraints
- likely sources of information
- valuation methodology
- determination of market value.

The General Nature of Agricultural Property

The main subject of agricultural valuation is likely to be the physical property or real estate itself. Rural or agricultural land is a convenient shorthand reference for generally undeveloped land whose economic activity and use has been largely driven by agricultural or horticultural use or can revert to it.

Its legal nature will be determined by the law of the country in question which can be different from those relating to urban property, businesses and chattels. The interest in the land may be held by an owner or a tenant while access to land may be granted under a licence or other legal right. Others such as mortgagees may have relevant interests.

Most property used for other purposes was once agricultural and, even in time of national crisis, relatively little land usually returns to farming uses. In most European countries, farmland is the major land use by area but this has obviously diminished over time and is likely to continue to do so. Improved technology, skills, machinery and inputs have meant that the potential for agricultural productivity per unit of area has grown substantially in recent decades. In addition to the development of land, some farmland is now taken for forestry or environmental and conservation uses.

The common uses of farmland are the growing of annual or perennial crops, usually for food (human or animal) or drink, or the keeping of livestock for meat or products such as milk or wool, commonly reliant on pasture. There is also a growing

interest in farming for non-food uses, such as energy or pharmaceuticals. Farming may be pursued in conjunction with other non-agricultural uses, such as shooting or recreation while, in some circumstances, conservation uses, whether reliant on or replacing farming, can themselves be a source of value.

The countryside will also include forestry or woodland and also generally unproductive areas such as mountain or marsh. Sometimes, these areas will have fallen out of production or still have low level grazing, sometimes recognised as a traditional practice.

There are normally development controls and other regimes regulating changes in the use of farmland to other residential, commercial, leisure or infrastructure uses, often of higher value. These pressures for change of use will reflect the economic development of an area, its population density and commercial circumstances.

These factors will also affect the approach to exploiting value which may reflect:

- the yield from managing biological assets (the approach taken in IAS 41) or
- the opportunities offered by the range and combination of assets owned.

The markets for rural land can be significantly influenced by factors outside farming. These include the appetite among some non-farmers to own parts of the countryside for amenity, pleasure or other reasons as well as each country's taxation system, including its particular agricultural aspects.

More generally, each national taxation system with capital, revenue and transactions taxes typically has specific features for agriculture, some aspects reflecting the particular nature of farming operations and some to encourage or protect particular outcomes (for example in Italy the registration tax for purchases of land by professional farmers is almost zero, while it is 15% of the value for other operators).

The great majority of farming businesses rely on having access, by ownership, lease, licence or other right, to farmland. A few farm enterprises, such as intensive livestock, poultry or mushroom businesses, can rely solely on buildings, buying in feed and other inputs that could be grown on land and taking the waste away.

Across the whole continent, economic and social pressures mean that farming populations have been falling and continue to fall with the restructuring of the continuing farming businesses. In much of Europe, many businesses are seeking greater viability by expansion or developing other sources of income. Many specialist businesses are now dependent on migrant labour and, to a growing extent, on automation. The valuer will need to understand the process of restructuring that affects the farm in question.

Tenure, Occupation and Business Arrangements

Farmland is by no means always held and farmed on a simple basis of owner occupation, with the owner farmer having the benefit of all rights to the land. Different countries have different land tenure systems, different customary arrangements between owners and farmers, and differing limitations on the transfer of property and business rights.

Some countries have official mechanisms (such as SAFER in France) for approving or rejecting land transfers. Some impose limits on how much land can be owned or bought or the extent to which some, especially foreign[1] companies, can own or occupy land and whether there is maximum term for a lease, whether it excludes subsoil so that it is essentially a grant of a right to farm. In some countries, farming neighbours can have the chance to pre-empt a non-agricultural purchase.

National law and administration can limit the freedom to transfer land. There may be laws providing for family rights in land on inheritance or to protect the matrimonial home. In some countries, farming buyers of farmland may have a privileged position, in preference to other possible buyers. Farming tenants may sometimes have a right to buy or of first refusal at a given valuation if the property is to be sold. For example, in Italy, to encourage the expansion of small agricultural businesses, there is a right of pre-emption in favour of the tenant farmer or the neighbouring farmer; other potential buyers should check that there is no request for pre-emption with its effect on the buying and selling process.

It is important to understand what rights are conveyed by ownership of land. In some countries, ownership of agricultural land or woodland may give little automatic right to exclude the public or reserve sporting. Napoleonic property law, applying in parts of Europe, controls the inheritance of real property, sometimes encouraging the use of corporate structures as vehicles for ownership. There can be substantial practical difficulties or time delays in enforcing property rights in some jurisdictions.

In many countries, there are legal rights of access for some farmers to use open land, often unimproved land such as hill or marsh, for grazing. These may run with particular properties, be freestanding transferable rights or, as with some transhumance systems, simply be customary.

1 *For the EU, 'foreign' means non-EU although new Member States are sometimes granted temporary derogations from EU internal market freedoms concerning agricultural land.*

Agricultural Tenancies

Many countries have had systems enabling farmers to lease land as tenants from owners who may be larger estates, former farmers, investors or family members who have inherited farmland. A tenancy can separate the investment needs, risks, opportunities and returns of ownership from those of farming. It can also serve as a means for capital intensive specialist rotational cropping, such as root crops which the farmer's own business cannot handle, to have the use of fresh land each year to avoid crop diseases, pests and other issues.

Where these systems have survived, been reformed or been re-created, most countries have their own tenancy law, usually specific to agriculture. Such laws typically govern use, security of tenure, rent determination, end of tenancy compensation or other rights, possible family succession rights to the tenancy, rights to purchase from the landlord, and other matters. The terms of the actual tenancy agreement will then apply subject to the code of law. Tenants may be limited as to their opportunity to sublet or assign their interest. The length of tenancy can range from the very short (often for specialist cropping, a grazing season or an interim arrangement) to a lifetime or longer.

For valuations, key points usually include:

- the rent and the means of, and relevant factors for, its review
- the likelihood of vacant possession and the opportunities which may or may not be expected to exist then
- liabilities (statutory or contractual) between the parties – repairs, compensation, etc
- the uses permitted to the tenant and matters reserved to the landlord
- the obligations of each party to others by virtue of being landlord or tenant - these may usually include local taxation and charges (such as drainage rates) but there can be apparently unusual or historic liabilities, particularly relating to ownership, as where an estate may have onerous obligations to assist with the maintenance of a church.

The agricultural tenant's use of the land may be regulated by national legislation and then by contract of tenancy on such matters as:

- the length of the lease, some countries setting a maximum term and some a minimum term

- rent review
- the use of the land, whether for agriculture, one form of agriculture only or allowing some downstream or non-agricultural enterprise
- the ability to make improvements and the potential for compensation for them at the end of the tenancy
- the ability to sub-let or assign
- the extent to which and on what terms a landlord can resume possession of all or part of the land
- the extent to which the landlord can claim dilapidations if the property is in poor condition at the end of the tenancy.

Historically, some Mediterranean countries had systems under which the farmer would pay a share of produce to the owner (called "contratto di Mezzadria" in Italy). These or other similar systems may occasionally be met.

The end of the tenancy may be an occasion for the tenant to claim compensation in respect of any improvement made to the property, as to its fertility or its fixed equipment. This might be assessed on a variety of bases under either law or contract, including:

- the value added to property for letting
- the value the improvement offers to an incoming tenant
- the written-down cost of the improvement.

The landlord's interest in the property is often a marketable asset though there may be limitations on who can buy it or a requirement that the tenant have the first right to buy it (then perhaps on a statutorily specified valuation basis).

Other Business Structures

Farming can be undertaken by individual people or by an incorporated body such as a limited company. It can be done directly by the owner or tenant or by using managers or separate contractors. A wide variety of **business arrangements** is possible, some of which can be used to achieve a similar division of roles between the owner or tenant and the contractor as between a landlord and a tenant. However, these are usually matters of contract rather than interests in real property. The variations include:

- **partnership** - where two or more people join together to farm the land, sharing in the business and dividing profits and losses. In some countries a partnership is a separate legal entity; in others, the individual members are simply in association with each other. In practice, they may often be family members but it can be a means to bring money into a farming business or for a landowner to bring in a skilled farmer. National rules on joint liability for debts may be an issue.
- **share farming** – where two businesses (sometimes a land business and a farming business or just separate farming businesses) come together to produce a common output such as grain or milk, dividing gross sales between them
- forming a **company or other legal personality** involving either an owner and a farmer or several farmers to conduct some or all of the farming of identified land, possibly having access to land on a licence or a tenancy
- **contract farming** – this can cover all the variations by which an occupier of land has some or all farming operations done for her/him under an agreed contract. Where whole crops or enterprises are farmed on a such a contract, it can be structured to provide for the division of surpluses or losses between the parties or simply to have work done at fixed rates
- **grazing licences** under which animals will be brought to land to take the grass (sometimes after silage or hay has been taken) or the grass is cut and conserved for the animals. Payment may be on a headage or area basis or even reflect the weight gain made by the animals.

The reasons for choosing the form of tenure and business arrangements will turn on:

- personal circumstances and preferences
- commercial needs
- taxation
- legal advantages and disadvantages of each option in the country in question.

These factors mean that it is important to understand the real nature of any relationships where the farming is not handled directly by the owner of the land. Many arrangements are unrecorded, unclear or not fully implemented and so, in the event of a disagreement, may prove to have created different rights to those originally anticipated.

A farm business may farm different areas of land held on different types of arrangement with different owners, for example, owning some land, renting more

and being a contractor elsewhere. Landowners may farm some of the land they own and have tenants on the remainder as well as having partners or contractors for some specific parts of their business. This makes it necessary to consider the relationship between the various land areas held on different arrangements and the available buildings and other fixed equipment (such as reservoirs). Storage buildings on a small area of owned land but servicing a much larger area of land held short term could offer a different, possibly lower, value to that if they accompanied an area of land matching their capacity in the same ownership.

Land: Bare or Equipped?

The subject of the valuation may be a fully equipped farm together with one or more dwellings or it may be bare land, or just have some buildings which may or may not be useful. This will affect its place in the market. Those wanting a fully equipped farm are unlikely to look at bare or partially equipped properties. However, farmers wanting to expand may only want bare land. Persons retiring from farming may want to keep their house but sell or let the land. In some areas, housing and farming are kept separate (as where the houses are in the village but the farming outside) making bare land the norm.

Specialist Buildings

Particular enterprises, from indoor pigs and poultry to glasshouses and controlled environment farming may use intensive buildings, requiring consideration of the age, construction and condition as well as their usefulness to any other owner or occupier with factors from obsolescence to dependence on a specific produce contract. Compliance with regulation, including any development control requirements, would also matter. In some areas, valuation may be directly by reference to production capacity, such as per bird for a poultry shed, enabling comparison.

Land or Estate?

The valuation may be of a larger property than just a simple farm with perhaps only minor ancillary areas such as a little woodland. An estate is likely to comprise several units of occupation or be a large farm with other properties. As well as a wider variety of assets to manage, it may have a more significant house The owner may farm some of the land directly as well as letting out farms. In some markets where such a larger portfolio of properties may be attractive, it could have a combined value greater than the sum of the values of each part. In other markets, the greatest value might come from selling it in parts.

Pressures to Restructure and Other General Points

Much of European farming is devoted to the production of commodities, such as grain, which are sold onto large undifferentiated world markets with their price movements. Even perishable milk is affected by the Global Dairy Trade price. The economic pressures arising from this are encouraging some farmers and owners to find other sources of income. These include:

- income off the farm from employment or other businesses (sometimes using farm machinery for contracting work). This can result in part-time farming which can range from being an economic activity to a lifestyle use of what is really a residential unit
- finding other uses for farm assets – such as the letting out of buildings for commercial uses, the use of dwellings for agri-tourism, old buildings as livery stables and the land for leisure uses.
- construction of photovoltaic systems, increasingly present on farms; their valuation requires specific skills or working with energy sector experts
- finding specialist areas of production that can exploit niches in the market, whether specific crops (often dependent on limited contracts) or techniques (such as organic)
- seeking to add value by undertaking some or all of the processing or marketing of the produce – as grape and olive growers have long done.

These opportunities can all be relevant to valuation.

The value of the land will vary not only with its physical characteristics but also with its location. Very often land of a given quality will be worth more if it is within easy reach of larger settlements. This will variously reflect:

- greater demand for the land, whether for farming or amenity uses
- a wider variety of possible customers for produce and other activities
- possible opportunities for non-agricultural development
- the effects of capital taxation systems encouraging the rolling-over of the proceeds of sales influenced by non-agricultural factors into further agricultural land

as well as other more local and particular factors, including the strength or weakness of the wider local or national economy. Closeness to key communications points (such as docks or motorway junctions) or corridors can also be relevant. The result is that agricultural property tends to have a higher value nearer to more affluent and more densely populated urban areas.

Commonly Relevant Characteristics

Inspection and assessments - It is important for the valuer to assess the physical and other characteristics of the property and its potential for agricultural production or other purposes. The valuer must always inspect the property and seek out information relevant to its farming and other history and potential. The inspection is essential for the valuation for forming a direct view of its real condition and relevant matters verifying the state of affairs and comparing it with what is reported in the documents. The inspection should be both internal and external, of the entire property and must always be conducted at the level of detail necessary to provide a professionally adequate assessment for the specific purpose. Inspection checks and assessments should cover:

i) the characteristics of the surrounding area, the degree of accessibility and the provision of infrastructure that influence the value;

ii) access methods and location;

iii) the characteristics and surface size or volume of the property;

iv) the state of maintenance;

v) the type of systems, equipment and services;

vi) environmental factors (whether natural, such as land instability, flood risk, etc. or not, such as pollution)

vii) the source of the measurement of the property (surveyor, maps, land register, other);

viii) verification of the scale of the plans used for the dimensions of the property;

ix) the comparison between the actual condition and that described by a) the cadastral or other official documents, b) the building and urban planning documentation c) the title (or titles) of ownership of the property;

x) determining the progress of current works and their conformity with any permission;

xi) the assessment of the quantitative and qualitative characteristics that influence market price variations;

xii) the features relevant to identifying the market segment;

xiii) the verification of any rights over or benefiting the property and other circumstances that may affect value and/or marketability;

xiv) verification of any tenancies affecting the property;

xv) any other appropriate element to fulfil the mandate received.

The inherent **quality of the agricultural land** will reflect factors including:

- soil type – both top soil and sub soil, reviewing
    - fertility, including nutrient indices and organic content
    - workability, including natural drainage
    - soil moisture retention capacity
- topography – slope, aspect, etc
- climate and local weather patterns, including
    - rainfall, how much and when
    - temperature, maximum and minimum, growing season
    - daylight hours
    - drought and flood.

The valuer will need to understand the particular characteristics required for relevant farm enterprises. Land suitable for vines may be wholly unsuitable for root vegetables – simple land grading systems can be a very uncertain guide.

The usefulness of the land for some specialist or perennial cropping (and occasionally any cropping) can be limited by the growing pressure on **access to water**. Changing climatic patterns and competing residential, environmental and other demands for water (both from groundwater supplies and aquifers) can deny farms water when they need it and severely compromising potentially high value production and so the value of the land, especially on free-draining sand land. Reliability of water supplies, winter storage and potential for summer irrigation can all be important. Storage can either be more expensive or not be relevant in areas with high evaporation rates. Farms can lose abstraction points for other reasons including development, environmental schemes or coastal changes. It is useful to be aware of both the physical factors bearing on the land and the relevant policy framework.

Disease, pest and contamination issues can be relevant:

- has the land been well kept?
- are there large weed populations and can they be remedied?
- what are the local pests and can they be controlled? Some countries' rules on shooting can make this difficult while proximity to water sources may limit chemical controls.

- any relevant diseases running with the land, whether of crops or livestock
- any history of pollution.

Cropping history can be important. Imprudent specialist vegetable or root cropping can exhaust land or leave it with infestation or disease problems. A history that can be proven to meet the standards for organic certification can open up such opportunities for adding value as may exist at the time of the valuation. The land may have the benefit of specialist cropping under a contract with limited availability which could pass to a new occupier.

The presence of **buildings, services and other infrastructure** can give the farmer more control over use of the land.

Many farmers choose to use crop storage facilities away from the farm (often with co-operatives). This can offer economies of scale, access to buildings with modern technology and meeting modern standards and save capital expenditure that may be hard to justify. Co-operative storage can allow group marketing (with blending of crops) and efficiencies in handling and maintenance. Where this is relevant, the valuer should establish whether a new owner or tenant of the land would have rights to the co-operative or other facility, and whether by right or for payment. The rights may remain with the current farmer, especially if the farmer continues to farm elsewhere in the district. Who (perhaps the co-operative) would decide their transfer? Are there alternative facilities? It is important to assess the logistics of moving crops from field to store and the charges for drying, storing, handling, marketing and other services.

Dwellings (farmhouse, cottages, flats, or other accommodation) may be necessary or convenient for the farming business. They can provide housing for the owner and family or staff. They can be very important where close supervision is required as with some livestock and other businesses. However, they may be subject to existing tenancies or other occupation rights. It may be that secure tenancies have been created or possession is not obtainable in practice. They may have arisen out of past employment rights or by custom. Some development control regimes will only allow new dwellings outside villages if their occupation is limited to those employed in the farming that justified the permission. The appraisal will need to consider the occupation of all dwellings, any rent passing and how it may be reviewed, and the likelihood of possession together with the obligations of the parties.

There is an increasing trend for non-physical factors, such as agricultural and environmental policies, contracts, licences, permissions and certification to be relevant to the ability of the farm to produce an income. Organic certification of cultivated land is an example: it is not immediate but is obtained after a conversion

process lasting several years and, according to circumstances, may be relevant to the marketability of produce.

For some types of farming, official limits on the volume of production can be important and, where these are associated with land or available on a transfer, they may affect value. Where relevant, the available quantity should be ascertained. A similar approach should be taken to commercial contracts to limited production volumes – as may be the case for sugar.

For some enterprises (such as vineyards), controls over cropping can give access to significant value for relevant land. These controls may operate by limiting the area used or by certification of certain types of protected production (e.g. IGP and DOP for defined districts, often with area controls and specifications as to production). In such cases, it will be necessary to review the documentation (e.g. vineyard registers) attesting to the recognised surface area and the relevant production certification.

The Influence of Agricultural Policies

Agriculture is often the subject of extensive and complex government intervention in markets and practices accompanied by support payments. Where it is the area of land occupied that gives access to particular payments, that potential will bring a value to the land, especially for rent, as has been the case in many countries with the European Union's Basic Payment System with payments given on matching aid entitlements against an equivalent area of eligible land at the claimant's disposal. Where payments are made in another way to farmers, their effects on valuation will typically be much less direct.

The EU's Common Agricultural Policy (CAP) both provides funds and imposes a number of relevant restrictions, coming together for land markets where control of land gives access to payments *(See EVS Part VII European Union Legislation and Property Valuation, section 6 The Common Agricultural Policy)*. Other countries outside the EU have their own regimes. It is in the nature of politically determined controls that their detail will change and, for the CAP, important details will vary between member states – the valuer will need to establish the relevant position and whether the controls in question limit or benefit the farmer as an individual or future occupiers of the land.

The use of these public funds entails compliance with rules and requirements (under penalty of repayment of the amounts received and other negative impacts); the valuer must report any positive and negative impacts in the valuation.

The CAP has gradually transformed over the last few decades, moving from price support policies to production support measures and then to the current system with near-complete decoupling of support and production. Successive reforms of the CAP have made land area a key limiting factor for the degree of support to individual agricultural producers. As a result, the shift from price support to direct support by means of payments per hectare has been particularly reflected in rents.

The effects of subsidy policies on the land market will vary according to the level of payment that can be obtained by occupying land. This is often less relevant to the sale value of land, where prices are high or other factors prevail in the determination of land value.

The situation is different for the rental market, where rents can vary significantly depending on the availability of aid entitlements. In fact, with the introduction of the Single and now Basic Payment to the person who has the land at their disposal, and not necessarily the owner of the land, the rents responded to the increase in the profitability of farmland where entitlements to payment were available.

Land prices can also be influenced by other types of agricultural policies. For example, production constraints (such as replanting rights for vineyards) or specific environmental constraints create tensions on the land market where they result in demand for suitable land exceeding supply. Similar effects can also be seen with structural or environmental incentive measures that make the cultivation of marginal land more profitable again, or policies creating protected designations of origin that make land in particular areas relatively more attractive.

The importance of these measures is that production without their benefit may appear to be commercially unviable since their economic value can be significant. However, that financial support also often feeds through into farm costs and protects farm structures that would otherwise adapt to real economic circumstances.

Together with the CAP, in the coming years it will be increasingly important to carefully consider the effects of changes underway, including climate change, and environmental and energy policies with their interactions with farm profitability and other objectives of those in the land market.

Other Sources of Value

Market Access - Other non-physical factors can include the availability of **marketing contracts** which may be fundamental to the viability of particular produce. This may apply most particularly where:

- there are integrated supply chains
- processing facilities are expensive, concentrated and perhaps under political control – such as sugar.

Regulatory Controls - **Licences** or legal rights to take, store and use water are increasingly important, especially as some farmland might have little significant farming use without an assured supply of water.

There may be other relevant limitations imposed by development control regimes, environmental, landscape, wildlife, water management or other policies. The valuer should establish whether any relevant designations or policies apply, such as:

- sites recognised for the quality or rarity of their flora or fauna
- archaeological and other heritage sites and areas
- landscape designations – high landscape quality
- nitrate vulnerable zones.

The EU and each country may have its own Special Areas of Conservation and environmentally sensitive areas. and special areas of conservation, and Eeach country may have its own countryside management schemes, national parks and other designations. Some land is officially recognised as having organic status. **Environmentally-related policies** can not only impose restrictions but may also offer access to payments from the authorities or attract other value.

For some crops (for example table grapes, kiwi, etc.) the valuer must also verify the presence of patents and contractual agreements between the farmer and the supplier of the plants, which can entail advantages but also limitations with respect to cultivation and/or commercial operations.

Farmland is not only valued for its agricultural qualities. Other uses may sustain higher values. **Development** for commercial, residential or some leisure purposes is an obvious example and, subject to local development policies, farmland often

offers the easiest supply of such land though better quality land may have some protection. Many countries have strict development control policies to protect land around or between cities and main settlements - similar controls can apply elsewhere to reflect the costs of public services or environmental and landscape considerations. Land close to settlements can suffer from problems of trespass and encroachment, so limiting its agricultural or other potential. In some hill districts, forestry (if permitted) has been an alternative use offering higher sale values.

Buildings as well as land can have alternative uses. There may be opportunities, subject to commercial viability and official permissions, to convert them to residential, commercial or leisure uses. These may most often be viable nearer major urban and prosperous areas or in tourist areas. There can be non-agricultural buyers interested in purchasing farm building complexes for such redevelopment. Development control policies, environmental constraints, highways access and provision of water, electricity and other services can be important limitations.

Development control policies may be stated at national, regional, provincial and local levels.

In some areas, the **amenity** value of land can be greater than its agricultural value. This can apply in attractive but relatively unproductive areas. An attractive property or an attractive landscape offering land that can be occupied with a nice dwelling can command a higher value in these circumstances. The presence of water (whether river, lake, stream or pond) can provide an additional attraction, subject to issues of potential flooding or other nuisance.

Different landscapes will have their own qualities for which they are valued. Relative proximity to major urban or holiday locations is creating such markets in parts of France, Italy, Spain and the United Kingdom among other countries. Indeed, these may provide opportunities to farm and rural businesses to brand the marketing of tourism and local products, unlocking extra value.

In some areas, neighbouring residential owners will be willing to pay higher values to control the land around them, sometimes not only for amenity but also for privacy. However, national and local laws or traditions may entrench rights of public access over certain categories of land.

There is an increasing demand for the equestrian use of land and buildings in locations offering interesting riding. Demand is likely to be greatest in populated or tourist areas where such property can sometimes command a value above its agricultural use.

It is not only the qualities of the land itself that can be relevant. An **attractive farmhouse** can add markedly to the value of the property (for example, the farmhouses on the Tuscan hills in Italy).

Likely Sources of Information

These will vary from country to country, while different sorts of information will be relevant to different farms. The valuer should be aware of the following likely sources or their equivalents:

- the best available detailed official maps showing location, boundaries and features (past maps can also indicate issues such as old pits)
- cadastral or equivalent maps showing parcels and property rights
- register or other assurance as to title and extent
- soil maps
- land quality maps
- environmental designations
- agricultural subsidy regulations
- copy of last completed subsidy application form and base year information
- local and regional development control plans, policies and maps
- land management plans
- cropping and stocking records
- soil indices and surveys
- soil and pest/disease surveys – especially for higher value or specialist cropping
- drainage plans
- available produce sale contracts
- water abstraction permits or licences.
- documentation for lettings and other occupation arrangements
- employment contracts
- certificates for farm assurance, organic farming, etc.
- climatic information.

6. Agricultural Crops and Other Assets

This section covers:

- growing crops
- fertilisers, etc
- goods in store
- crops in store
- other stores
- livestock
- plant and machinery
- intangible items.

The valuer may be required to value farm-based assets other than the land. These could include physical items such as growing crops, the benefits of acts of husbandry, livestock, machinery, goods and crops in store and also intangible items such as the benefit of quotas or contracts and other licences and permissions. These may need to be valued in the context of a sale where the incomer is to pay separately for these items, a dissolution of a business arrangement, the end of a tenancy or for some other reason.

It is likely that different areas will have their own approaches, developed by experience, to handling these issues which may also be governed by relevant national law and custom. However, there may be cases where there is a need to consider first principles. The following comments and principles are offered to assist this process.

Growing Crops

Farmland will not always be sold when it is clear of all crops and so there may be a need to pay a previous occupier for the value of crops left behind (or to allow the previous occupier back to take the crop): a crop that has just started, the growing plants, the crop in progress, the products that are maturing and the products close to being harvested.

Estimating the value of these products consists in establishing their value at an intermediate moment in the production cycle and can be carried out on the basis of market evidence, when there is a free market in which the intermediate product is bought and sold (for example, the sale on the plant of some products - such as table grapes or citrus fruits - using appropriate sampling methods to estimate the quantity and quality of the product).

In other cases, the estimate takes place through the construction of the cash flow of the crop or product being ripened. Generally speaking, the past (or retrospective) value indicates the sum of the costs incurred from the beginning of the production cycle up to the intermediate moment (the moment of the estimate). Instead, the future (or prospective) value indicates the difference between the expected market value for the expected production and the costs expected from the intermediate moment (the moment of the estimate) to the end of the production cycle.

If the crop is newly established, then its value may be very close to the cost of that work (seeds, other relevant materials and acts of husbandry). This presumption might not apply if the work is poor or there is clear evidence of failure to germinate or of the crop being destroyed by, say, flooding or prejudiced by weeds, pests or disease.

Once it is possible to take a view on the potential of the crop, its value can be based on the anticipated market value with costs yet to be incurred deducted and applying a discount for the remaining risks. There may be market evidence of the sale of standing crops to provide a more direct valuation or assist with the calculations. Such an approach recognises that the crop has a value above the costs invested in it.

Application of Fertilisers, Lime, Soil Conditioners, etc

Unless there are reasons for a different approach, the general principle is that the cost of the operation and material is fully recognised in the first year and then written down over the likely period for which the benefit endures. In some cases, proof of improved soil indices may be needed and where a substantial enhancement can be shown that would suggest a higher value might be due. There may equally be reasons for considering the work inappropriate.

Livestock

In some areas livestock can have a special value to its owner because it has over generations acquired and can transmit a knowledge of its territory in the particular location and greater immunity to local pests allowing it to remain without close supervision on the hill round the year. These qualities can be expensive to create and their value has long been recognised. There may be market evidence of sales of land with and without such hefted animals (or evidence of extra payments by incomers for them) which may allow calculation of the premium they may merit.

Plant and Machinery

Any plant and machinery which can be removed legally can be assessed on its resale value unless the incoming occupier would clearly have reason to pay more. Where it has become legally fixed to the property, it should be valued at the value it has added to that property if a separate valuation is still appropriate – the underlying principle for improvements generally.

For example, farms host plants for energy production from renewable sources (photovoltaic and biogas plants) and their valuation requires specific expertise or working with inter-professional collaboration and operational synergies with relevant experts in the field. In addition, increasingly stringent regulations in terms of sustainability and reduction of soil consumption have led to the need to develop a specific type 'agrivoltaic' of plant. This requires analyses and assessments of a hybrid agronomic and energy nature.

Licences and Approvals

A similar approach should be taken to other sources of value created by political action from water abstraction licences to planning permission and organic certification. If they solely run with the land, the extent to which an incomer has a chance to benefit from the item will be reflected in the price of the land. If the outgoer has some opportunity to retain the benefit or offer it to others, then it may begin to acquire a separate value.

Similar issues may apply to some of the emerging markets in carbon and other environmental transactions though these may also bring liabilities that may burden the land.

7. Perennial Crops

This section considers additional points relating to the valuation of land committed to perennial crops: growing plants whose life cycle covers more than one year. In practice, this is most relevant where they are established for the longer term: vineyards, olive groves, and orchards, than for crops on a shorter rotation such as asparagus. Once planted, established and benefiting from careful nurturing and attendance, they can produce income for many years. The plants have little value apart from the land in which they are rooted but there may be occasions where a separate valuation is required.

Woodland, grown for its timber crop rather than its produce, is normally considered separately.

A common feature is that, being often of higher value, they can be more demanding of infrastructure than annual arable crops. This may include roads, paths, bridges, culverts, drains, reservoirs, pumping stations, water distribution systems as well processing facilities such as presses or packhouses.

The modern nurseries and arboretums can bear very sophisticated and high-performance production facilities compared to the past; species, rootstock, variety, age, planting pattern, fixed and protective structures are important descriptive elements to be noted and analysed in an arboreal plantation. For these types of plants, valuations must take account of the fact that their useful life is much shorter than in the past.

Matters to be Considered When Valuing Perennial Crops

For any particular perennial crop, factors would include the variety, the health and condition of the plants, and the type and state of any infrastructure.

There are often significant costs of establishment and of removal at the end of the crop's useful life. The soil preparation for a new vineyard can be a substantial cost, establishing the conditions for proper drainage and deep rooting and then constructing the trellis work. Perennial crops can require careful consideration of access, water distribution and other items. They may usually take a period of years before reaching any or full production when convenient access to any necessary processing or storage facilities is important. If these works have been done well, they are likely to be reflected in the sale value of the land as they offer value to a purchaser. However, changes in technology or the marketplace can render expensive works obsolete, for example, the labour imposed by narrow terraces on steep slopes.

The overall area of the crop may be limited by some form of control. In the EU, vineyards in major wine-producing countries are limited by a system of transferable area rights to control production. In other cases, licences may be used to control crop health. It will depend on the particular regime whether the licences are tradable separately from the land.

In some areas, incentives may be available to encourage growers to plant perennial crops and so stay on the land. Where operational, such schemes should be considered with a view to their availability (perhaps to smaller or younger farmers rather than to foreign companies) and whether the crop's viability could be prejudiced by their withdrawal.

It is most important that the farmland can offer an appropriate location for the crop to thrive. Soil type, drainage, aspect and exposure to sun and wind, frost

exposure and related factors can all be important, especially if the aim is produce of a premium quality. Local systems of soil classification may be designed with such cropping in mind and can be relevant at a general level. Even within a farm, the judgement of suitable sites will vary by variety. Microclimatic conditions can negate apparently suitable sites while, for example, frost protection measures can add cost. Mobile polytunnels or specific management regimes such as spraying can be required. Aspect can be particularly important whether by offering long hours of light without direct exposure, avoiding wind or encouraging air circulation, or avoiding frosts. As a long term commitment, consideration of detailed forecasts for climate change or the competing demands for water may be appropriate.

The valuer should judge the likely useful productive life of the crop under available management. The valuer will usually be considering an established crop where the results of decisions already taken (and subsequent management) may be evident. The valuer should establish the years of planting, present soil conditions and other relevant factors. Information as to the rootstock can be material as it may limit the life of the plant, though giving vigour during that life. If the crop was established by grafting rather than planting, the valuer will need to understand what has been done (such as the nature of existing rootstock) and form a view on its potential.

It would be usual for the crop to be established on a rotational basis, so that production can be maintained over the years. In some circumstances, established crops can offer shelter to newer plantings.

Such crops can often be labour intensive with annual maintenance and harvesting. Mechanisation has eased matters (at cost) but the burdens and management of processes such as training and tying in new growth, pruning, thinning, weed and disease control, fertilising and harvesting need to be considered. Is useful labour available?

There may be recent agricultural, agronomic or horticultural reports on the site or the crop.

The valuer should be aware of disease risks that could threaten the crop.

The valuer will also need to understand how the crop is marketed. Is it just a commodity? Can value be added? Does the farm make wine or press olives or does it have an arrangement such as a co-operative or with another producer for this? Is there a cold store and packing house for the fruit? Or any further initial processing (crushing or juicing)? If facilities are on the farm, do they meet modern standards? Is the equipment good? Is the layout right? Does it need further investment? If these facilities are run as a separate business, does the subject business have any transferable rights in it?

If the market is a commodity market, a long term crop will be vulnerable to changes in the market place and technology. Changes in taste or trade policy can affect values.

The valuer should ascertain:

- current and anticipated local and world prices for the crop in the form in which it is most sensibly marketed.
- How have such prices moved in recent years? What has influenced them?
- is there excess production or growing demand?
- is it an easy crop for newcomers to establish?
- what are the prospects for new technology and automation?

and consider how they might move in the future.

Significant price changes can flow from such factors as weather conditions, disease, currency movements or other factors beyond the grower's control. Forming a view on these points will enable the valuer to establish the likely income from the crop, assuming stable conditions, and capitalise it. The risk factors limit the time span for which this is a useful approach.

If the crop is produced organically and marketed as such, this may be relevant if this offers greater profit or more security in the marketplace. Production costs and demands on management may be higher and yields lower and more precarious, but sale prices may be better. In some crops (such as grapes for wine), quality can anyway be related to lower yields. Does the land have an organic history? Could it revert to conventional farming if the organic operation fails?

If the enterprise is no longer commercially viable but the land subject to it would require substantial clearance works, the land may stand at a discount to other agricultural land. The potential re-use of specialist buildings or other fixed equipment will depend on the application of development control policies and the marketplace for those uses - if re-use is prohibited or not viable, they may be a liability. There may, occasionally, be an economic re-use for the plantation stock.

Approaches to the Valuation of Perennial Crops

Valuation may be by comparison with other sales where this information is available. Otherwise, the net income can be capitalised using Discounted Cash Flow methodology to reflect the risk involved with consideration of the residual value of the land after the crop is exhausted, subject to clearance costs.

8. Forestry

Some European countries have substantial forestry sectors with long traditions of forestry management while others have very limited involvement in commercial forestry. Woodland can also be a residual land use, as where farmland has been abandoned, or be maintained for amenity or environmental or, now, carbon sequestration reasons.

The market for land for new commercial planting will tend to compete more with poorer or more marginal farming uses than the best agricultural land but the balance between farmland and forestry will move with economics. In general, commercial forestry operations are more economic on larger areas.

The ownership and occupation of forestry land may be limited in some countries and is more often subject to specific legislation, distinct from that for agriculture and with its rights and obligations. Without specific legislation, forestry leases would usually be under general commercial law.

In many countries, once woodland has been established it can be hard (as well as expensive) to convert it to other uses, more typically requiring replanting after felling. There may be national regimes regulating the felling and extraction of timber.

The economic logic of commercial forestry lies in timber production, establishing, managing and harvesting the chosen species to obtain maximum value over the long rotation of a timber crop. Wood is a raw material for many uses from paper to construction with some biomass use in energy generation. After a long period of economic stagnation, the value of timber has increased in recent years, now prospectively a raw material for a future low carbon economy.

Trees can absorb and defer carbon emissions, carbon forming half their mass, but, if grown for felling, this is not ultimately a means of sequestration save for the fraction of the tree that might be used in long term construction. In most markets, the value of that deferred carbon would be relatively low in comparison to the prospect of the timber yield.

With their long life cycles and fixed locations, trees are vulnerable to climate change, not only to fire and storm but also more insidiously and importantly to drought stress, weakening them in the face of diseases and pests.

The value of commercial forestry might typically be assessed on an income basis using the DCF method and applying a suitable cost of capital *(see Valuation Methodology in this Guidance Note)*.

As well as the quality of the trees and how they have been managed, an area of forest may then have more or less value according to its accessibility and ease of working. Factors in this might include the steepness of the land, access to public roads and the layout and condition of internal tracks.

There may usually then be an element of value for the bare or "prairie" land under the growing trees which may need to be apportioned and reported separately for some accounting and taxation purposes as well as, in some countries, compulsory purchase.

Where woodland is kept for other reasons than the prospect of felling it, it might then more often be valued by comparison with sales of similar land. In some markets, there is a particular value for small blocks bought for private pleasure. Other areas may find larger scale buyers for environmental reasons.

Partly because of its long life cycle as a crop, with initial cost and long deferred income, and partly for national political or environmental reasons, countries often have specific taxation regimes for forestry which will be relevant to markets.

Valuation of agroforestry holdings for the financial sector

Under the revised EU Capital Requirements Regulation (CRR) valuations must be done on the basis of prudent criteria which can ensure the sustainability of the value over time.

When conducting a valuation of an agroforestry holding for the financial sector, it seems obvious that, in the case of many crops, especially permanent crops, to consider perpetual growing cycles would not be prudent, as there is always an inherent risk that those crops may cease to be in demand. In these cases, it makes sense to consider the value of the bare land, obtained by market comparison, at the end of the crop's life spam.

Here too, the valuer should also take a careful critical look at the use in income analyses of national and EU subsidies, as well as other complementary sources of income, such as hunting and fishing, endeavouring to conduct the analysis from the perspective of sustainability of that income over time.

9. Climate change

9.1. Overview

Agriculture and land management contribute to climate change and are particularly affected by it as:

- Agriculture, managing organic processes, is itself a significant (and almost inevitable) producer of greenhouse gases and so policies to mitigate climate change typically require changes in farming practices and rural land use
- Changes in climate drive changes in the local patterns of farming and their potential, partly through changes in water supply and soil erosion
- Farming generally faces a greater exposure to a wider range of more extreme conditions, not simply a new warmer equilibrium
- Global markets for inputs and produce are affected and have political reactions

Where agricultural property values are largely a function of production potential, they may be affected by changes in that potential and also by any recognition of greater production risks. In those and other areas, new markets based on environmental, forestry, energy or other land uses may provide new sources of value.

9.2. Gauging the sustainability of agricultural systems and considering alternatives

In this context, valuers should consider the sustainability of the agricultural systems relevant to the property. Key areas to be considered are cropping and stocking, water, soil, forestry woodland and trees and use of land for renewable energy.

Cropping and stocking — Long-established crops and varieties may become less suitable (or even practical) as the climate changes.

Water — In regions facing drought, a public or private irrigation scheme could encounter severe water usage restrictions, significantly impacting crop cultivation and subsequently affecting land value.

An indirect approach methodology requires a comprehensive consideration of production income, factoring in existing restrictions. The valuation process should integrate the associated risks of water shortages in the coming years into the considered cost of capital. Addressing these climate-related challenges is crucial for a more accurate and forward-looking assessment of land value.

Vegetable production often needs additional water supplied by irrigation without which some sandy lands might have little commercial use. That water will typically need:

- A source from which it can be taken, in some countries requiring a licence
- A means of storing it such as a reservoir, with more extended hot, dry periods often needing more than one year's capacity
- A means of distributing it efficiently to crops

It will be increasingly important to have the means and technology for this to be done so that the greatest amount of the water available is used effectively and not lost by evaporation or in other ways.

In regions experiencing a significant decrease in rainfall without access to borehole solutions, there may be a transition in agricultural practices—from irrigated areas to non-irrigated ones—resulting in a subsequent shift in property value.

The greater vulnerability to flood risk for low lying land, whether tributaries converge and with rising sea levels may make some land unsuitable for cropping and require protective measures for buildings and livestock. Reduced river flows and aquifers can make useful water saline.

Ensuring the viability of agricultural systems, whether dependent on average rainfall or irrigation schemes, requires a strategic commitment to increased investments in water reservoirs or boreholes. Valuers should assess whether these investments are needed and integrate their cost thoroughly into their analyses.

Soil — Retention of topsoil from water erosion (especially from heavy rain and flooding) or, for light soils, windblow is important both for the farm with its production and the effect on water quality and biodiversity elsewhere of sediment and nutrient run-off. Sloping land with bare soil poses particular risks with reports of significant losses of soil in some areas.

Declining rainfall in some regions can increase salinity in some aquifers and the build up of soil contaminants.

Forestry, woodland and trees — Forestry is a major land use and commercial activity in parts of Europe with the prospects for timber as a key material for the low carbon economy. Elsewhere, trees may be planted for environmental and amenity reasons as well by natural regeneration on abandoned land. They may also be planted for land management reasons as to consolidate sloping land or on old mineral workings or with a view to attenuating flooding or protection of farmland from wind or salt spray.

One key issue in considering any particular site is to understand why trees are being grown or considered as a use. Trees cannot move in the way that other crops can be changed. Once established, they have to live with whatever happens around them. Choices already or now being made about planting are choices made for decades, balancing climate change, genetic diversity and new tree diseases while design may consider wildfire and storm risk.

Where trees are used to offset carbon emissions continuing elsewhere, care should be taken in understanding the agreement and the liabilities associated with it.

Use of land for renewable energy –This offers a new use for farming and rural land, whether producing power for use on the farm or for sale to others. While some properties may be suitable for small scale hydro-electric generation, the main options are:

- Wind turbines
- Solar panels
- Anaerobic digesters to convert farm waste, produce or purchased feedstock to gas or electricity
- Growing biomass to power a boiler for heat or power
- Growing crops for biofuel

Such projects can be developed by the farm business or a third party, then typically as a separate operation on a lease. Where a farming operation is energy intensive, as with controlled environment farming or glasshouses, it may often be sensible to provide an on-farm source of renewable power and heat. While a farm might profitably generate its own power to replace purchased energy, any surpluses either need battery storage or the ability to sell power to others. The export of electricity from the farm requires a convenient connection to wider electricity transmission systems. The difficulties often found in that can make location important, possibly a driver of particular value.

10. Technology, data and agricultural property

Agriculture is seeing a progressive technological revolution with advances in data, genetics, robotics, automation and growing technologies.

As much of this concerns farming practice, it may come to influence who may want to buy or rent agricultural property for what purposes but perhaps has less direct bearing on the asset itself. However, some aspects can be identified as more relevant, including these sometimes overlapping areas:

- The high levels of investment in some forms of protected agriculture
- Where automation becomes part of the fixed equipment of the farm
- The relevance of data of purchase or lease of land

Protected agriculture — Some forms of farm production have long been indoors, as with many pig and poultry units and some other livestock operations as well, mushroom sheds, polytunnels and glasshouses for growing fruit as well as aspects of dairying. This has enabled more precise and effective management, protection from the weather and, in some cases, achievement of high health status. As the buildings might often have little other use, the value of the operation might typically lie in the combination of the quality of the facilities and access to a beneficial sales contract.

The advent of "controlled environment farming" (sometimes called "vertical farming" because it can use several levels like shelves within a building) and modern developments with large glasshouses take this further with highly automated controls, making the building akin to a machine. These may have a high capital cost and require dedicated electricity and water supplies, perhaps using adjacent land.

If using a very limited area of land, the value of the property may lie in the operation itself and how its produce is best marketed. It is more likely to be part of a larger company that would be valued as a business. There may, though, be situations where such a building is part of and has synergies with a larger, more conventional farming operation with consequences for property value.

Automated infrastructure — From robotic milking parlours to automated ventilation, some farms are seeing automated systems integrated into their fixed equipment and affecting its design and so how it might be viewed by a future purchaser or tenant. Where irrigation matters, efficient integrated systems to control water distribution could have value. Vegetable and fruit storage may have more value if the system has automated control of the atmosphere rather than being ambient.

Vegetable and fruit farms will often also have facilities for packing and perhaps some early stages of processing, increasingly aided by technology, such as optical sorting lines, in place of labour. Such systems are again a potential source of value.

Data — It is now hard to farm without leaving a paper trail of information, whether from interactions with EU and national government, their support systems and regulatory controls or with suppliers and purchasers. The data in that is often of value not only to the current owner or occupier but to any purchaser or subsequent tenant. A new tenant or owner may need information about fields and past cropping and also about such matters as fertiliser applications and soil tests.

The development of precision farming reliant on GPS systems adds enormously to the available data that may be of continuing benefit with yield mapping, soil structure surveys and other exact locational data to inform decision making and

efficient operations, bringing value. Aside from farming operations, access to field data and other information may be critical for a new occupier to claim area-based payments in some countries.

Some of this data may also assist the valuer in understanding the farm and how it might be viewed by the market.