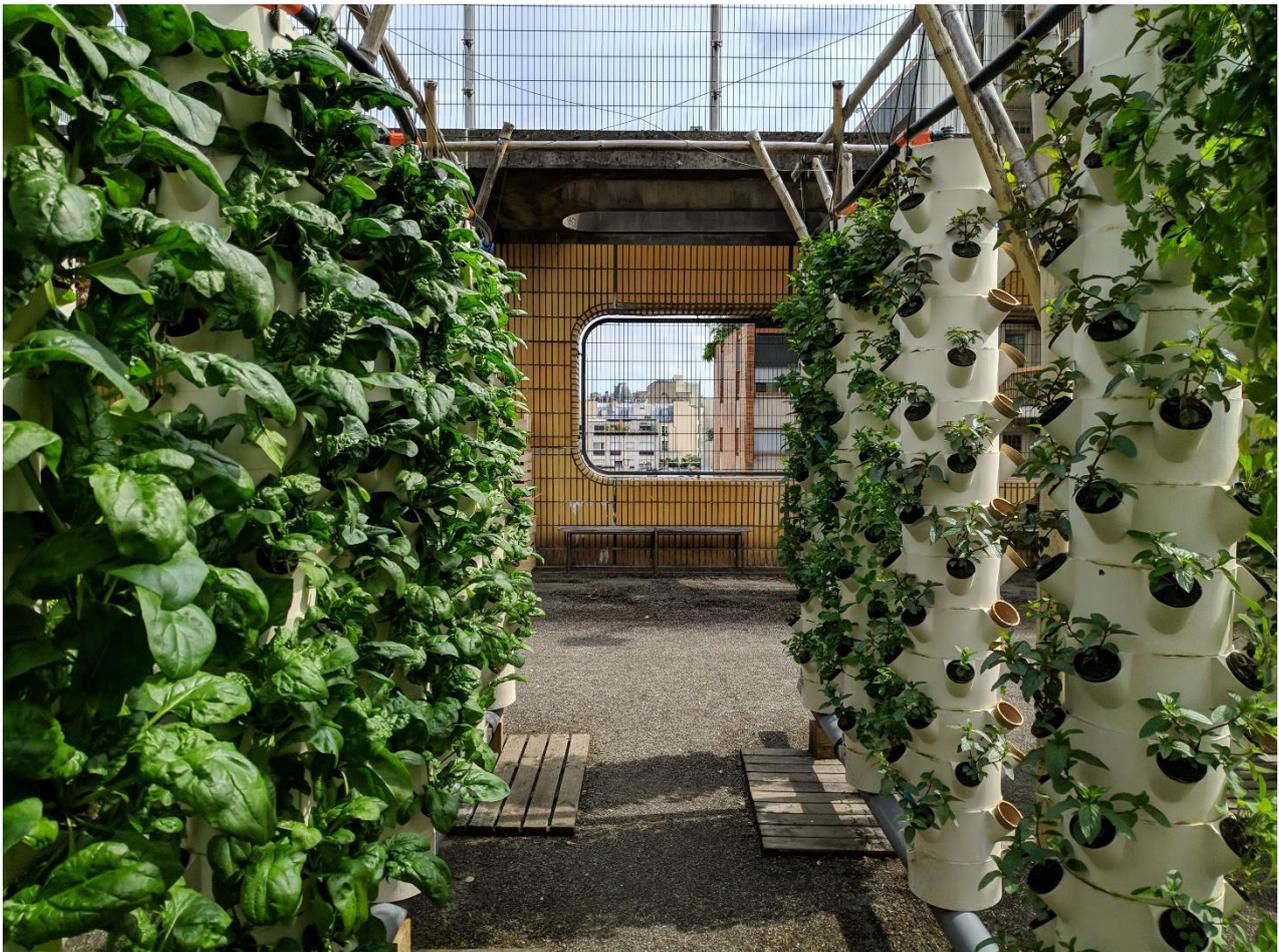




Toolbox

Updated August 2020



Agrapolis at the Lions' Court Gymnasium ©Arthur Jeune

PREFACE

Imagine the city of tomorrow and it will be green. And in this growing vegetalization of cities, urban agriculture has a predominant place. Urban agriculture is flourishing: diverse and innovative projects are multiplying throughout the world, in France, in Paris and its surroundings. They are many and varied: from productive hydroponics to shared and educational gardens, as well as a multiplicity of hybrid models. These projects share the ambition to reinvent our relationship with the city, the countryside, nature and food.

In 2016 the City of Paris took up the subject with the aim of catalysing this dynamic. Hence the Parisculteurs adventure was born. During the three seasons of this call for projects, launched by the City of Paris and its partners, more and more urban agriculture project leaders were present and proposed ever more innovative ideas to take advantage of ecosystem services such as the reduction of the urban heat island, the retention of rainwater, the preservation of biodiversity, but also to create more solidarity, conviviality and above all resilience for the cities of the Paris region.

This toolbox is the fruit of the experience acquired by the City and its partners during the Parisculteurs adventure. It responds to a need for knowledge among project leaders, who, like all entrepreneurs, often find themselves confronted with a multitude of subjects that they did not expect. While there has been a marked increase in the skills of those who have already been able to carry out large-scale projects, companies and associations that are starting up, or are still concentrating on experimentation, need visibility on what lies ahead.

Far from being a precise and exhaustive reference, the toolbox is intended to enable any beginning urban-rice farmer to anticipate the problems he or she will have to face. Each subject is the subject of a fact sheet summarizing the points of attention; it mentions the detailed references to which to refer and, if necessary, the expert contacts to whom to turn. Since its last edition, the toolbox has been modified and updated to add new subjects and to correspond as closely as possible to the reality in the field. We are therefore pleased to be able to present you with this new 2020 edition toolbox.

We hope that this guide will enable many beginning urban farmers to embark more serenely on their project and will encourage local authorities, private actors, donors, to get involved and capitalize on this feedback to integrate urban agriculture into the new and old urban fabric.

THANKS

This toolbox was developed by the Department of Green Spaces and of the Environment of the City of Paris, in collaboration with several bodies of experts, whose rereadings, remarks and suggestions were invaluable. We would therefore like to thank : the Permanent Assembly of Chambers of Agriculture (APCA), the Departments of Heritage and Architecture, Cleanliness and Water, Urban Planning, Finance and Purchasing of the City of Paris, the ITAVI (Technical Institute of Poultry Farming), the DRIAAF (Regional and Interdepartmental Directorate of Food, Agriculture and Forestry), researchers from the REFUGE programme (Risks on Urban Farms - Management and Evaluation) of AgroParisTech, and Structure & Rehabilitation, technical design office and control laboratory, specializing in the diagnosis and technical monitoring of civil engineering structures.

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Agripolis at Eugène Delacroix School ©Arthur Jeune

BUILDING AND URBANISM

There are currently four types of sites available for urban agriculture:

- Roof ;
- Full ground;
- Wall ;
- Indoor.

Each site layout presents particular problems. Specific constraints linked to the cultivation of buildings and infrastructures (roofs or façades, parking under slabs, etc.) are significant and need to be examined in greater depth. Feedback from the Parisculteurs' call for projects is useful in addressing these issues.

Whether they are installed at ground level or on roofs, urban farms naturally welcome workers, and sometimes public. Many points require special attention when it comes to welcoming people to the site:

- The status of the area of operation and, where applicable, the status of the building on which it is located should be known. Each building, depending on the people who use it, has the status of an establishment receiving workers (ERT - établissement recevant des travailleurs) or receiving public (ERP - établissement recevant du public) (see [Factsheet B1 - Defining the status of a building](#)). The standards that apply to these two categories differ in several aspects and will influence many decisions.
- Access is a particularly important issue and should be considered as early as possible in the design of the project. (see [Factsheet B2 - Day-to-day traffic](#)). Standards apply to regulate the number of people that a place can accommodate, whether it is an ERT or an ERP. These limits must be anticipated in order to dimension the project correctly (see [Factsheet B3 - Knowing the maximum number of people in my establishment](#)). Taking these two aspects into consideration encourages reflection on the layout and design of the project: at a professional level, an ingenious design saves time and can cause a lot of problems if it is not studied.
- In order for the site to be considered safe enough for individuals to access it regularly, several rules exist, which sometimes imply prior compliance work, particularly in the case of a flat roof. (see [Sheet B4 - Ensuring safety on a roof](#)). It should be noted that fire safety rules are more restrictive if the building falls into the category of high-rise buildings (IGH) (see [Fact Sheet B5 - Checking the IGH status of the support building](#)).

In addition to the above issues related to the reception of workers and the public on the site, other technical considerations need to be taken into account:

- On a roof, the waterproofing complex covers the load-bearing structure and it is therefore on it that agricultural projects come to settle. The challenge for an agricultural project on a roof is to avoid damaging the waterproofing and its protection (see [Sheet B7 - Understanding the nature of the waterproofing complex](#)).
- It is also important to consider from the outset the modalities of access to water and electricity resources (see [Sheet B8 - Having access to water and electricity](#)).
- Many urban agriculture projects have a construction component, whether it is shelter or greenhouses. There are many things to consider before considering such construction (see [Infosheet B9 - Building a roof-top greenhouse](#)).
- Changing the use of land to implement an urban agriculture project inevitably leads to a reflection on the potential contamination of urban and peri-urban soils, which are likely to present risks for human health ([Fact Sheet EA2 - Identifying and managing soil pollution](#)).

Factsheet B1 - Defining the status of a building

Each building, depending on the people who use it, has the status of an establishment receiving workers or of a public receiving facility. For the creation of an urban farm, and a fortiori a roof farm, it is necessary to know the status of the area of operation and, where appropriate, the status of the building on which it is located. The standards that apply to these two categories differ on several points.

The statuses of establishments

There are two statuses for an establishment.

- **Establishments receiving workers (ERT – Etablissement Recevant des Travailleurs)** are premises not open to the outside public and accommodating only workers: offices, technical premises, relaxation or catering areas in a workplace, etc. The rules that apply there are mainly governed by the Labour Code.
- **Public receiving facilities (ERP- Etablissement Recevant du Public)** are premises and enclosures to which people are admitted (freely or for a fee), or in which meetings are held (open or by invitation). An educational greenhouse, a gymnasium, a school building, etc. are public receiving facilities. The rules that apply to them are mainly governed by the Building and Housing Code.

Depending on the maximum number of people who will use it, public receiving facilities are classified according to several categories. They are also divided into different types according to their activity (auditorium, shops, restaurants, hotels, kindergarten, library, offices, museums, sports facilities, railway station...). Each of these classifications corresponds to a set of requirements in terms of reception and security rules. These requirements will be detailed in the following factsheets.

Factsheet B2 - Moving around the farm on a daily basis

Day-to-day operations: the right questions

The importance of access is particularly pronounced if the site is a rooftop and more generally if the site does not have independent access. Asking the right questions, in discussion with the site owner and its users, allows you to anticipate as early as possible the issues raised by the daily operation of the farm.

The following questions can be asked:

- What are the opening hours of the building, and is it possible to come in during the closed periods?
- Is it necessary to identify in advance who will access the roof? How are these movements controlled?
- What will the operators' daily routing be? How often and with what equipment? Is there a risk of mutual inconvenience?
- If there is a public reception, are all the rules of access for people with disabilities respected?

Each point related to the cohabitation between the farm and the support building must be clarified beforehand and put in writing in the occupancy agreement, in order to avoid any misunderstanding afterwards.

Accessibility rules for people with disabilities

Public access to an urban farm is an opportunity to meet the inhabitants, to promote agriculture in the city, and can be a source of income. However, it implies that the rules of accessibility for people with disabilities must be respected.

They concern, among other things, the dimensions of external walkways, horizontal and vertical circulation inside buildings, indoor premises and sanitary facilities open to the public, doors, internal airlocks and exits, and indoor and outdoor equipment and furniture that may be installed therein...

There are several guides that provide educational details on the rules to be followed. In the case of a rooftop farm, most often, the existence of an elevator as well as a wide walkway ensures that the standards are respected.

Do I have to make my farm accessible to people with disabilities?

As far as sites located on an establishment only receiving workers are concerned, any new building receiving workers must be accessible to disabled workers. However, this does not apply in the case of a farm that is installed on an existing roof or in the basement, since it is not a new construction.

As far as sites located on a public receiving facility are concerned, accessibility is an obligation as soon as the roof of the building has the status ERP, i.e. it can receive public. ERP roofs must be accessible to people with reduced mobility. Thus, in the event that the existing accesses are not compatible with the regulations for people with disabilities, accessibility will be necessary to receive the public. It will often involve the creation of an elevator.

The opening of a roof to the public is subject to accessibility regulations and falls within the jurisdiction the Prefecture of Police. A commission will check on a case-by-case basis whether the project complies with accessibility rules and will study requests for exemptions.

There are three possibilities for requesting a derogation: technical impossibility, manifest disproportion between the improvements made and their consequences, and heritage preservation. Such derogations may be granted in particular if they are accompanied by alternative measures (e.g. duplicating part of the project on accessible areas of the building).

For any creation or modification of a public receiving facility, an authorization to build, fit out or modify a public receiving facility will have to be filed with the Prefecture of Police (see Sheet B6 - Filing a dossier to receive from the public).

Sources to consult

[Guide de préconisations relatif aux dispositions prévues pour l'aménagement des toitures terrasses](#), Préfecture de Police de Paris

[Order of 20 April 2017 on the accessibility to disabled persons of establishments open to the public during their construction and facilities open to the public during their development](#), Légifrance

[Decree n°2009-1272 of October 21, 2009](#), Légifrance

[Guide Accessibility of Buildings for People with Disabilities](#), Editions le Moniteur, Carole Le Bloas

Sheet B3 - Know the number of people that a site can accommodate

The notion of clearance

Clearance is defined as any part of the construction that allows for the movement and egress of occupants, such as doors, exits, horizontal circulation, stairs, corridors, etc., that are used to evacuate the building. An elevator or freight elevator does not constitute a clearance. Their number, widths, types and distribution are regulated by the Building and Housing Code for fire safety purposes.

How many workers can be present in an establishment only receiving workers?

The maximum number of people is calculated according to the number of clearances and the total number of passage unit. In establishments receiving workers, the ratio between clearances and the maximum workforce is regulated by the Labour Code.

How many people can a public receiving facility accommodate?

In ERP, two rules apply simultaneously.

- *The Building and Housing Code*, which defines a maximum number of employees based on clearances and their dimensions.
- *The doctrine of the Paris Police Prefecture*, which requires a maximum accessible area per person. This surface is 5 m² / person.

Any ERP project will therefore have to comply with these two rules simultaneously.

Compliance with these rules is the field of competence of the Prefecture of Police and is one of the elements to be included in the file for authorization to build, fit out or modify a public receiving facility (see Factsheet B6 - Submitting a file to receive the public) or to be included in the building permit.

Sheet B4 Ensuring roof safety

In order for a roof terrace to be considered safe enough for individuals to access it regularly, several rules exist, which sometimes imply prior compliance work.

The guardrails

The installation of guardrails is mandatory on any roof where individuals visit, whether for one-time maintenance or regular access. Many buildings have roofs without railings: they were built before this rule was introduced. It will then be necessary to install them to allow the installation of a project.

Their height as well as their thrust resistance depend on the status of the roof. In the case of an urban farm, this is an important economic element: if modifications (creation, raising) are necessary, this represents a not insignificant expense item.

Some project holders propose the installation of culture boxes along the acroteria, these boxes then acting as a guardrail thanks to their depth of more than 50 cm. This solution is currently not officially enshrined in standards. It is then up to a technical design office to check on a case-by-case basis whether this solution is valid, i.e. whether the tanks can withstand the same pressure as that required for guardrails.

Skylights

Many roofs have skylights, i.e. slight elevations designed to allow light to pass through or as smoke extraction devices. They are most often not secured against falls. The Labour Code makes the installation of fall protection devices compulsory, but does not specify which ones. The French National Institute for Research and Safety (INRS) recommends certain devices, which are now widely used as references.

Among the technical solutions for security, we can mention :

- the installation of railings around the skylight;
- the installation of a fall arrest grid under the skylight.

Here again, checking this element during a first visit to a roof will help to anticipate possible work.

Technical structures

Several technical structures can clutter the surface of a roof: ventilation ducts, aedicula, etc. These elements are necessary for the proper functioning of the building and everything must therefore be done to ensure that they are not degraded. On the other hand, it will be necessary to allow maintenance technicians access under all circumstances.

The manner in which these two guarantees are given depends on the site and its activity. It is therefore necessary to enter into a dialogue with the owner at an early stage on how these structures will be preserved. The solutions will then be detailed in the occupancy agreement, to which the parties will then refer.

Considering this as early as possible makes it possible to secure the exploitable surface (it may be necessary to guarantee free paths for maintenance technicians), investments (is it necessary to install protections around emergencies? structures to facilitate traffic?) as well as the day-to-day running of the farm.

In addition, the professional building regulations applicable to green roofs recommend the preservation of a sterile strip at least 40 cm thick around the waterproofing and technical emergencies. Unless they are widened to 80 cm, they cannot be considered as circulation: their role is to facilitate technical access to the waterproofing statements and rainwater drainage.

Fixing the structures

It should be noted that structures such as greenhouses, shelters, hydroponic devices, etc. have in common that they have a wind grip. It is therefore necessary, when planning their installation, to detail the methods of attachment or ballasting that will prevent these structures from tearing off. In the case where fixing directly to the supporting structure is planned, details must be given of how the waterproofing will be preserved (see Sheet B7 Knowing the nature of the waterproofing complex).

Sources to consult

Standard on railings :

- Roofs not accessible to the public: [standard NF E85-015, AFNOR](#)
- Roofs accessible to the public: [standard NF P01-012, AFNOR](#)

[Brochure "Designing workplaces and work situations. Santé et sécurité : démarche, méthodes et connaissances techniques", INRS \(French National Institute for](#)

Sheet B5 - Check the high-rise building status of the support building

Definition of a high-rise building

The definition of a high-rise building is given in the French Building and Housing Code.

If the building falls into this category, then the fire safety regulations also apply to the bodies of adjacent buildings, regardless of their height, when they are not sufficiently isolated from the high-rise building by fire walls. Underground car parks are also affected by the high-rise building regulations, unless they are isolated from the building by fire walls and have at most a direct or indirect internal communication with these premises.

According to the recommendation guide issued by the Paris Police Prefecture, a fitted roof does not constitute a level in the sense of the fire evacuation regulations if it does not include an enclosed volume other than greenhouses, tool storage rooms or technical rooms, aedicula, lifts. These installations on a roof therefore do not lead to the reclassification of the building as a high-rise building.

Sources to consult

[Guide of recommendations relating to the provisions foreseen for the development of flat roofs, Préfecture de Police](#)

[Order of 30 December 2011 on safety regulations for the construction of high-rise buildings and their protection against the risks of fire and panic, Légifrance](#)

[Order of 25 June 1980 approving the general provisions of the safety regulations against the risks of fire and panic in establishments open to the public \(ERP\), Légifrance](#)

Implications for an Urban Agriculture Project

In the case where the support building is from the outset classified as high-rise building, the urban agriculture project on the roof will be influenced on the definition of the clearances.

A roof operated on a high-rise building must comply with the clearance rules defined by the Labour Code in case of an establishment receiving workers or defined by the Building and Housing Code in case of a public receiving facility. Clearance must also be wider than in normal rise building.

BUILDING



Factsheet B6 - Submit an application to be allowed to welcome the public

Updated sheet

Compliance with accessibility and fire safety rules in a public receiving facility is the field of competence of the Prefecture of Police. The procedure to be followed to obtain validation for a project depends on the urban planning authorizations required by the project.

In which case should I file an application?

If the project requires the submission of a building permit (see Factsheet U6 – Urban planning permission I need), the documents related to accessibility and safety are part of the file.

If a building permit is not required, any project to create or modify an ERP must be the subject of an application for authorization to build, fit out or modify an establishment open to the public. If the project concerns an establishment receiving workers, no authorization is required.

Gathering the documents that make up the file requires discussion with the technical managers of the support building: dimensioned plans are requested, as well as the locations of the boiler rooms, ventilation systems and their dimensions. It is therefore important to know the right interlocutor.

Examination of the application

The time limit for examining an application is four months. However, in the month following the filing, the prefecture may report one or more missing documents; the investigation period will then only begin to run from the date of receipt of these documents. In the case of a building permit, the period of investigation is that of the permit.

These deadlines are important, so make sure you submit a complete file; moreover, make sure that the file complies with the rules. In order not to submit an erroneous project, it is possible to consult the prefecture beforehand. It will then be able to issue an opinion and proposals. In Paris, these consultations are provided free of charge by security architects at the City's Department of Urban Planning.

Sources to consult

[Preparing a planning file](#),
Préfecture de Police
[Guide de préconisations relatif aux dispositions prévues pour l'aménagement des toitures terrasses](#), Préfecture de Police de Paris
[ERP: Work authorisation procedures](#), service-public.fr

Sheet B7

Know the nature of the waterproofing complex

Updated sheet

Waterproofing is a technical device designed to protect the building against external elements such as rain, wind or snow. On a roof, it covers the load-bearing structure and it is therefore on it that agricultural projects are installed.

Description of a waterproofing complex

More than waterproofing, it is called insulation-waterproofing complex. Indeed, it is most often a set of layers, each intended to play a particular role for the building. They are most often presented in this order:

- Vapour barrier to prevent water vapour from circulating ;
- Thermal insulation, intended to limit heat loss ;
- Waterproofing membrane to prevent infiltration ;
- Waterproofing protection.

Depending on the case, e.g. for green roofs, other elements are added, such as filter and drainage layers, as well as, of course, the substrate.

When installing a project, it is often not necessary to question the insulating parts of the complex, as they do not affect the project. On the other hand, knowing the nature of the membrane and its protection can be dimensional: the need to avoid damaging them can lead to protective measures, each of which represents a cost.

Waterproofing protections

Waterproofing protection is the technique designed to keep the waterproofing in good condition for as long as possible. There are several techniques. Among the most common are gravel, bituminous layer, slabs. The substrate also constitutes a waterproofing protection if it is separated from the waterproofing by an anti-rooting membrane.

There are two methods of protecting the waterproofing:

- Self-protection, which is incorporated into a manufactured waterproofing material; for example, aggregates embedded in the bitumen layer, or a metal foil.
- The added protections (or heavy protections); they are deposited on the sealing layer. There are two types:
 - Furniture protections, often made of aggregates (sand, gravel, mignonettes...) These protections are often installed on roofs that are not accessible;
 - Hard protections; these can be slabs on plots or laid on gravel to form a path; some accessible terraces have a thin concrete slab as protection.

The challenge for a roof-top agricultural project is to avoid damaging the waterproofing and its protection. This is particularly important when heavy protection (e.g. gravel) is removed or thinned to gain load-bearing capacity.

The risks concern of course wear and tear due to coming and going, but also punching: heavy elements (tanks, structures...) or on which heavy elements will be placed (gravel) must not risk piercing the seal. It is therefore necessary to think about the risks that any action (installation work, maintenance equipment, travel...) may cause to the complex.

Drainage

When installing substrate on a waterproofing system, it is important to think about water drainage issues. Irrigation or rainwater can stagnate on the waterproofing if a device is not provided to facilitate its routing to the water drains. This can lead, in the long term, to infiltrations at the points of stagnation.

There are two solutions to help avoid these phenomena:

- On areas covered with soil, the presence of a layer of draining substrate, such as clay balls, is very effective ;
- On the areas that are circulated, especially if they are covered with mulch, the use of a drainage plate will allow water to drain away. These plates are particularly light (in the order of 1 to 3 kg/m²) and therefore have no influence on the load exerted on the roof.

Damage likely to be caused by animals

Certain animals such as rats, for example, have been identified as being likely to damage the waterproofing complex of flat roofs. In this situation one must report the presence of rodents (rats, mice) to the City's Environmental Health Service, whose agents will be able to give advice and, if necessary, intervene on site (Cf. Sheet EA7 - How to promote biodiversity).

Sheet B8 Have access to water and electricity

An agricultural project always needs water to function; sometimes a connection to electricity can be useful or even necessary for certain farming techniques. It is therefore important to consider from the outset how to access these resources.

In most cases, water and electricity connections can be installed either via connections to the support building or via independent connections.

- Connection to the support building: This involves drawing a water supply and, if necessary, an electricity supply to the area to be cultivated. At the point of arrival (tap, socket, etc.), a sub-meter is used to measure the farm's consumption. This consumption is then regularly re-invoiced by the owner of the building. A sub-meter can be useless if the farmer and the owner have an agreement: the payment of the fluids can then be flat-rate;
- Independent connection: a request for connection to water and/or electricity is made, so that consumption is billed directly to the project owner. These requests must then be sent to the competent operators (Enedis, Eau de Paris, etc.).

In both cases, these operations require work and therefore entail costs and delays that must be integrated into the project schedule. For example, the time frame for an electrical connection can sometimes exceed 6 months.

An important phase, both for the project owner and the owner, is therefore the preliminary estimate of consumption. It involves two issues:

- Ensure sufficient availability of the resource (distribution of arrival points, available pressure, available power);
- Frame the financial support (connection work, invoicing).

The terms and conditions for creating accesses and taking care of fluids are to be detailed in the occupancy agreement.

It is also advisable to make sure that water pipes are frost-proof, otherwise there is a risk of bursting them during periods of frost. In the case of under-metering, the building manager will be able to tell you whether it is possible to integrate these pipes into the heated volume of the building. For external piping, often developed from the inlet, heating cables may be the solution.

Sources to consult

[Steps for a connection, Enedis](#)
[Practical Guide to Drinking Water Connection, Eau de Paris](#)

Sheet B9 Building a greenhouse on a rooftop

Investing in a greenhouse allows farms to extend their growing season by partially freeing themselves from climatic conditions. This allows for higher production, but the greenhouse requires higher investments and high maintenance costs. What are the elements to be taken into account before considering such a construction?

Standards and rules

There are two kinds of standards and rules that agricultural greenhouses must meet. They are linked to urban planning documents on the one hand, and to the Building and Housing Code and professional building regulations on the other.

For an overview of how urban planning rules work, refer to [Factsheets U1, U2, U3 and U4](#).

With regard to building regulations, it is considered that a roof-top greenhouse must meet the standards applicable to conventional premises. This therefore creates additional constraints compared to those applying to greenhouses in the open ground, and partly explains the complexity of their installation. The use of a greenhouse operator should therefore be supplemented if necessary with a detailed technical discussion with the building maintenance manager.

Fixation

Fixing a greenhouse is a delicate step in roof-top urban agriculture projects, as it ensures that there is no risk of uprooting while limiting operations on the building structure. There are two ways of fixing a greenhouse.

- Fixation on the structure, most often by screwing. This can be done on the acroteria, but urban planning rules most often impose a setback from the façade. It is therefore a fixing on the beams supporting the roof that is most often envisaged. This operation implies that the waterproofing must be readjusted at the place of the fixings;
- Ballast. This involves placing sufficient weight at the feet of the greenhouse to ensure that it will not be torn off while respecting the load-bearing capacity of the roof.

Depending on the situation, the proposal may require validation by a design office before the work is carried out. This step can guarantee to the building manager that he will not have to deal with an incident on the one hand, and be required by the insurers on the other hand.

The climate in a greenhouse

The factors influencing the climate inside the greenhouse are:

- Ambient air and soil temperatures (main factors influencing plant growth and development) ;
- The concentrations of CO₂ (carbon dioxide) and water vapour, which play a major role in transpiration, photosynthesis and the development of fungal diseases ;
- Solar radiation, which is involved in photosynthesis;
- The wind, which participates in natural ventilation.

In the operational phase, the greenhouse consists of four distinct and homogeneous environments: soil, plants, indoor air and wall. Within these environments, air movements and heat exchanges define the climate inside the greenhouse.

Each of the four greenhouse environments (soil, plants, indoor air and walls) interact with each other, causing localized changes in climate. Therefore, the greenhouse's growing and heating systems will have to take these phenomena into account to optimize plant growth. This can be anticipated in the design phase of the project in order to determine the **greenhouse model and materials** best suited to the growing system.

Moreover, in terms of climate engineering, the **orientation of the greenhouse** must also be thought out in advance. Insofar as the roof permits, it is generally considered that a North-South orientation is to be favoured. Indeed, a greenhouse oriented in such a way allows the rows of crops to be oriented East-West, so that the rows on either side of the greenhouse receive the same amount of light during the day.

Climate engineering in greenhouses: the heating issue

Greenhouse heating has been around for a long time, but has really developed since the 1960s. However, in the contemporary context and in urban areas, greenhouse heating is not always economically interesting.

Indeed, from a strictly agronomic point of view, the control devices make it possible to avoid temperature variations inside the greenhouse and to maintain the optimum plant growth at all times. However, this involves equipment costs (heating device) as well as operating costs (energy consumption, maintenance, supervision). Therefore, a precise equation of costs and expected yields is essential for the choice of a greenhouse or an outdoor crop.

In particular, a reflection on energy management is essential: on average, energy accounts for 22% of the production costs of vegetable farms under heated greenhouses. This item represents on average 324 kWh/m², but the variance of this data is very important depending on the region. For the ornamental horticulture sector, the average is only 11% and 160 kWh/m², but it varies more according to the varieties grown.

Several sources of energy for heating a greenhouse can be considered, insofar as the supporting building allows it (photovoltaic, heat recovery, gas, CPCU (Compagnie Parisienne de Chauffage Urbain) in the case of Paris, pellets for small greenhouses, etc.). It is therefore advisable to systematically check which devices are possible: for example, not all buildings lend themselves to heat recovery, or at too great a cost to be interesting. A technical visit on site will make it possible to identify the elements in place and to consider the scope of possibilities with the manager.

Beyond the energy source, the greenhouse heating technique is important to avoid excessive heat loss and to be consistent with the needs of the selected varieties. There are three main types of techniques for heating greenhouses: hot air, hot water or low temperature water. Water heating is generally implemented by means of metal rails under the cultivation gutters, in which the water heated to low (40-45°C) or high (65-70°C) circulates.

Table G: Summary of heat emission systems.

Source: Report on the rational use of energy in greenhouses, Ademe 2005.

Heat emission			
Features	By hot air	By water HT (high temperature)	Per water BT (low temperature)
Investment cost	Low Around 3 €/m ² for antifreeze and between 5.34 and 7.32 €/m ² (gas forced air and a little less for oil) for capacities between 140 and 200 kcal/h.m ² .	FortBetween 16 and 18.3 €/m ² for thermosiphons fed with gas boiler and between 16.75 and 20.60 €/m ² with oil boiler.	LowFor vegetation tubes between 3.81 and 4.88 €/m ² . For LV pipes (50 to 100 kcal/h.m ²) between 6.10 and 6.71 €/m ² .
Transmitting power	Low	Strong (water at 65 to 70°C)	Low (water at 40 to 45 °C)
Proximity of the walls	High temperature near the walls	Some tubes are positioned close to the walls	Distance from the walls
Heat emission			
Features	By hot air	By water HT	Per water BT

Heat input by...	Forced convection which favours the loss of the greenhouse through the walls	Radiation and convection	Radiation and some convection
Temperature distribution	Heterogeneity: necessary distribution of heat sources	Vertically homogeneous (with tubes located on the ground)	Fairly homogeneous
Inertia	Low resulting in a very fast response time to demand	High, resulting in slow response time to demand	High, resulting in slow response time to demand
Consequence of this inertia	Temperature fluctuates around setpoint (a few °C) Short response time	Slow temperature drop in the event of a failure Response delay in the event of rapid changes in outside and ambient temperatures	Slow temperature drop in the event of a failure Response delay in the event of rapid changes in outside and ambient temperatures
Hydrometry and condensation	Plant temperature lower than air and soil temperature. Warm, dry air reduces the relative humidity in the greenhouse. Air mixing limits the accumulation of humid air in the foliage. Drying of soil and crops.	Plant temperature close to that of the air and quite important convection movements. Little risk of condensation on the foliage and therefore less disease.	Foil temperatures 1-2 °C higher than air temperatures, resulting in possible reduction of the room temperature setpoints. There is little convection movement in the greenhouse, the walls are cold. Excessive condensation can occur
Interview	Perhaps not insignificant if a lot of devices	Lifetime of the HV greater than the LV	Higher LV maintenance load than HT and unit heaters.
Energy efficiency	This system has the lowest energy efficiency	Good energy efficiency	Generates energy savings compared to producing water at high temperatures, but no savings at the distribution level if you want to maintain the same plant growth rate as with a HT system.
Location in the greenhouse	Placed on the ground, they reduce the production area. Hung up high, they create a loss of light and an overload for the structure.	On the ground, it is used as a rail for the passage of carriages between rows. Also present in cladding, overhead, close to the ground or under shelves in ornamental horticulture.	Need a large number of tubes to obtain a high emission area (to have sufficient emission power).
In market gardening, well adapted to...	Crops requiring little heating, such as early and low intensity production of the frost-free type.	Crops with high energy requirements and requiring a fairly homogeneous temperature in height.	Crops with reduced heat requirements.
As an ornament, well suited for...	Crops requiring frost-free production or with only occasional heating needs.	Crops requiring a high temperature, homogeneous in height. E.g.: cultivation of roses on bread.	Cultivation of potted and bedding plants (low height), placed on the ground or on shelves.

Materials

The choice of greenhouse material has a major influence on its price, efficiency and aesthetics. Beyond the simplest factors of apprehension such as weight or solidity, the choice of material must be made by considering its agricultural potential and the maintenance costs it will generate during operation. Among the many factors to be taken into account are the following:

- Transparency of the material: it is generally considered that 1% more light received by the plants generates 1% more yield;
- Structure of the greenhouse: some materials require a smaller distance between the supporting structures. As these structures are opaque, this reduces the amount of light supplied by the plants;
- Light diffusion: Light made diffuse by the greenhouse material allows a better yield, in the order of 5 to 8%. This is explained by the fact that diffused light will touch the plant's leaves more and thus promote photosynthesis. Furthermore, some materials such as glass pose a risk to crops because, since they do not prevent direct radiation, they expose plants to burns during periods of strong radiation. It should be noted that non-scattering materials can be treated to become so (glass, ETFE (ethylene tetrafluoroethylene), etc.) ;
- Ultraviolet permeability: some materials reflect UV (ultraviolet) light. However, these are very beneficial to crops; materials that allow this type of rays to pass through are therefore to be preferred;
- Darkening over time: some materials easily catch dirt, which darkens them and requires maintenance. It should also be noted that polycarbonate tends to yellow, making it much less effective after about 5 years ;
- Risk of breakage: shocks can easily break certain materials such as glass, especially if it is not double. In addition to the replacement costs involved, the shards can be dangerous for the operator. In addition, some materials that do not break can be marked on impact (ETFE) or torn (plastic films) ;
- Thermal inertia: this is the insulating capacity of the material. It will greatly determine heating costs;
- Sealing of joints: poorly established joints between the structure and the panels allow heat to escape, diminishing the greenhouse's performance. In addition, an additional risk exists for glass, polycarbonate and ETFE: the development of mould between the layers, which can lead to the replacement of the panel.

The most commonly used materials are glass and polycarbonate, as well as plastic film for certain restricted uses. In addition, the use of ETFE has been growing in Europe in recent years. However, the interest of these materials depends very much on the constructive device used (number of layers, load-bearing structure, joints, etc.). It is therefore important to obtain precise information from various greenhouse specialists. As an indication, the table below shows the general performances of four materials.

	Awards	Solidity	Sustainability	Light passage	Thermal inertia	Weight	Ease of maintenance	UV permeability	Recyclable
Plastic film	++	--	--	-	--	++	-	--	+
Glass	-	-	++	++	+	--	+	+	++
Poly-carbonate	+	++	-	-	+	+	+	--	--
ETFE	--	+	++	++	+	++	++	++	++

Table H: Comparative advantages of some materials for the construction of greenhouses

Economic component

Greenhouse farming allows for higher production and yields per m². However, it is important to anticipate the additional costs that such a structure entails.

At the investment stage, it is important to identify the characteristics of the greenhouse and the support building as well as possible in order to predict the costs. This concerns above all the model of the greenhouse itself (dimensions, material, heating system, etc.) But it is also a question of considering the additional costs entailed by the fixing and construction methods (possible reinforcement of the structure, resumption of waterproofing, preparation of custom-made parts, routing and assembly of the parts on the roof, etc.). The cost of a roof greenhouse can, depending on the conditions, reach four to six times that of a greenhouse in a rural environment with an identical surface area: it is therefore a question of being vigilant as to the relevance of this investment.

In addition, a greenhouse represents significant maintenance costs: cleaning, maintenance, replacement of automated systems, heating, etc. Here again, a good estimate of these costs will enable the business plan to be consolidated (see Sheet MF2 - Drawing up a business plan) and, if need be, to consider cost reduction items. It should be noted that the most important item related to the operation of a greenhouse remains the energy expenditure related to heating.

Urban planning authorisations related to greenhouses

What is commonly referred to as a "greenhouse" does not always correspond to the meaning given to it in the title of the Code de l'urbanisme. A distinction can be made between:

- Tunnel greenhouses as they can exist in nurseries or horticulturists, they can be flexible or rigid (glass, polycarbonate...) but above all they have the characteristic that they can only be used for agricultural production. This is why the Code de l'urbanisme provides in its article R421-9 that when they are installed on the ground, conditions are more favourable than the general building regime;
- Genuine constructions with a wooden or metal framework, walls and a roof, generally glazed, they therefore constitute the surface area of floors: they house an agricultural production activity but could, without major work, accommodate other uses (office, business, etc.). They are subject to a prior declaration if they constitute a floor area of less than 20 m², a building permit for more than 20 m² or, in the particular case of a building on a listed historic monument;
- It should be noted that tunnel greenhouses installed on roofs cannot benefit from the provisions of article R421-9 which only applies to installations on the ground. They constitute a modification of external appearance and therefore require a prior declaration if the floor area is less than 20 m², except in the case of installation on a listed historical monument which requires a building permit. The same applies if the floor area exceeds 20 m².

Sources to consult

[Rational use of energy in greenhouses. Technico-economic situation in 2005 and current and future levers for action, Ademe](#)

[Roofing urban greenhouses, a technical and economic challenge, Serge Le Quillec \(Info Ctifl n°337, December 2017\)](#)

[Rooftop Greenhouse Growing in Urban Areas: Development Perspectives in the Quebec Context, Syndicat des producteurs en serre du Québec](#)

[Viability of protected cropping systems in a sustainable agriculture context: Eco-serre, Brajeul et al.](#)

[Energy control in protected cultivation: temperature management in greenhouses, Astred'hor](#)
[Modelling of natural aeration and microclimate of large span glass greenhouses in temperate oceanic climate, Sid-Ali Ould Khaoua](#)

Sheet U1 - Understanding the constructability templates

Many urban agriculture projects have a construction component, whether it is shelter or greenhouses. However, as soon as a permanent volume is created, it must comply with urban planning regulations.

The local urbanism plan (PLU – Plan Local d’Urbanisme)

The local urbanism plan is the central document of the urban planning regulations and defines the main possibilities of constructions, installations and uses in the urban space. It is specific to each municipality or inter-municipality. The City of Paris has its own local urbanism plan. It includes in particular a diagnosis of the territory, the main guidelines for its development, regulations, the translation of these regulations in the form of zoning maps and annexes.

The PLU influences the development of urban agriculture in two ways. On new constructions, it can create the obligation of vegetated or agricultural spaces, especially on roofs. On all constructions, it defines the urban form in which the elements created must fit. Any project owner wishing to create greenhouses or premises linked to agriculture must therefore first consult the rules applicable to the plot on which he or she wishes to set up.

Thus, the provisions of the PLU impacting a rooftop urban agriculture project include for example the maximum elevation of the constructions, the setback distance imposed between the boundaries of the land unit (the parcel(s) concerned by an operation) and the construction, and more...

The Paris PLU is divided into 4 zones: general urban zone (UG), urban zone of major urban services (UGSU), green urban zone (UV) and natural and forest zone (N, corresponding to the Bois de Boulogne and Bois de Vincennes). Most of the built-up area is in the UG zone.

The special case of Paris

Revised in 2016, the Paris local urbanism plan contains several provisions aimed at promoting the greening of buildings and urban agriculture. In particular, it authorizes, in the UG zone only, greenhouses for agricultural production to exceed the height limits applicable to other constructions and to protrude from the roof on condition that they fit harmoniously into the building.

Greenhouses and agricultural production equipment are also allowed in the open spaces around the buildings. However, this concerns only the height rules and not the setback rules.

It should be noted that these derogations apply only to greenhouses for agricultural production, i.e. characterized by the destination "agricultural and forestry holdings"; a greenhouse whose main use is for an activity other than production will not benefit from this exception.

Where to position the cultivated spaces on a roof?

With the exception of roofs supporting a thickness of soil that allows for the planting of trees, the PLU does not generally impose any restrictions on the size of the plantations, as they do not strictly speaking constitute a volume.

In addition, roof cultivation must preserve unobstructed access to the railings and access aedicules, as well as to all other public and private easements (ladders for evacuation, solar panels, etc.).

Sources to consult

[Digital PLU of Paris, City of Paris](#)

[Full regulations of the PLU de Paris, City of Paris](#)

[Document " Figures " of the PLU of Paris, City of Paris](#)

Sheet U2 - Check the public utility easements applicable to my property

Types of public utility easements

Public utility easements concern in particular:

- The preservation of cultural and natural heritage ;
- Access to certain resources (energy, mines and quarries) or equipment (pipelines, communications);
- Defence and security;
- Safety and public health.

In the case of Paris, the flood risk prevention plan also constitutes a series of public utility easements, generally without any consequences on the development of urban agriculture.

Heritage conservation easements

Public utility easements listed in urban planning documents concern 3 types of heritage: natural, cultural and sports. Easements related to sports heritage are generally not contraindicated with the development of urban agriculture.

Among the easements relating to the protection of the natural heritage, only the prohibitions on water catchment in rivers in urban areas (e.g. the prohibition on pumping in the Seine in Paris) are to be taken into account. The other provisions, on forests, the coastline, nature reserves and national parks, and protected agricultural zones are generally not applicable in urban areas.

Easements relating to the protection of cultural heritage result from the classification or inscription of certain historic monuments, districts and architectural ensembles, or parks and gardens, under the heading of heritage conservation. The list of listed or classified sites is annexed to the local urbanism plan. Two principles should be borne in mind:

- The establishment of urban agriculture activities on the roof of a historic monument or a building adjoining a historic monument cannot take place without the agreement of the authority in charge of the conservation of these monuments. In Paris, this is the Service Territorial de l'Architecture et du Patrimoine (STAP). The list of historic monuments is annexed to the local urbanism plan ;

- Within a perimeter of 500 metres around a monument listed or classified as heritage, any building visible from (visibility) or in the same panorama (covisibility) as this monument is subject to an easement. Any intervention, including the planting of crops on the roof, which changes the external appearance, must then be subject to special authorization. In the case of Paris, this is generally the visa of the Architect des Bâtiments de France (ABF).

Easements relating to the use of certain resources and equipment

Most of these easements (production and transmission of energy, gas and heat, mines and quarries, pipelines, naval, rail, road or air transport, telecommunications) have no impact on the activities developed on the roofs of buildings.

However, two provisions may affect the establishment of urban agriculture:

- The installations must not interfere with electrical or telecommunications cables on the facades or roofs of buildings and objects of public utility easement;
- The facilities must not obstruct the access required for the maintenance of other equipment subject to a public utility easement (e.g. rainwater collectors, electrical substations, etc.).

Most of the roofs affected by this type of equipment are private easements.

Easements relating to public health and safety.

They concern risk prevention plans and facilities classified for environmental protection. These provisions generally have no impact on urban agriculture projects in dense environments.

However, it is advisable to be informed of the presence of facilities classified for environmental protection near the field in less dense areas (peri-urban areas, countryside): recycling stations, factories, etc. This could have an impact on the health constraints applying to the operation.

Sources to consult

[Digital PLU of Paris, City of Paris](#)

[Full regulations of the PLU de Paris, City of Paris](#)

[Annex I of the Paris PLU](#)

["Servitudes of public utility affecting the occupation and use of land", City of Paris](#)

Factsheet U3 - Know the private easements that may apply to my project

Contractual easements

In the case of contractual easements, a distinction must be made between properties subject to the easement, called "servient land", and those benefiting from the easement, called "dominant land". Their respective obligations are simple: the dominant land must maintain and not aggravate the easement, and the servient land must not interfere with the use of the easement.

They are governed almost essentially by the Civil Code. It distinguishes three types of easements:

- Those coming from the natural situation of the place, precisely called **natural easements** such as that of water flow or that of canalisation for example;
- Those enacted by **law and regulations**, or local customs, such as those relating to planting distances at property boundaries;
- Easements established by **agreements**, i.e. those entered into by mutual agreement by neighbouring owners.

Other types of easements

There are other constraints applicable to buildings, which are not covered by a provision of the law but simply by a contractual link attached to plots of land. These constraints are mentioned in the notarial deeds concerning the building (deeds of sale, co-ownership regulations, etc.). In general, therefore, it is the owners or managers who are best aware of them; it is therefore advisable to check with them whether there are any charges on the project surface.

Among these contractual provisions, several may apply to an urban agriculture project. These include, but are not limited to, the following:

- Servitude Non Aedificandi : prohibition to build on a land ;
- Non Altius Tollendi easement: prohibition to build above a certain height ;
- Servitude de Cour Commune: prohibition to build on all or part of the ground joining one or more buildings. It can be a total prohibition or simply specifying a height not to be exceeded.

Sources to consult

[Digital PLU of Paris, City of Paris](#)

[Regulations of the General Urban Zone of the PLU of Paris, City of Paris](#)

[Note " les Servitudes Civiles ", Town Hall of Samoëns \(Haute-Savoie\)](#)

Limiting the overloading of the sewerage network during medium and heavy rainfall helps to avoid unitary water discharges (mixture of rainwater and wastewater) into the Seine and flooding by network overflow. To this end, the City of Paris has developed a series of measures to promote the retention of rainwater. How can these rules impact an urban agriculture project?

What is stormwater zoning?

Rainwater zoning, or the rainwater component of sewerage zoning, is a set of rules established in the local urbanism plan and the General Code of Local Authorities. It applies to construction and development projects in Paris. It defines a minimum volume allowance for each plot of land in the city, i.e. a volume of water retained by the installations in place and which will therefore not go into the network.

Which projects are concerned?

The provisions of the rainwater zoning apply to any construction, renovation or development project meeting one of the following conditions:

- Any new construction or new part of a construction with a footprint greater than 20 m²;
- Any restructuring of an existing construction with a footprint greater than 20m²;
- Any new development or redevelopment of road space of more than 1,000 m², excluding routine maintenance work;
- Any landscaping or renovation of a green area of more than 1,000 m², excluding routine maintenance work;
- Any fitting out of non-built sports equipment or redevelopment of non-built sports equipment of more than 500 m², excluding routine maintenance work.

These operations are subject to an authorization to discharge rainwater into the sewer system in accordance with the terms and conditions set out in the regulation. This application for authorization must be submitted as soon as possible to the department in charge of stormwater drainage, and if possible when the project is being developed. At the latest, it can be done at the time of the filing of the building or development permit.

This application is also required when all stormwater is managed on the property without discharge to the sewer system. In the latter case, the owner must specify the provisions adopted for any rainfall in excess of the reference rainfall mentioned in this bylaw.

The items due are :

- A location plan of the plot and neighbouring plots;
- A ground plan of the construction indicating precisely the reference surface, the built-up areas, the open ground and vegetated areas, and the path of the rainwater;
- A technical description of the stormwater management system(s), accompanied by a calculation note demonstrating that the project complies with the abatement objective set by the Regulation;
- All graphic documents allowing to understand the project;
- Where applicable, the soil study necessary to justify the choice of the selected rainwater management system.

In general, it is preferable to contact the City of Paris Rain Plan Department to obtain an opinion on the rainwater management system, prior to the submission of the planning permission.

Rules to be applied

Determining the quantity of water to be removed then allows you to define and size the removal device.

For each project, the zone in which the parcel is located must first be determined (see zoning plan). Rainwater zoning defines four zones: total allowance (green), enhanced (yellow), normal (orange) and reduced (red). The colour mentioned in brackets is the colour shown on the map delineating the rainwater harvesting zones.

Different levels of volume allowance requirements are set out in the Regulation. They depend on the technical capabilities of the project and the stormwater drainage area to which the project belongs :

- Optimal objective: total rainwater harvesting; there is no rainwater connection between the land and the sewerage system. This objective is the one that is in conformity with the national regulation mentioned above ;
- Minimum "threshold" objective: A volume reduction of a rainwater run-off of 4 mm (reduced run-off zone), 8 mm (normal run-off zone), 12 mm (reinforced run-off zone) or 16 mm (total run-off zone) is requested;
- Degraded "percentage" objective: it is authorized, upon provision of technical proof that the minimum objective is not attainable and upon authorization from the Department in charge of rainwater management, a volume reduction of rainwater corresponding to 30% of the 16 mm rainwater layer (reduced reduction zone), 55% of the 16 mm rainwater layer (normal reduction zone) or 80% of the 16 mm rainwater layer (reinforced reduction zone).

These requirements are applied to the "reference surface" of the project. It corresponds to the right-of-way on the ground of the constructions concerned (built or rehabilitated). As an example, on a 300 m² roof where a 50 m² greenhouse is to be installed, the reference surface is that of the greenhouse.

It should be noted that the best technical devices to comply with rainwater zoning are plant techniques that promote evapotranspiration and infiltration, while providing the city with ecosystem services (fight against urban heat islands, biodiversity, landscaping, carbon and atmospheric pollutant capture, etc.). The technique of reducing rainwater by installing a vegetated roof can also be subsidised by the Seine-Normandy Water Agency (AESN).

For any request, you can contact the user centre of the Water and Sanitation Technical Service (STEA) of the Department of Waste Management and Water at the following address

Section de l'assainissement de Paris, Pôle Usager, 27 rue du Commandeur 75014 Paris

E-mail: eau-assainissement@paris.fr

Tel: 01 53 68 24 70

Sources to consult

[The ParisRain plan](#)

[The City of Paris' sanitation zoning by-law](#)

[Appendices to the City of Paris sanitation zoning regulations](#)

[Right Bank Rain Zoning Map](#)

[Left Bank Storm Zoning Map](#)

[Application for authorisation to discharge rainwater into the Paris sewerage network](#)

U5 plug -

Find out about local advertising regulations

New entry

Because of their particular location, for example on roofs or in the basement, city farms sometimes lack visibility. How can the presence of the project be signalled when the site is not visible from the street? The installation of signs, pre-signs or advertising is regulated to maintain the harmony of the public space.

What is a local advertising regulation?

Advertising displays are subject to regulations protecting the environment and the living environment. Its installation must comply with density and format conditions and be subject to prior declaration or authorization by the town hall or prefecture. As a planning document for billboard advertising on the municipal or inter-municipal territory, a local advertising regulation (RLP) enables national regulations to be adapted to local specificities, in accordance with article L 581-2 of the Environmental Code and its implementing decrees.

The RLP in Paris

In Paris, an RLP was decided by the Mayor of Paris on July 7, 2011. This regulation, the provisions of which apply to individuals as well as to legal entities under public or private law, applies throughout the territory of the City of Paris. It can be consulted [here](#).

The RLP regulatory framework in Paris

The RLP distinguishes between three types of advertising displays. Thus, the term "sign, pre-sign or advertisement" refers to all devices designed to express and disseminate information and ideas:

- Sign: any inscription, form or image affixed to an immovable and relating to an activity carried on there;
- Pre-existing sign: any inscription, form or image indicating the proximity of a building where a specific activity is carried out. (Pre-signs are subject to the provisions governing advertising);
- Advertising: excluding signs and pre-signs, any inscription, form or image, intended to inform the public or to attract its attention. The term advertising also designates devices whose main purpose is to receive the said inscriptions, forms or images.

Thus, the location of the display must be within the physical perimeter of the activity for it to be considered a "sign". Otherwise (and in particular for urban agriculture projects on rooftops or in the basement, for example), the advertising rules apply.

General provisions

Firstly, the RLP recalls some general provisions, in particular:

- Media and places that are subject to an absolute ban on advertising (buildings listed or classified as historical monuments, classified sites, buildings prohibited from advertising by municipal by-laws). Finally, it is recalled that advertising is prohibited on trees ;
- The zoning of the entire Parisian territory not covered by the absolute prohibition perimeter. Four restricted advertising zones (ZPR A, B, C, D) are instituted, defining for each zone limit heights of posters above the ground, spacing distances between two advertising spaces, and even a ban on advertising.

Advertising

The regulations defined for advertising: prohibitions, the height of the devices, the placement of the devices, the appearance and quality of the devices, the surface area allocated to advertising, the distance between advertising spaces, etc.

Pre-Signs

Pre-signs are subject to the provisions governing advertising, with the particular exception of pre-signs for activities off the public highway.

Except in the case of an urban agriculture project, whether it is rooftop, underground or open ground, the site is often not directly visible from the public highway. It therefore seems interesting for a project owner to study the exceptional regime of Parisian RLP signs.

Among other things, it states that :

- When the activity is carried out in a building not directly overlooking the street, it may be indicated by means of signs placed perpendicularly to the facade of the building where the door or access gate opening onto the street is located;
They can be placed in line with these accesses. The support of these signs must be in harmony with the architecture of the door or access gate. In this case, they may only consist of letters or signs painted or printed on a banner whose height may not exceed 6 metres. Pre-signs are forbidden on roofs, roof terraces and terraces ;
- When they are unable to be indicated by a pre-symbol on a building due to an architectural impossibility, or on the private domain, activities set back from the public highway may be indicated by means of a pre-symbol affixed on the public domain, on the condition that these pre-symbols and their support do not substantially modify the conditions of use. The ground surface occupied by the device must not exceed 1 m², and the height must not exceed 3 metres.

Signs

The by-law defines two types of signs: permanent signs and temporary signs. The latter are often inscriptions, shapes or images inscribed on canvas banners, tarpaulins, adhesive films. They can indicate exceptional operations lasting less than 3 months or work lasting more than 3 months. The regulations defined for signs: prohibitions, positioning, height, appearance, maintenance, wording, colour, lighting and brightness of the devices.

Steps to take

The installation of signs is subject to prior authorization. The file must include the Cerfa form n°14799*01 together with the documents requested in this form. The application must be sent to the Reception and User Service Office (BASU), 6 promenade Claude Levi-Strauss - 75013 Paris. The request can be made online via the Paris Professional Counter (Guichet des professionnels de Paris).

The installation of outdoor advertising is obligatorily subject to prior declaration and may be subject to prior authorization in certain cases.

In the case of a prior declaration, the Cerfa form n°14799*01 must be filled in. For a request for prior authorization, the Cerfa form n°14798*01 applies.

The file must be sent by registered letter with acknowledgement of receipt or by e-mail in 2 copies for the declaration and 3 copies for the authorisation:

- at the town hall if the commune is covered by an RLP (in Paris the file should be sent to the Direction de l'Urbanisme, at the reception and user service office (BASU), 6 promenade Claude Levi-Strauss - 75013 Paris);
- to the prefecture of the department in the absence of RLP.

The installation of pre-signs is free, subject to conditions related to the dimensions of the sign. However, if the dimensions exceed 1 m in height or 1.50 m, a prior declaration must be made. This declaration is made by filling in the Cerfa form n°14799*01 and must be sent by registered mail with acknowledgement of receipt in 2 copies or by e-mail :

- at the town hall if the commune is covered by an RLP (in Paris the file should be sent to the Direction de l'Urbanisme, at the reception and user service office (BASU), 6 promenade Claude Levi-Strauss - 75013 Paris);
- to the prefecture of the department in the absence of RLP.

The timing for taking these steps

Requests are analysed on a case-by-case basis, remaining as close as possible to the reality of the situation. The request for prior authorisation is to be made when the project design is materialised in order to anchor the request in reality. Ideally, the process should be undertaken at the same time as applications for planning permission (Building Permit, Prior Declaration, etc.).

The people to contact

The BASU (reception and user service office) of the Paris Urban Planning Department is open by appointment only from Monday to Friday from 9:00 am to 12:30 pm for advice on the preparation of urban planning files - make an appointment on du-basu-rdv@paris.fr. The office is located at 6 promenade Claude Levi-Strauss (13th).

Awaiting Review of the Document

If your project involves construction, it may be necessary to obtain planning permission to carry it out. These allow the administration to check that the project complies with the rules in force in the municipality.

The different approaches

For urban agriculture projects, there are three different situations with regard to planning permission.

- **Building Permit (PC)**

The building permit is the default planning permission. It is necessary, depending on the case:

- For all new constructions (i.e. independent of any existing building) with the exception of those falling within the framework of a prior declaration;
- For any work on an existing construction if it creates more than 20 m² of floor area or if it increases the total floor area to more than 150 m².

The form to be filled in to apply for a building permit is [Cerfa n°13409*07](#). A special appendix is provided for projects creating or modifying an ERP (establishment open to the public), which acts as ACAM (authorization to create, develop or modify an ERP). The appraisal period for a PC is three months. However, the administration may notify you of a missing document in the file; in this case, the appraisal period starts from the receipt of the last document. If the administration does not return a letter, this means that it does not object to the project.

Four copies of the application must be sent by post, preferably by registered letter with acknowledgement of receipt, or deposited directly with the Town Planning Department of your commune. In Paris, the reference address is as follows: Mairie de Paris, Direction de l'Urbanisme, SPCPR -BASU, 6 promenade Claude Lévi-Strauss, 75013 Paris.

For faster processing of your application, you can submit your file digitally at the [online electronic counter set up by the City of Paris](#) (this process requires authentication via the FRANCE CONNECT system).

Once the file has been examined favourably or the three-month deadline has passed without any response, you can start work, by first posting a sign visible from the public highway describing the planned work. The deadline for filing an appeal against a prior declaration is two months from the posting of this sign. However, there are special cases: if the plot is a building listed in the supplementary inventory of historic monuments, a high-rise building (IGH) or located in a flood risk prevention plan sector (PPRI), the time limit for appraisal increases to 5 months.

- **Prior declaration of work (PD)**

The preliminary declaration is a file designed for works not subject to building permit. Urban agriculture projects may require such authorisation for the following reasons:

- New construction or work on an existing construction creating a floor area or right-of-way of 5 to 20 m², for municipalities with a local urban plan;
- Construction of a wall with a height above the ground greater than or equal to 2 m ;
- Work modifying the initial external appearance of a construction (e.g. greening a wall, modifying railings);
- Restoration work if it takes place in an area subject to special protection (for example, around a historic monument);
- Change of use of premises (e.g. conversion of commercial premises to agricultural premises) without altering the load-bearing structures or the façade of the building.

There are other, less frequent reasons for urban agriculture. It is therefore useful to check on the [Cerfa form n°13404*07](#) if your project is subject to prior declaration.

The application must be sent by post, preferably by registered letter with acknowledgement of receipt, or deposited directly with the Town Planning Department of your commune. In Paris, the reference address is as follows: Mairie de Paris, Direction de l'Urbanisme, SPCPR -BASU, 6 promenade Claude Lévi-Strauss, 75013 Paris.

For faster processing of your application, you can submit your file digitally at the [online electronic counter set up by the City of Paris](#) (this process requires authentication via the FRANCE CONNECT system).

The appraisal period is one month from the date of submission; without any return of mail from the administration, the project benefits from a decision of non-opposition. However, during this month, the administration may request one or more additional documents; in this case, the investigation period starts from receipt of the last document.

Once the file has been examined favourably or the one month deadline has passed without any response, work can begin, with the same posting obligations as for a building permit.

For the special case of greenhouses for agricultural production, see [Fact Sheet B9 - Building a roof-top greenhouse](#).

- **No authorization required**

As most developments do not fall into any of the categories of the CP or RFP, the project is not subject to planning permission; however, you should always check whether a particular case, for example a public utility easement, does not require you to prepare a permit file.

The BASU (reception and user service office) of the Urban Planning Department of the Paris City Council is open by appointment only from Monday to Friday from 9:00 am to 12:30 pm for advice on the preparation of urban planning files - make an appointment on du-basu-rdv@paris.fr. The office is located at 6 promenade Claude Levi-Strauss (13th).

The use of an architect

The use of an architect is not compulsory if the planned work only requires a prior declaration.

In the case of a building permit, there are two scenarios:

- You are a legal entity; in this case, the use of an architect is always mandatory ;
- You are a natural person or a farm; in this case, it is possible to submit the application for a CP without using an architect for two types of constructions :
 - A construction for agricultural use where both the floor area and the ground area do not exceed 800 m²;
 - Production greenhouses with a right foot height of less than 4 m above the ground and with both the floor area and the footprint not exceeding 2,000 m².

Sources to consult

[Work subject to planning permission on an existing building: articles R*421-14 and following of the Code de l'urbanisme, *Légifrance*](#)

[Work subject to prior declaration on an existing construction: article R*421-17 and following of the Code de l'urbanisme, *Légifrance*](#)

[Information on urban planning applications in Paris](#)

[Dematerialization of urban planning applications](#)



Agripolis at the Lions' Court Gymnasium ©Jean-Pierre Viguiet

AGRICULTURAL BUSINESS

The practice of agriculture in cities has developed in recent years and can take many different forms. From the cultivation of plants to the breeding of animals, innovative projects are flourishing everywhere.

The plants produced in urban agriculture are of various species, harvested at different stages of growth: cultivation of flowers, aromatic herbs, fruit trees (orchards), small fruits, root vegetables, fruit vegetables, leaf vegetables, young shoots, germinated seeds, microalgae, hops, mushrooms, vines... The types of installations currently existing in urban agriculture and used for the production of plants are of different types. Cultivation can be done in the open ground, on a waterproofed substrate or in a container. But it can also take place without a substrate, which is the case with hydroponics, aeroponics and aquaponics.

In cities, poultry, small animals, goats, sheep, pigs, fish, horses, bees...As a participant in biodiversity, productive, educational, the animal is subject to special regulations just like the animal by-products consumed or used by humans ([see Sheet EA6 - Raising animals](#)).

Moreover, combining animal and plant production, aquaponics is a production system that requires special attention to certain technical details. ([Sheet EA5 - Producing in aquaponics](#)).

Regardless of the nature of a project's production, as a farmer, the urban rice farmer must be able to ensure the safety and security of his products ([Fact Sheet EA1 - Ensuring food safety](#)). Among other things, it is up to him or her to find out about the risks of pollution inherent to urban farming. There are three main routes of contamination likely to affect urban crops. Contamination is potentially present in urban and peri-urban soils ([Fact Sheet EA2 - Identifying and managing soil pollution](#)); water, if it does not come from the drinking water supply network, can carry contaminants and generate risks for the sanitary quality of the foodstuffs produced ([Fact Sheet EA3 - Identifying and managing water pollution](#)); and thirdly, atmospheric deposition and absorption of pollutants by the aerial parts of plants must be considered ([Fact Sheet ECO3 - Urban agriculture: what are the concerns?](#)). The use of phytosanitary products must also be controlled to guarantee consumer safety ([see Fact Sheet EA4 - Getting information on phytosanitary products](#)). And finally, like any waste producer, the urban-rice farmer is obliged to look for the appropriate method of disposal for each of his waste ([Fact sheet EA8 - Managing my waste](#)).

In connection with cultivation and animal husbandry practices that respect consumer health and the environment, urban agriculture can contribute to the preservation and development of biodiversity ([Fact Sheet EA7 - How to promote biodiversity?](#)).

The production of an urban agriculture project is very often valorized through the short circuit. Several modes of distribution lend themselves to this, requiring special distribution logistics and compliance with the various health and commercial regulations ([Data sheet EA9 - Distributing my products](#)).

Sheet EA1 - Ensuring food safety

New entry

As a farmer, the urban rice farmer must be able to ensure the health and safety of his products. The primary responsibility for food safety lies with the food business operator and it is necessary to ensure food safety at all stages of the food chain from primary production.

The Hygiene Package

The "Hygiene Package" is a set of European regulations directly applicable in all Member States that defines the health objectives to be met by all food businesses, from production to distribution.

European regulations are based on an obligation of results: food placed on the market must be safe, healthy and fit for human consumption. However, the "Hygiene Package" does not impose any means to achieve this objective.

It advises to implement Good Hygiene Practices such as, for primary production, (non-exhaustive list):

- clean, and if necessary after cleaning, disinfect installations, equipment, containers, crates and vehicles ;
- control possible contamination from the air, soil and ensure the quality of the water used (see Fact Sheet EA2 - Identifying and managing soil pollution and Fact Sheet EA3 - Identifying and managing water pollution);
- control possible contamination from fertilizers ;
- take into account the results of any relevant analysis of samples taken from the products (see Sheet EA9 - Distributing my products) ;
- prevent wild or domestic animals and other harmful organisms from contaminating products (see Fact Sheet EA7 - How to promote biodiversity);
- use plant protection and biocide products correctly (see Fact Sheet EA4 - Information on plant protection products);
- store, handle and dispose of waste correctly (see Sheet EA8 - Managing my waste) ;
- ensure the good health and hygiene of workers handling the products and that they have received appropriate training;
- control contamination from feed, veterinary drugs.

Hygiene provisions also apply if the project involves processing and distribution stages. Particular attention must therefore be paid to the hygiene of handling and to premises used for the storage, preparation, treatment or processing of foodstuffs, mobile and/or temporary sites such as stalls, points of sale and premises used as a dwelling house but where foodstuffs are regularly prepared for placing on the market. The wrapping, packaging and possible heat treatment of foodstuffs shall be taken into account.

Food business operators must keep records of the measures taken to control hazards, containing the following information :

- the plant protection products used ;
- the appearance of harmful organisms or diseases which may affect the safety of plant products ;
- the identification, exit and entry of animals ;
- veterinary products or treatments administered to animals ;
- the nature and origin of the feed given to the animals ;
- the results of any analysis of samples taken from plants, animals ;
- any relevant reports on controls carried out on animals or products of animal origin.

Good Hygiene Practice Guidelines (GBPH)

It is not necessary to imagine systems from scratch: there are good practice guidelines. These guides are written by professionals for professionals and validated by the State. They enable professionals to pool the first steps of the HACCP (Hazard Analysis Critical Control Point) approach and give them the keys to setting up all the guarantees of a good control of health risks. The GBPHs validated by the administration also have the advantage of being reference documents taken into account by the competent authority during official controls of professionals in the food chain.

Reference texts

Regulation (EC) No 178/2002 is the key text of the Hygiene Package: Food Law. It lays down the general principles of the regulatory corpus and is applicable to all players in the food and feed sectors. It assigns responsibility for the safety of foodstuffs to the professionals who place them on the market. It lays down specific obligations: traceability obligations, obligation to withdraw products likely to present a risk to public health, obligation to inform the control services, etc.

Regulation (EC) No 853/2004 on food hygiene applies to all food business operators: whether at the primary production, processing or distribution stage; and regardless of the production chain.

Sources to consult

The "Guide to Good Hygienic Practice and the Application of HACCP Principles for Unprocessed Fresh Fruit and Vegetables", which contains detailed recommendations and requirements for primary vegetable production, is available [here](#) in its 2010 version.

A European guideline drafted by the European Sprouted Seeds Association (ESSA) is available [here](#).

Spirulina cultivation is also the subject of specific references. There is a Federation of Spirulina Growers of France (FSF) which provides support and advice to new Spirulina producers who want to set up.

An overview of the [food hygiene regulations](#) and the [list of GBPH](#) are available on the website of the Ministry of Agriculture and Food.

Establish a HACCP Plan

The HACCP approach makes it possible to target and prioritize the specific hazards at each stage of production, in order to put in place appropriate control measures that will complement the measures already in place in application of the guides to good practice.

It goes like this:

- to identify the critical points at which control is indispensable;
- establish procedures for monitoring critical control points ;
- establish the corrective actions to be taken when monitoring reveals that a critical control point is not under control ;
- establish periodically performed procedures to verify the effectiveness of the measures ;
- establish documents and records according to the nature and size of the company to prove the effective application of the measures.

To implement an effective HACCP plan, the first step is to set up a multidisciplinary team: all the activities present on the farm must be ideally represented on the HACCP team. The HACCP process then proceeds in twelve steps.

Regulation (EC) No 178/2002 specifies that the requirements concerning the HACCP system should provide sufficient flexibility to apply in all situations, including for small businesses. This flexibility is intended to allow control measures appropriate to the nature and size of the establishment. The application of this flexibility should continue to be based on risk analysis and is best achieved through an integrated approach that takes into account good hygiene practice and the initial stages of HACCP-based procedures.

The primary objective of flexibility is not to reduce the number of control measures: flexibility must not compromise food safety. However, it may allow for adaptations in documentation or in the design and use of premises. The technical instruction DGAL/SDSSA/2018-924 of 7 January 2019 aims to define the establishments that can benefit from flexibility in the implementation of the health control plan on the one hand, and to present what are the possible adaptations they can have on the other hand.

Pre-market analysis of the finished product

With regard to the obligations of result but not of means defined by the Hygiene Package, it is up to farmers to implement self-checking plans which may include product analyses. It is thus advisable to have products analysed before placing them on the market, particularly in the case of cultivation on polluted soil or use of non-potable water. (cf. Sheet EA9 - Distributing my products). Other analyses may be necessary at the different stages of production, in order to check the control of the main hazards identified in the HACCP approach.

Official controls, registration and approval

The Hygiene Package provides that the competent authorities shall put in place official controls, covering all stages of production, processing and distribution. Their objective is to ensure that food law is properly enforced by operators in order to guarantee the health of consumers.

In France, three ministries jointly exercise official control missions in the field of food safety and fair industrial and commercial practices:

- the Ministry in charge of Food (General Directorate for Food (DGAL), Regional Directorate for Food, Agriculture and Forestry (DRAAF) and Departmental Directorate for Territorial Cohesion and Population Protection (DD(CS)PP));
- the Ministry in charge of the Economy (General Directorate for Competition, Consumer Affairs and Fraud Control (DGCCRF), Regional Directorate for Enterprises, Competition, Consumer Affairs, Labour and Employment (DRECCTE) and DD(CS)PP);
- and the Ministry in charge of Health (Directorate General for Health (DGS) and Regional Health Agency (ARS)).

A food business operator must notify the competent authorities of each establishment for which it is responsible and which carries out any of the stages of production, processing and distribution of food, with a view to its registration. This information is to be updated by reporting any significant change in their activities and/or any closure of an existing establishment.

Thus, an urban-rice farmer must declare his or her activity by contacting the CFE (Centre de formalités des entreprises) of the competent consular chamber (see [File MJ3 - Choosing the legal form of my structure](#)). If the main activity of the structure is the marketing of agricultural products, then this declaration is made via the CFE of the Ile-de-France Chamber of Agriculture. This has the advantage for the urban rice-farmer of being directly known to the health services. It is also up to the project owner to check whether his or her activity is subject to a farming permit, which allows the authorities to know and control the farm's compliance with health standards (see [Sheet MJ4 - Applying for a farming permit](#)).

Specific hygiene rules are applicable to food of animal origin (see [Sheet EA6 - Raising animals](#)).

Thus, any operator of an establishment producing or marketing foodstuffs containing products of animal origin must comply with the obligation to declare his activity to the departmental directorate in charge of population protection, before opening and each time there is a change of operator, address or activity. This can be done by filling out the [Cerfa form n° 13984*06](#) and sending it by mail or email to the DD(CS)PP of the department. The [declaration of activity](#) can also be done online on the website [mes démarches](#).

More specifically, any establishment which prepares, processes, handles or stores products of animal origin or foodstuffs containing such products and which markets such products to other establishments is subject to the health approval requirement. The request for sanitary approval can be made by filling in the [Cerfa form n° 13983*02](#) and sending it by mail or e-mail to the DD(CS)PP of the department. The [request for approval](#) can also be made online on the website [mes démarches](#).

A derogation from approval may be obtained under certain conditions. To apply for it, the [Cerfa 13982*06](#) must be completed and submitted to the Department's DD(CS)PP. This can be done by mail or electronically on the website [mes démarches](#).

All the measures taken by the operator to achieve the objectives of the Hygiene Package must, in particular if a request for health approval is necessary, be compiled in a health control plan, as specified in the [decree of 8 June 2006 on health approval](#). It will be the reference document checked by the health authorities during a possible inspection.

How do we approach these regulations?

Health regulations, whether it is the Hygiene Package or more specific texts, aim to reduce to a minimum the risk of contamination of food by biological, chemical or physical hazards, the consequences of which concern both the consumer and the responsible producer. To a certain extent, these regulations also protect the agricultural sector. By limiting the risk, they make it possible to avoid applying, in the event of a health emergency, a constraint on regional production as a whole, as has been the case in some cases. For the rice farmer, whether urban or not, respecting the procedures when placing a product on the market and controlling production is therefore as much a matter of obligation as of taking responsibility for one's profession.

Experts to contact

The preferred contacts are the DRIAAF's Regional Food Service (SRAL) and the Paris Departmental Directorate for the Protection of Populations (DDPP).

Sheet EA2 - Identifying and managing soil

New entry

Changing land use to accommodate an urban agriculture project inevitably leads inevitably to a reflection on the contamination potentially present in urban and peri-urban soils, which are likely to present risks to human health. How can potential pollution be identified and managed?

Origin and nature of pollutants

In urban areas, the projects face a problem of significant scale in cities: the presence of chemical pollutants in various environments, such as air, but also soil (e.g. trace metal elements, hydrocarbons, polycyclic aromatic hydrocarbons, etc.). The latter generally come from past and present human activity on or around the site in question (car traffic, industrial or service activities, heating of dwellings, use of embankments, etc.).

Thus, several polluting substances are potentially dangerous:

- Trace metal elements (TME) (lead, cadmium, mercury, chromium, zinc, nickel, copper etc.) and metalloids (arsenic, selenium etc.);
- Polycyclic aromatic hydrocarbons (PAHs). There are many of them, particularly those resulting from the combustion of hydrocarbons;
- Other organic pollutants. Total hydrocarbons (HCTs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), cyanides, etc., are not included.

These pollutants can sometimes be found in abnormally high levels, which is known as soil contamination. In some cases, the contamination may pose problems for human health and/or the environment. This is known as pollution. This is why the question of soil contamination arises upstream of the installation of an urban agriculture project.

Exposure routes and health risks

Four main routes of exposure to soil contamination can be identified. Ingestion of soil particles and dust (especially in young children under 6 years of age), inhalation of soil dust or gas, skin contact and ingestion of plants grown on contaminated land. The risk from direct exposure to soil should be carefully considered in urban agriculture. In some cases, this risk is greater than that associated with the ingestion of contaminated vegetables.

Concerning the latter route of exposure, many studies have been conducted to identify the behaviour of plants in polluted environments. It is now certain that not all plants absorb pollutants in the same way. Much depends on the plant variety, the pollutant, its concentration in the soil, the physico-chemical characteristics of the soil, etc. While certain aspects are well known, such as the fate of soil VOCs, the fate of organic pollutants is much less well known in the scientific literature.

The figure opposite shows the different routes of exposure to contaminants in relation to green spaces and gardens in urban areas:

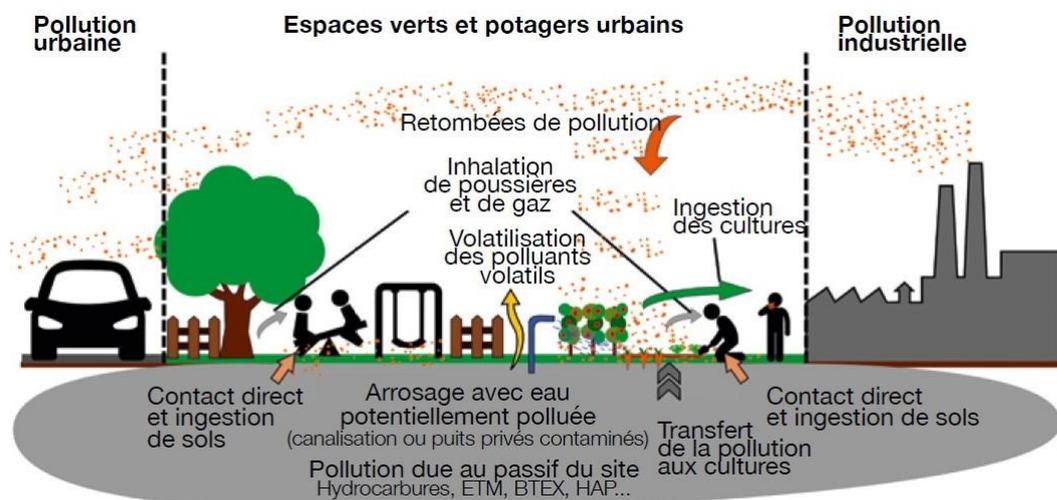


Diagram E. Diagram of the different exposure routes associated with green spaces and urban vegetable gardens (Source: *Urban soil quality: points of vigilance*, Osuna)

Therefore, the installation in agriculture requires a prior knowledge of its soil in order to decide on its potential degree of contamination and its compatibility with uses.

Identification of pollution

Historical and documentary study of the site

When designing an earthen project, first of all, a historical study of the land use and the site environment is necessary. This study makes it possible to identify whether any potentially polluting activities, uses or accidents have taken place on or near the plot and thus to define which pollutants should be looked for in priority.

Soil sampling and analysis

Next, it is necessary to know the level of soil contamination. If no study is already available, a strategy for sampling and analysis of soil for urban agricultural use should be developed.

Depending on the case, this approach may be carried out entirely by a specialised engineering and design department (the national metrology and testing laboratory (LNE) has set up a "Polluted Sites and Soils" certification and presents the list of certified engineering and design departments on its [website](#)), or partially by a soil analysis laboratory which will only carry out the analyses. In this case, the definition of the sampling strategy as well as the sampling remains the responsibility of the client. The approach is sometimes carried out entirely by the owner or manager of the plot, as in the case of the City of Paris, which has its own agronomic soil analysis laboratory and a "polluted sites and soils" technical support unit.

Interpretation of test results

The approach consists of comparing the state of the soil under consideration with that of the "healthy" soils in the vicinity of the investigation area. The aim is to distinguish the "natural" geochemical background, including local geochemical anomalies, from contamination or pollution attributable to site activities. In the case of an urban agriculture project, the analyses can thus be compared with regional agricultural background values.

It is recommended to involve an engineering and design department specialised in "polluted sites and soils" from the very beginning of the process. However, if the history has not revealed any suspicion of pollution and the analyses of metallic trace elements and hydrocarbons do not show levels exceeding the regional agricultural background values, the client may carry out the interpretation himself. If these "benchmark" values are exceeded, it is recommended to contact the technical services of your community or to call in a specialised consultancy firm.

This interpretation of the results of the analyses results in the management measures for the site. The City of Paris has thus established soil quality categories based on the analysis results of 9 TMEs (Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Selenium, Zinc). For each of these categories, the following recommendations have been defined:

- **Category 1 and 2a:** All types of crops possible without restriction (ornamental crops, vegetables, fruit).
- **Category 2b and 3a:** All types of crops possible (ornamental crops, vegetables, fruit) with mandatory crop analysis for vegetables and fruit berries and shrubs.
- **Category 3b:** Ornamental crops possible without restriction. Cultivation of fruit trees possible with crop analysis. Market gardening and fruit berry and fruit bush cultivation not possible.
Presence of children under 6 years of age is possible on site provided that a quantitative health risk assessment (QHRA) is carried out to ensure compatibility between the quality of the land and its intended uses.
- **Category 4:** Ornamental crops are possible provided that a quantitative health risk assessment (QHRA) is carried out to ensure compatibility between land quality and cultivation practices. Vegetable and fruit crops are not possible.
Presence of children under 6 years of age is possible on site provided that a quantitative health risk assessment (QHRA) is carried out to ensure compatibility between the quality of the land and its intended uses.
- **Category 5:** Ornamental crops are possible provided that a quantitative health risk assessment (QHRA) is carried out to ensure compatibility between land quality and cultivation practices. Vegetable and fruit crops are not possible.
Presence of children under the age of 6 is not possible.

In some cases, the working of polluted soil by project developers and the use of the site by the public requires an EQRS to be carried out to quantify the health risks associated with the uses observed. It is recommended to systematically resort to the services of an engineering and design department specialising in "polluted sites and soils", as the interpretation of the results is so delicate and the consequences of an incomplete interpretation are significant. This study should be carried out upstream of the project and should be updated if uses, practices or frequentation are likely to change. This service costs between 1000 and 2000€ per site depending on the service provider.

Pollution treatment

In the event of excessive pollution posing a risk to human health, this prior knowledge will make it possible :

- to define the solutions that will enable us to get rid of the present pollution (excavation and replacement of the soil, above-ground crops, etc.);
- to consider clean-up techniques.

Standards for food production

Health regulations, in particular the Hygiene Package (see Fact Sheet EA1 - [Guaranteeing food safety](#)) does not define a standard concerning the pollution levels of cultivated land. The rules only apply to the products that come from it. European regulations provide for thresholds not to be exceeded for certain pollutants in certain food products. The marketing ban thresholds are set by Regulation (EC) No 1881/2006, updated by EU Regulation 2015/1005. These thresholds depend on the type of product. In the case of vegetables and fruit, particular attention should be paid to lead and cadmium levels.

The respect of the recommendations established by the City of Paris according to the rates of pollution of the cultivated soils must therefore be accompanied by an analysis of the products coming from these soils (see Sheet EA9 - [Distributing my products](#)).

Sources to consult

Guide: [Urban soil quality: points of vigilance](#), Osuna (Observatoire des Sciences de l'Univers de Nantes Atlantique)

DAMAS O., BRANCHU P., DOUAY F., SCHWARTZ C., GRAND C., MAROT F., 2018. [Presumption of soil pollution - Keys to understanding and action](#). Plante & Cité, Angers, 36 p. Database of metallic trace element contents in vegetable plants ([BAPPET](#)): presentation and instructions for use.

Database on the Contamination of Vegetable Plants by Organic Polluting Molecules ([BAPPOP](#))

[Regulation \(EC\) No 1881/2006 setting maximum levels for certain contaminants in foodstuffs](#)

[EU Regulation 2015/1005 amending EC 1881/2006](#), Agriculture.gouv

[Polluted sites and soils](#), platform of the Ministry of Ecological and Solidarity Transition

Historical inventory of industrial sites and activities in service ([BASIAS](#))

Database of polluted or potentially polluted sites and soils ([BASOL](#))

Sheet EA3 - Identifying and managing water

New entry

Water is an input to global production. If water quality is not monitored, it can carry contaminants and pose risks to the health quality of the food produced. This is why there are regulations to be respected regarding water management on an urban farm.

Regulations

According to EC Regulation 853-2004, farmers producing or harvesting plant products must use drinking water or clean water for watering, irrigating and immersing the products. According to this regulation, "clean water" is "natural, artificial or purified water which does not contain micro-organisms or harmful substances in quantities likely to have a direct or indirect effect on the health quality of foodstuffs". At the **packaging** stages and all stages of **marketing**, the water used must be **potable**.

Origin of the water and risk of contamination

In addition to water from the drinking water supply system, an urban rice farmer may have to use different water sources (rainwater, private well, open canal, reservoir, river, etc.). Water from these sources can potentially be contaminated with microorganisms or micropollutants.

Contamination is greater if the water used for irrigation comes from surface water (such as river water) as opposed to deep groundwater. Similarly, the nature of the contact between the water and the plant is different depending on whether the crop is totally submerged (watercress) or whether the watering is done by sprinkling or drip. In this context, the longer a crop is in prolonged contact with contaminated water, the greater the risk of the potential transfer of contamination to the plant. Finally, the health risk will be all the higher for consumers if the plant product is intended to be eaten raw.

In the particular case of urban agriculture, chemical contaminants specific to each micro-farm may be present in irrigation water. If soil analyses reveal the presence of pollutants such as metallic trace elements (MTEs) or polycyclic aromatic hydrocarbons (PAHs), it is recommended that these contaminants also be tested for in irrigation water during chemical analyses.

Particular attention must be paid to the danger of bacteria multiplication in the water network in case of water stagnation (storage tanks, irrigation network at the beginning of the irrigation campaign, ...). In this kind of situation, it is proposed to carry out a prior purging of the system before using it for irrigation.

The use for irrigation of wastewater, i.e. from the wastewater treatment of local authorities, is possible, but is subject to specific regulations (Order of 2 August 2010 on the use of water from urban wastewater treatment for the irrigation of crops or green spaces) that must be respected.

Water quality controls

When the water does not come from the drinking water supply system, it must be checked regularly. Physico-chemical and microbiological analyses must therefore be carried out by an approved laboratory. Three criteria will then be studied: most probable number of *Escherichia coli*, suspended matter, chemical oxygen demand.

An initial check must be obligatorily carried out before the start of exploitation and the frequency of analysis must be adapted both to the contaminating nature of the water resource and to the risk of transfer to crop production.

Microbiological analysis is done:

- Once every 2 years if the products are eaten raw;
- Once every 5 years if the products are consumed cooked;
- Once a year in the case of watercress.

The physico-chemical analyses are done once every 5 years.

These analyses must be carried out by a laboratory approved by the Ministry of Health. The laboratory may carry out both sampling and water health control analyses. The list of approved water analysis laboratories in Île-de-France can be consulted [here](#).

The cost of a microbiological and/or chemical analysis of water varies according to the laboratory chosen and the type of analysis carried out (potability analysis, search for specific pollutants, etc.). The higher the number of biological (pathogens) and chemical contaminants (TMEs, PAHs) sought, the more expensive the analysis will be. Finally, the price of an analysis depends on the source of water being analysed (well water, borehole water, etc.). It is therefore essential to request a quote from several laboratories accredited by the Ministry of Health before performing water analyses. For a water potability analysis, count about a hundred euros.

The guides to good water management practices

If the results of analyses show that a health risk exists, corrective measures will have to be put in place by the operator. Examples include changing the water source, changing the irrigation system, or increasing the time between the date of irrigation and the date of harvest of the product.

Guidance on water management at the production, packaging and marketing stages can be found in the "Guide to Good Hygiene Practice and the Application of HACCP Principles for Unprocessed Fresh Fruits and Vegetables".

The AgroParisTech guide, INRAE, 2020. Plan de Maîtrise Sanitaire - Agricultures Urbaines (Sanitary Control Plan - Urban Agriculture), established by the REFUGE programme, is intended for urban agriculture structures established in the open ground and/or on organic substrate. It contains several practical sheets on water management.

Sources to consult

Information note, Quality of water used for irrigation, immersion, irrigation, DRIAAF, 23/05/2017

Sheet EA4 Learn more about plant protection products

New entry

The use of any chemical plant protection product is prohibited throughout the City of Paris since the municipal decree of 11 September 2019. What are the regulations to be followed in Paris?

Usable products

The products that can still be used when they have a national marketing authorisation (MA) are :

- biocontrol products ;
- products that can be used in organic farming ;
- low-risk products ;
- the basic substances.

Biocontrol products

Defined in Article L.253-6 of the Rural Code, biocontrol products are agents and products using natural mechanisms within the framework of integrated pest management. They include in particular

- macro-organisms (such as parasitoid insects, predatory insects and mites, entomopathogenic nematodes, beneficial vertebrate predators of harmful vertebrates or invertebrates, etc.). They are not plant protection products ;
- plant protection products comprising micro-organisms (such as fungi, bacteria, entomopathogenic or nematopathogenic viruses, antagonistic fungi and bacteria, etc.), chemical mediators such as pheromones and kairomones and natural substances of plant, animal or mineral origin.

The list of biocontrol products can be found [here](#).

Products that can be used in organic farming

Organic farming authorises the use of certain plant protection products on condition that they are not derived from synthetic chemistry and are not for herbicidal use. The list of active substances authorised in organic farming is established at Community level by Annex II to Regulation (EC) No 889/2008. The Technical Institute of Organic Agriculture (ITAB) publishes, with the support of the Ministry of Agriculture, a [guide to inputs that can be used in organic farming](#) available on their website.

Low-risk products

Low-risk products are defined by Article 47 of Regulation (EC) 1107/2009 and are plant protection products, therefore with a marketing authorisation, all of whose active substances are low-risk active substances. The list of authorised substances is available on the [EU pesticides database](#) (type: low-risk active substance). Today, the only products authorised on the market are of natural origin, but a low-risk product could also be of chemical origin and then it would be banned.

The basic substances

Basic substances are substances that can be used for phytosanitary purposes in agriculture even though this is not their primary purpose. For example, salt, sugar, vinegar, beer... These basic substances can be used in Europe after having been approved by the European regulation EC n°1107/2009. Its approval is for the whole of Europe and for an unlimited period. Its use on the farm is not subject to marketing authorisation. ITAB provides fact sheets on these substances [here](#).

Certiphyto certification

There are two types of plant protection products. The products that can be used by private individuals, labelled EAJ (authorised use in the garden), are sold freely on the market and can be used without special authorisation. The precautions for use in the marketing authorisation must be respected.

So-called professional products may only be sold to and used by Certiphyto holders. Whether they are biocontrol, suitable for use in organic farming, or low-risk, the Certiphyto is mandatory for their use. Only the use of macroorganisms or basic substances does not require Certiphyto as they are not considered plant protection products.

Obtaining the Certiphyto is possible for people in possession of a [diploma](#) or training title validated less than 5 years before the application. If this is not the case, an approved body is able to deliver a qualifying training course at the end of which a knowledge test will allow the certificate to be issued.

Entry in the register

Every use of plant protection products must be recorded in detail in a register. This document will be required during a sanitary control and will allow you to follow precisely the respect of the rules applicable to the production. Its content is framed by the [decree of 16 June 2009](#). It is advisable to register any application of phytosanitary products (do not forget seed treatments) and "any organism or disease that may affect the food safety of the products".

Use

It is important to take into account all good practices relating to treatment conditions (weather, non-treatment zone (NTA), protective equipment, storage rooms, etc.).

For more information on these good practices, consult the [conditions of use and storage on the DRIAAF](#) (Regional and Interdepartmental Directorate of Food, Agriculture and Forestry) website.

Disposal

Finally, waste resulting from the use of plant protection products must be handled by approved bodies. To find out more, consult the DRIAAF website's [section on the elimination of phytosanitary waste](#).

Organic Agriculture Certification

It is possible to obtain this label for certain productions in urban agriculture (e.g. mushroom production, endives, nurseries...) but urban farms using above-ground techniques are often not eligible. Information on how to obtain the label is available [here](#).

Sheet EA5 - Producing in

Aquaponics is a production system that combines aquaculture (the rearing of aquatic animals, often fish) and hydroponics (the cultivation of above-ground plants, often vegetables). It is a recirculating system in which the water in aquaculture ponds, loaded with nutrients linked to fish excreta, is filtered by bacteria present in a biofilter, which convert ammonia into nitrate. The water is then recirculated to the fish ponds. The challenge is to control the balance between the three systems fish, plants and bacteria.

Advantages and disadvantages of aquaponics

Aquaponics is of interest to agricultural project developers for several reasons. From an environmental point of view, this technique has undeniable advantages: compared to traditional farming, it reduces expenditure on water resources by about 80 to 90%, and requires very little or no mineral inputs (N-P-K). It also has high agricultural yields, inherited from hydroponic techniques, and makes it possible to produce fish and plants, which can have a high added value.

However, aquaponics requires heavy initial investments (connections, basins, hydroponic equipment...) and can generate energy costs depending on the system. In addition, operators must have a strong technical mastery of their system in order to manage and ensure the balance between fish, plants and bacteria and achieve production.

The technical needs of aquaponics

In order to create a productive aquaponics farm, it is important to ask several questions beforehand.

Carrying capacity. The volumes of water necessary for the fish require a very important bearing capacity (ideally 1T/m²). Sites designed for such exploitation, or in the open air, are therefore more suitable.

Accessibility. The circulation created by an aquaponics operation is important: a lot of plants are produced, which must be brought to the point of sale. In addition, several times a year, a truck will have to provide the feed for fish, fry, etc. As most suppliers only deliver with 10-ton trucks, a roadway dimensioned for this type of vehicle is preferable. Finally, it is important to know the accessibility for the operator. Ideally, the operator should be able to access the farm 7 days a week, 24 hours a day, and be able to react immediately in the event of a system failure, which could lead to a rapid loss of fish.

Exploitation. The aquaculture part of the aquaponics exploitation requires special equipment which represents an important part of the project, both in terms of technical and sanitary constraints and in terms of investment. It is therefore necessary to consider the day-to-day operation of the slaughter room, cold storage and processing area from the project design stage. If the project were to relocate these activities outside its perimeter, the transport of fish would have to be specified.

Of course, the day-to-day operation raises health issues, which are of paramount importance. But it is also a question of anticipating issues of nuisance for local residents (traffic noise, odours, etc.).

Networks. As far as electricity is concerned, an electrical connection is essential, preferably waterproof and equipped with a differential circuit breaker (GFCI). Water heating, operation of water and air pumps. The possible supply of oxygen, as well as the cold room, are the most important items of electricity consumption. It is best to provide one or two generators in case of a power failure, to avoid endangering the fish.

As far as water is concerned, access to the water circuit is essential. Ideally, the water comes from a well, has a neutral pH, is low in chlorine, well oxygenated and has a constant temperature. If this is not possible, technical devices will have to ensure its quality. Rainwater can be used after treatment, but its control is more complicated and it is likely that supplying only rainwater to the farm will lead to too many constraints. Finally, it is necessary to provide a connection to the sewerage network for rinsing and cleaning water, especially in the case of large farms, according to the regulations in force. The dimensioning of this connection depends on the quality/quantity of the waste water. A diameter of 90 or 110, in the case of highly polluted water, is suitable.

The French regulatory context

French regulations contain a number of provisions applicable to aquaponics operations. These cover both plants and animals.

Agricultural permits. An operating permit and an application for approval will be necessary for the farm to meet the administrative requirements (see Sheet MJ4 - Applying for an operating permit, Sheet EA1 - Ensuring food safety, Sheet EA6 - Raising animals).

Fish species. The most edible species cultivated in aquaponics in the world are tilapia and trout. However, it is important to note that due to their non-native species status, tilapia farming is prohibited.

BPI and water law. For the "fish" part of an aquaponics operation, there are two types of fish farms:

- Fish farms producing more than 20 tonnes per year, being subject to a permit under classified installations (ICPE - Installations classified for environmental protection) ;
- The others, (production less than 20 tonnes), are subject to declaration under the Water Law (IOTA - Installations, Works and Activities) with the possibility of opposition.

It is emphasised that a minimum distance of 100 metres between the farm and the homes of third parties applies in particular to freshwater fish farms. However, a request for exemption is possible if the file proves that the project does not present any nuisance and that everything is planned so as not to impact third parties (noise, odours, lack of visual enjoyment, etc.).

Sources to consult

[Aquaponics Research Program APIVA](#)

[Fish Farming Database, ITAVI](#)

[Order of 01/04/08](#) fixing the general prescriptions applicable to installations, works or activities subject to declaration

[Order of 01/04/08](#) laying down the technical rules to be met by freshwater fish farms subject to authorisation

Sheet EA6 - Raising animals

General rules on animals

The breeder who keeps livestock of domestic productive species is subject to a number of obligations. These relate both to health issues and respect for animal welfare. They depend in particular on the number of individuals owned and on whether or not products from their breeding are placed on the market.

The declaration of detention

The declaration of ownership of animals must be made by both professionals and amateurs. The authorisation issued will then enable the Departmental Directorate for the Protection of Populations (DDPP) to carry out checks on the farm to verify compliance with the standards.

This declaration must be filed with different responsible entities depending on the species concerned.

- Fish: at the DDPP, from the first head;
- Beehives: at the Ministry of Agriculture, from the first hive;
- Equidae : at the French Horse Institute, from the first head ;

Other species: at the regional breeding establishment (ERE), from the first head with the exception of poultry, which need only be declared from 250 individuals. If the holder of the animals is registered with the CFE (Centre de formalité des entreprises), it is the Chamber of Agriculture that will forward the application for authorisation.

Veterinary monitoring

Veterinary supervision is compulsory for all keepers of non-domestic animals, including those not intended for food production and regardless of the number of individuals.

The practitioner must have health clearance. A breeding register must follow each of his interventions.

The Hygiene Package

The Hygiene Package is a set of regulatory texts setting the health objectives to be respected by the farmer (Fiche EA1 - Guaranteeing food safety).

Sanitary approval

Any operator of an establishment producing, handling or storing food of animal origin or food containing ingredients of animal origin (meat, dairy products, fishery products, eggs, honey) intended for human consumption must declare his activity if he delivers the food directly to the final consumer, or must apply for approval if he delivers the food to another establishment. More specifically, any establishment which prepares, processes, handles or stores products of animal origin or foodstuffs containing such products and which markets these products to other establishments is subject to the health approval requirement.

This approval is to be requested from the DDPP, which can then carry out checks to verify compliance with the provisions of the Hygiene Package. This procedure must be carried out before the start of the farm; this precaution is obligatory and will also allow upstream exchanges with the DDPP to better define the rules applicable to the farm and the means to respect them.

The declaration of activity and the request for approval can be made online on the website my steps.

It is possible in certain cases to derogate from obtaining health approval. It is strongly advised to systematically check with local services to ensure that the planned activity is eligible for exemption from approval. In addition, any request for exemption from sanitary approval must be the subject of a declaration.

Bees

Beekeeping is regulated by the Rural Code, in particular as regards the rules on the establishment of apiaries. It stipulates that it is up to prefects to lay down by decree the distance to be observed between a hive and neighbouring properties or the public highway. These are most often defined by the cadastral limits, but depending on the layout of the site this may be different.

In Paris, it is the prefectural decree of the Prefect Lépine, published on May 20, 1895, which fixes this distance: 5 meters minimum, reducible to 3 if the apiary is surrounded by an obstacle forcing the bees to rise (wall, hedge...) of at least two meters high, without solution of continuity and spread over two meters or more on each side of the hive.

In addition, the bee census is made compulsory by article 33 of Law 2009-967 of 3 August 2009. This declaration can be made online and must be carried out every year between 1 September and 31 December.

Poultry

The rules governing poultry houses are described in the departmental health regulations (RSD). These set out the town planning and sanitary authorisations, as well as the rules relating to nuisances. These regulations apply from the first head.

It should be noted that the Paris RSD was not written with a view to the development of poultry houses in the city, so it does not address the subject much, mentioning only the proper maintenance of the facilities. In any case, the establishment of premises housing a livestock farm must comply with town planning rules and, where applicable, with the specifications of the allotment.

In addition, since March 2016 and as part of the fight against avian influenza, regardless of the size of the poultry house, it is mandatory to implement a biosecurity plan to reduce the risk of introduction, development and spread of avian influenza viruses. This applies to all poultry keepers, commercial and non-commercial, regardless of the threshold. The content of the biosecurity plan is detailed in the Order of 8 February 2016, amended by the Order of 15 July 2016.

Sources to consult

[Practical guide to administrative procedures in urban agriculture, DRIAAF](#)

[Guide on the installation of beehives in Paris, City of Paris](#)

[Order of 8 June 2006 on the health approval of establishments placing on the market products of animal origin or foodstuffs containing products of animal origin, Légifrance](#)

[Memorandum DGAL/SDSSA/2014-823, DRIAAF](#)

[Bee census link, agriculture.gov](#)

[Technical Institute of Aviculture \(ITAVI\)](#)

[Paris Departmental Health Regulations, Légifrance](#)

[Order of 8 February 2016 on biosecurity measures applicable on poultry farms and other captive birds in the context of the prevention of avian influenza, Légifrance](#)

Sheet EA7 - How can we promote biodiversity?

New entry

In an urban area that sometimes offers little space for plant and animal species, urban agriculture can contribute to the preservation and development of biodiversity. Vegetated areas are places where wild plant and animal species can be welcomed, move around, rest, reproduce or feed. Within a larger network of urban green spaces, how can an urban farm be transformed into a functional space for the maintenance of biodiversity?

Make a preliminary diagnosis of the occupation of the land

A diagnosis of the fauna and flora should be carried out prior to installation in the field in order to create a project that does not in any way compromise in situ biodiversity. Biodiversity is above all protected! The first step is to conserve the species present and allow their survival throughout the planned project. This requires a good knowledge of the environment.

Integrate the project into the green and blue grid

The green and blue grid is an ecological network formed by natural terrestrial and aquatic spaces in relation to each other called "ecological continuities". It must allow animal and plant species to move around to ensure their life cycle (feeding, resting, reproduction, migration, etc.). Ecological continuities are made up of "biodiversity reservoirs", corresponding to natural areas of sufficient size that have a recognized ecological role and are linked together by "ecological corridors".

To the notion of green and blue weft are added the notions of night or black weft, made up of dark spaces and continuities, and brown weft, made up of the ground and the open ground. They are not yet mapped but many measures can be taken to enable their implementation.

The City of Paris has drawn up a scheme of Parisian green and blue frames, called Chemins de la Nature, in line with the regional ecological coherence scheme (SRCE), and available [here](#). This map can be used to identify whether the site can play a role in strengthening local ecological continuity through its location and thus, in particular, to develop developments favourable to the site's biodiversity accordingly.

In the rest of this fact sheet, we present management measures for an urban agriculture site, allowing its integration into the different schemes at the city level and ensuring that the site's development is designed to promote biodiversity as much as possible.

Use agronomic practices that promote biodiversity

Promoting the preservation of living soil

In urban agriculture, soils are often replaced by artificial substrates with high mineral content or even without soil (e.g. hydroponics). This is justified in certain situations (absence of soil, polluted soil, rooftop soil) but urban agriculture can also contribute to restoring degraded urban soils or participate in the demineralisation of urban space. Soil biodiversity is one of the most important factors for the quality of nature in cities.

To protect the soil, it is important to limit the settlement and upheaval of the earth that destroys the underground life in the soil. You can aerate the soil with a small bell, use only a hoe to make it permeable, and exceptionally plough only a few centimetres so as not to disturb the soil structure.

One technique to reactivate soil microbial life is to use mulching (or BRF (broken rameal wood)). Using mulch at the foot of the plantation prevents the formation of a crust that makes the soil impermeable after several rains (the phenomenon of beating).

In a natural environment, the earth never remains naked. Therefore, one should not leave bare ground but accept that spontaneous weeds (wild plants) will develop.

In case of doubt about the quality of the soil (biological state and pollution): it is possible to have it analysed and make amendments to improve its structure.

Prohibit chemical fertilizers and pesticides

The use of any chemical plant protection product is prohibited throughout the City of Paris (see [Fact Sheet EA4 - Information on the use of plant protection products](#)). Limiting the use of chemicals and employing environmentally friendly methods not only protects the fauna and flora existing on the site, but also helps to attract others.

Playing on complementarities between plant species

Playing on more relevant plant associations, successions and rotations is an asset for biomass reproduction, for stability over time, for resistance to hazards (pathogens, climate change) important in urban areas. This makes it possible to limit the use of chemicals. In practice, it encourages urban agriculture to play on complementarities between species: companion plants, associations of grasses and legumes, herbs and flowers.

Preserving the genetic diversity of species

The urban rice farmer can participate in the in situ preservation of genetic diversity, by mobilizing local genetic varieties adapted to local climates and soil.

The introduction of non-local species, whose characteristics may be less adapted to the environment of the Paris basin, and the introduction of so-called horticultural species, selected to have a longer flowering period, more or larger flowers, foliage of different colours, etc. should be avoided. Indeed, some of these species can prove to be invasive and are often devoid of nectar or edible seeds for the fauna.

Older cultivated species and varieties with local hardiness have several advantages. In fact, using hardy and regional plants makes it possible to avoid chemical treatments. And given the co-evolution between fauna and flora over millions of years, the local fauna is more interested in the local flora, wild and not horticultural. It is possible to choose plants with the Local Vegetal label, which reflects their genetic origin. A guide on the choice of plants to be planted developed by the Regional Agency for Biodiversity is available [here](#). And a [network of exchange](#), barter or sale of peasant and local seeds has been set up in Parisian libraries.

Plants to avoid...

...to limit health risks

Certain species are to be banned or require particular vigilance: urticating, allergenic, hallucinogenic, invasive alien species, toxic species. It is strongly advised to use non-allergenic regional species in order to reduce sources of allergenic pollen.

...to prevent the establishment of invasive alien species (IAS)

Early action is essential to prevent the introduction of an IAS because, once an invasive alien species has become established, it is often too late to dislodge it. A list of invasive species in Île-de-France is available [here](#). (A *guide to identifying invasive alien species and fact sheets including how to manage them* are currently being prepared by the City of Paris and will be available by autumn 2020 on paris.fr).

... to limit roofing risks

Roof vegetation must be adapted to the depth of the substrate present. Some vegetation is prohibited or not recommended for certain roofs. These are mainly plants whose root system could degrade the waterproofing (despite the root barrier). This includes plants with taproots, shrubs and trees with large growths. These plants often settle spontaneously on roofs and must be eliminated during maintenance operations. A list of prohibited plants on roofs is provided in DTU 43.1. A lot of information is available in the [Guide to green and cultivated roofs](#) drawn up by the Department of Green Spaces and the Environment.

Making the project hospitable to wildlife and its movement

It is not enough to ensure that you provide food by favouring a flora adapted to your needs, but it is also good to offer the gîte. Measures can be put in place to guarantee a living environment favourable to the presence of varied species.

Avoid fragmentation of space

One of the conditions for success is to limit the presence of impassable fences or barriers for small fauna. Walls and fences can be impassable barriers for some species. It is necessary to create openings of 15cm by 15cm, at the bottom of fences and walls, to allow the passage of hedgehogs for example. Glass windows (greenhouses) can be deadly to birds (risk of collision) for example. In order to limit the risks, it is advisable to apply markings in the form of anti-collision silhouettes to indicate their presence.

Avoid wildlife traps

Holes, pipes, ponds with steep slopes, water meter manholes can be deadly to wildlife. It will therefore be necessary to make sure that these various traps are identified and remedied, since there are many logical solutions.

Creating reception devices

Various surfaces can accommodate shelters, drinking troughs, nesting boxes which will make up micro environments to attract a diversified fauna and flora. These specific facilities offer a quiet space for one or more species to reproduce, shelter, feed and drink. Each installation thus reproduces, on a small scale, a specific site favourable to the installation of one or more species.

It is advisable to leave a corner of natural garden (wasteland, dead wood, piles of stones and green waste, wetlands ...). This will facilitate the reception of pollinating insects essential to the crop and of auxiliary insects to limit crop diseases and pests. Even on small areas, space can be left for prairie vegetation, which will have to be mowed, in parts, at different times of the year. These areas of flowering meadows dedicated to spontaneous species are refuges for wild flora and fauna. It is possible to leave the result of the mowing in place, which will feed the life of the soil, or to turn it into a millstone that can be used as an insect hotel, among other things. A good initiative to accommodate wildlife is also the installation of insect hotels, aimed at facilitating the winter survival of insects and arachnids, and facilities for solitary bees (preferably fixed at less than one metre from the ground).

These wilderness areas also play the role of host to reptiles and amphibians, which take advantage of a dry pond, low wall or rock pile.

Bird-friendly facilities include nesting boxes, which are cavities of varying shapes and sizes used by birds during the nesting period. Bird drinking troughs and bird baths (flared cups with 1 to 2 cm of water) will also allow birds to drink and bathe safely.

There are also facilities for bats, nesting boxes or devices in the roofs allowing them to hibernate.

Avoid light pollution

Energy-consuming artificial lighting has negative effects on biodiversity. It is necessary to reconcile lighting needs while limiting the impact on living things:

- banning light bulbs that emit ultraviolet rays that are harmful to insects;
- Avoid blue and white lighting, prefer orange lighting;
- direct the luminous flux towards the ground and exclude lighting towards the sky ;
- preserve the dark night as much as possible to have a project that respects nature.

Dealing with animals that may cause damage

Some animals may be responsible for damage on urban farms. Rats can, for example, damage the waterproofing complex of flat roofs or destroy part of the crop production. This is why it is necessary for an urban rice farmer to learn how to manage biodiversity in a gentle and ecological way. Some urban farmers have thus taken the decision to accept losing part of their production while others are considering solutions to control rat reproduction and keep them away from certain areas (sterilising, natural or ultrasound repellents).

To report the presence of rodents (rats, mice) contact the Paris Environmental Health Service (SPSE). Its agents will be able to advise you and, if necessary, intervene on site. An email for any report: spse.dfas@paris.fr

Environmental management label

When an area hosts fauna and flora, species life cycles begin to fully unfold, and managers are able to identify a number of animal and plant species present on the site, it is possible to submit a nomination to have the area recognized as contributing to biodiversity. Several associations propose this type of approach. It is moreover a real aid to development: the criteria grids are available and allow for concrete action. For example, [EcoJardin](#), [Refuge LPO](#), [Oasis Nature](#), [Jardin de Noé](#).

Sources to consult

[Biodiversity in Paris, City of Paris Sustainable Habitat Notebook: "Living in the Built Environment". Technical Guide Noah's Gardens](#)

Sheet EA8 - Managing my

New entry

Like any waste producer, the urban-rice farmer is obliged to seek the appropriate disposal method for each of his wastes. It is obviously best to reduce them at the source, and to recover them through reuse or recycling. This is as much an economic issue as an environmental one.

Types of waste produced in urban agriculture

The Waste Directive N°2008/98/EC defines waste as "any substance or object which the holder discards or intends or is required to discard".

Waste can be divided according to its level of dangerousness :

- **Hazardous waste:** this includes flammable, toxic, environmentally hazardous waste, etc. e.g. waste oil, empty packaging of plant protection products (EVPP), non-usable plant protection products (PPNU), empty canisters of foliar fertiliser, etc. Hazardous waste is subject to special management rules because of the particular environmental and health impact risks associated with its handling;
- **non-hazardous waste:** management rules are more flexible than for hazardous waste. Examples include bio-waste, glass or plastic waste, wood, etc.

Inert non-hazardous waste is waste that does not undergo any significant physical, chemical or biological change, does not decompose, does not burn, does not react physically or chemically, is not biodegradable and does not deteriorate the materials with which it comes into contact in a way that could harm the environment or human health. It is mostly waste from the work carried out for the installation of the project (waste concrete, bricks, tiles, etc.).

Within non-hazardous waste, two categories of waste can be distinguished:

- **compostable, recoverable or biodegradable waste**, i.e. waste that can be decomposed, recycled or reused, with or without transformation (food scraps, green waste, biodegradable paper, manure, etc.) ;
- **final waste**, i.e. waste that can no longer be recovered, which includes inert non-hazardous waste.

Recommendations for the management of these two categories of waste differ within the farm.

Management of biodegradable recoverable wastes

Bio-waste is defined as follows by article R541-8 of the Environmental Code since 2010: "any biodegradable non-hazardous garden or park waste, any non-hazardous food or kitchen waste from households, restaurants, caterers or retail stores, as well as any comparable waste from food production or processing establishments".

This definition of bio-waste therefore includes part of the animal by-products (ABPs) defined in Community Regulation (EC) No 1069/2009. That Regulation shall apply :

- animal by-products and derived products which are excluded from human consumption in accordance with Community legislation ;
- and to the following products which, according to an operator's decision, are irreversibly destined for purposes other than human consumption :
 - products of animal origin which may be intended for human consumption in accordance with Community legislation ;
 - raw materials used in the manufacture of products of animal origin.

Therefore not all SPAn are biowaste (e.g. untreated wool or feathers).

Bio-waste is an ideal candidate for recovery through composting.

It should be noted that if the compost incorporates **animal by-products**, Community Regulation (EC) No 1069/2009 (and its accompanying set of documents) applies. This requires obtaining a health approval issued by the DDPP, unless the composting site meets all the conditions set out in the Order of 9 April 2018. If the compost does not incorporate animal by-products (SPAn), European Regulation 1069/2009 is not taken into account.

There are two main categories of compost production in urban agriculture projects:

- Use of the compost on site in the context of a professional operation ;
- Selling or donating compost locally.

If the compost is directly reused on the farm, it must be closely and regularly monitored. It is important to dose the quantities of soil improver to be applied to the soil within the maximum allowable flows. It is important to avoid composting green waste and other plant residues (leaves, weeds, green manure) from market gardening plots in the open ground that are known to be chemically contaminated. The recurrent or excessive use of these wastes as an amendment, even if it meets the standards, may eventually lead to a risk of accumulation of contaminants in the substrate.

In the event of placing on the market (i.e. donation or sale) of the compost produced, it must comply with standard NFU 44-051 setting in particular limit values for agronomic parameters, chemical micropollutants and pathogens.

A circuit dedicated to the recovery of recoverable biodegradable waste must be defined by placing composting and/or storage stations for biodegradable waste at a sufficient distance from market gardening plots and water points (wells, boreholes, springs, rivers) intended for irrigation or human consumption. These composting and storage stations for recoverable waste must also be at a sufficient distance from premises and dwellings.

Ultimate waste management

The waste generated by an urban agriculture project falls under the category of "waste from economic activities" (DAE). This status implies that the urban rice-farmer is responsible for the management of his waste (unlike household waste, which is managed by local authorities).

For example, it can contract with a private service provider for the removal and management of its waste, in compliance with the regulatory requirements concerning the sorting of waste from professionals.

However, local authorities can provide this service to professionals for certain types of waste known as "assimilated" waste, for which there are no particular technical constraints in relation to household waste management. This is referred to as "household and similar waste" (HWW). Local authorities may set quantity limits for the management of this assimilated waste.

Who are your contacts?

For waste assimilated to household waste you can call on municipal services. The City of Paris offers in particular a paying service for the collection of this waste. To draw up a contract, the professional must contact the district's cleanliness service.

For any question relating to the management of your hazardous waste, the identification of reliable and competitive local service providers and, more generally, for questions on the implementation of good waste sorting, reuse or recovery practices on your operation, etc., please contact us first:

- of the Île de France regional directorate of ADEME;
- of the Chamber of Agriculture of the Ile-de-France region ;
- of the Paris Chamber of Commerce and Industry.

You can consult the list of waste collection centres that accept waste from professionals in Île-de-France on the SINOE tool, designed by the Ecological Transition Agency (formerly ADEME). The directory of eco-companies updated by the Chambers of Commerce and Industry (CCI) is available here, where you can find the private collector of your choice.

Wastewater Management

As the urban-ricer farmer is a professional, the waste water leaving the farm is included in the category of non-domestic waste water. In the case of an urban agriculture project, non-domestic waste water is considered to be for domestic use. It is mainly the water resulting from the satisfaction of the human food, washing and hygiene needs of the people using the premises as well as the cleaning and comfort of these premises.

The sewerage regulations require you to do so if you discharge domestic assimilated water:

- to declare you to the Paris sanitation section;
- to install and maintain the pre-treatment system adapted to the nature of your wastewater;
- to ensure that your waste management complies with regulations;
- to send the sanitation section, on an annual basis, proof of the withholding tax on the pollution produced by your activity.

The Water Control Subdivision is your contact for professional wastewater management. It can be reached at the Paris water control department - 17 rue Delesseux 75019 Paris - Phone: 01 44 75 23 70 - Monday to Friday - E-mail: dpe-stea-sapsce@paris.fr.

Sheet EA9 - Distributing my products

New entry

The solution most often adopted and the most rewarding in urban agriculture is the short circuit solution. Several distribution methods lend themselves to this, requiring special distribution logistics and compliance with the various health and commercial regulations.

Marketing channels

There are several options for a project owner to distribute its products:

- The gift;
- Direct sales: retail sales or sales in baskets pre-ordered on the farm, picking on the farm, sales at markets, mail order sales, sales of baskets in AMAP (Association for the maintenance of peasant agriculture), retail sales on a stall or mobile site, on-site catering (farm restaurants, etc.);
- The short circuit, i.e. a sale with no more than one intermediary between producer and consumer. This concerns, for example, mail order sales via an online platform, sales via a distributor (supermarket, grocery store, organic shop, etc.), sales via craftsmen (bakers, caterers, etc.), sales to restaurants, etc. ;
- The long circuit, i.e. a distribution circuit with several levels of intermediaries between the producer and the final customer. For example, the producer sells to wholesalers, semi-wholesalers, cooperatives, etc.

Some projects are also built on the model of edible terraces. The production systems are installed by the manager of a restaurant, hotel, cooking school or through the provision of a service. Cultivated products are directly used to supply the structure's kitchens.

To be more resilient, a project had better not be based on a single circuit. Securing several different outlets helps to limit the risks if an opportunity is lost.

It is interesting to take advantage of the network of Parisculteurs et Pariscultrices by considering, for example, renting commercial premises to several people or sharing a market location.

Distribution logistics

All the logistics to set up the distribution of the products is an important point to consider.

This requires the provision of a product washing area, an order preparation area, a storage room (a cold room, for example, allows production to be kept and sales to be spread out over time), and possibly a small processing area.

The number of hours and manpower devoted to order preparation, delivery and sales can be significant. Thus, local sales, sales on the spot or in a very busy place are to be favoured. It is advisable to organise specific sales times, while trying to offer times that are convenient for consumers.

Temporality: when is the best time to think about your organization?

It is advisable to plan its distribution logistics and marketing method upstream of the installation and this must be a continuous process because the situation can change very quickly. A project owner must first of all take into account in his decision:

- the objective, the values of the structure (willingness to have a link with the customer, willingness to make direct sales or rather to work with restaurateurs and shopkeepers...);
- the neighbourhood in which the site is located. An analysis of the opportunities and a census of the actors around the site are very useful (neighbourhood grocery stores that have the same values as the project, restaurants, small and medium sized shops that might be interested...).

Compliance with regulations

Health regulations

What is marketing?

The sale or distribution of a food free of charge constitutes a "placing on the market" as defined by regulation at Community and national level. Thus, the placing on the market concerns :

- the producer who sells his production directly to consumers or through one or more resellers ;
- the association of shared gardens which distributes its production free of charge to its members or to third parties;
- the restaurateur who produces some of the food he processes and sells in his restaurant ;
- any natural or legal person who stores, prepares, processes or distributes foodstuffs, whether in return for payment or free of charge.

Any operator placing foodstuffs on the market free of charge or against payment is subject to compliance with the regulatory provisions of the "Hygiene Package". As such, the holder of these foodstuffs must comply with obligations in terms of traceability and health safety to ensure the safety of products delivered for consumption. The "Hygiene Package" essentially lays down obligations of results and professionals remain the first responsible for the sanitary quality of the products they place on the market. (cf. Sheet EA1 - Guaranteeing food safety).

Analyze its products

Regulation (EC) No. 178/2002 states that "no food shall be placed on the market if it is unsafe". Plants produced in the specific case of urban agriculture can potentially be exposed to pollutants and in particular to MTEC (metallic trace elements), via the soil, water or air. Regulation (EC) N°1881/2006 (and updates), setting maximum levels for certain contaminants in foodstuffs, gives threshold values for MTEs not to be exceeded in certain vegetables that can be consumed by human beings. In order to prove that the foodstuffs produced comply with European and French legislation, product analyses must be carried out.

The contact details of the laboratories approved to carry out "multi-residue analyses" on plant products can be consulted [here](#). For bacteriological analyses such as E. coli STEC, the contact details of approved laboratories can be consulted [here](#).

Details on costs, orders of magnitude: the cost of a plant product analysis varies according to the laboratory chosen and the type and number of pollutants sought. It is recommended to ask for an estimate from several laboratories before making your choice. For an analysis of several ETMs, it is necessary to count between 100 and 200 € per sample. For a PAH (polycyclic aromatic hydrocarbons) analysis, between 150 and 230 euros per sample. For an analysis in pesticides, about 135 to 200 € per sample.

Declare yourself

An urban-rice farmer must make himself known to the health services by declaring his activity to the competent authorities (cf. Sheet EA6 - Raising animals, cf. Sheet EA1 - Ensuring food safety).

Trade regulations

In addition to the health aspects, the placing on the market of food products must also comply with specific rules, which aim to provide the consumer with correct information (Regulation EC 1169/2011), in particular through product labelling and the display of prices. Information concerning quality, composition, weight, quantity, origin, freezing, expiry dates, allergens, organic and vegan labels, etc., must be provided to the consumer. The precise rules are described in the Consumer Code and the implementing texts.

The labels

While proximity to the consumer and the member is often considered as a sufficient guarantee of trust, labelling is a good way to have the quality of the products or the project recognised. Several labels are available to Parisculteurs and Pariscultrices :

- Labels to recognise the local character of the product, such as the "Made in Paris" label, the "saveur Île-de-France" label to recognise the taste quality and regional affiliation of the products;
- labels recognising the environmental benefits brought by the project (EcoJardin, Oasis Nature...) (cf. [Sheet EA7 - How to promote biodiversity?](#)) ;
- the Organic Agriculture label, which provides recognition of the efforts (particularly financial) made on practices that comply with the specifications of the label. Via the label, the sale of organic groceries becomes possible. It is possible to obtain this label for certain productions in urban agriculture (for example the production of mushrooms, endives, nurseries...) but urban farms using above-ground techniques are often not eligible. ([Sheet EA4 - Information on plant protection products](#)).

It should be noted that the procedure and the costs imposed should be carefully considered before embarking on a labelling process.



Seed factor at the building Poste Immo ©Jean-Pierre Viguiet

ECOSYSTEM OF ACTORS IN URBAN AGRICULTURE

The development of many urban agriculture projects has given rise to a structured ecosystem of actors. It will be useful for a project owner to develop links with many of these actors during the installation and operation of her urban farm. It is thus a question of developing new partnerships with actors from the territory, the agricultural world and urban agriculture, but also from teaching and research or innovation, planning and construction actors, financiers, etc. ([Sheet ECO1 - Identifying key partners](#)).

And within the district itself: the inhabitants, the actors of the district who have a detailed knowledge of the uses of public spaces and of urban and social issues are important actors to be mobilized to ensure the sustainability of a project. ([ECO2 form - Facilitating the local integration of your project](#))

Finally, although urban agriculture is a booming activity offering many opportunities for cities and their inhabitants, it nevertheless raises certain concerns among consumers and local residents. What are they and what strategies can be employed to overcome these obstacles? ([ECO3 Fact Sheet - Urban agriculture: what concerns?](#)).

ECOSYSTEM OF ACTORS IN URBAN AGRICULTURE



ECO1 plug - Identify key partners

New entry

Throughout the process of setting up an urban agriculture project, it is useful or necessary to surround oneself with various actors. So what is the range of partners that a project leader might need?

Based on the mapping of urban agriculture stakeholders carried out by CEREMA (Centre d'études et d'expertise sur les risques, l'environnement la mobilité et l'aménagement) and ANRU (Agence nationale pour la rénovation urbaine), the stakeholders listed below are presented according to their field of expertise. However, depending on the time frame of the project, the same actors may play different roles and, depending on the project's function(s), different actors may be involved. For this purpose, the [CEREMA guide](#) maps the actors on the basis of their fields of competence, but also the desired function and the temporality of the project.

Urban agriculture specialists

Among the actors specialized in urban agriculture are landscape designers, animators, producers, suppliers (greenhouses, LEDs, substrates, plants...).

Getting closer to networks of urban agriculture professionals is a way to benefit from each other's expertise and to find support from experienced professionals. The [AFAUP](#) (French Association of Professional Urban Agriculture) is a national association whose mission is to federate urban agriculture professionals and to facilitate links with other urban actors, the agricultural world and the general public.

All the winners of the Parisculteurs calls for projects, who are often members of AFAUP, also constitute a network of professionals within which we should not hesitate to promote mutual aid and collaboration.

The team of Parisculteurs at the DEVE (Direction des Espaces Verts et de l'Environnement de la Ville de Paris) is on hand to answer questions from project leaders and direct them to the appropriate contacts. It is possible to contact them via the following address: DEVE-ParisCulteurs@paris.fr

The green space and urban ecology departments of the community concerned must be consulted to ensure interaction between the urban agriculture project and the city's green spaces.

The agricultural profession

The Regional Interdepartmental Directorate for Food, Agriculture and Forestry (DRIAAF) is able to inform project leaders about the regulations applicable to agriculture and to support them in their approach. The Direction départementale de la protection des populations (DDPP), in charge of health and hygiene aspects, will provide appropriate advice to enable project leaders to make the right food and health choices. The Regional and Interdepartmental Directorate for the Environment and Energy (DRIEE) is the contact to be solicited for projects subject to environmental authorisation (e.g. aquaponics). (cf. Sheet EA1 - Guaranteeing food safety, Sheet EA5 - Producing in aquaponics, Sheet EA6 - Raising animals)

It is strongly advised to meet with the departments and elected representatives of the Chamber of Agriculture of the Île-de-France region, who can provide both technical advice and political support.

A unique reception, information and orientation point, labelled by the State, the Installation Reception Point (PAI) provides access to all types of information concerning agricultural installations. The PAI provides access to all types of information about setting up in farming. Topics covered include the considerations involved in setting up for the first time, the formalities and the steps to be taken to set up in farming.

The technical institutes (ASTREDHOR, CTIFL, CRITT...) can carry out research for and/or in partnership with a project leader and can provide them with support and expertise.

Other players may be called upon: agricultural unions, agricultural cooperatives, SAFER (Société d'aménagement foncier et d'établissement rural), the Abiosol cluster for the Île-de-Franceregion, Terres de liens, etc.

During the diagnosis phase, it may be interesting for the project leader to get in touch with local farmers in order to consider the complementarities to be created in terms of production, but also technically, especially for the supply of raw materials. For example, an urban rice farmer could buy vegetables from certain local producers because he or she does not have the full range of products or sufficient production to meet demand. These vegetables will thus complement his or her baskets. Some micro-farms with a sales outlet market local and organic products, and thus participate more globally in the promotion of local food. The project leader can also consider obtaining soil and substrate, seeds, endives for parking lot cultivation, straw for mulching the soil, agricultural equipment, etc. from local farmers (*Source: ANRU*).

Teaching and research

Collaboration between a project leader and research or teaching is a great opportunity for both parties involved. The project leader benefits from advanced skills and offers an ideal experimentation ground for research institutes (AgroParisTech, INRA, universities...). Real synergies can be created by getting closer to agricultural colleges or training organisations (Ecole du Breuil in Paris for example), thus preparing outlets for future graduates.

Actors in the planning and construction sector

Those involved in planning and construction include town planners and urban planning institutes, public and private developers, architects and architects of Bâtiments de France, etc.

The ADIVET association (French Association of Plant Roofs and Façades) brings together the key players in the roof greening sector: component and system manufacturers, building and landscape contractors, professional groups, project managers and owners, training and research organisations, design offices... A project leader can rely on the technical reference documents drawn up by the association.

Water and electricity connections should also be considered by contacting players such as Enedis or Eau de Paris (see Sheet B8 - Having access to water and electricity).

The Paris Police Prefecture is the point of contact to be contacted regarding compliance with the rules of accessibility and fire safety on roofs (cf. Sheets B1, B2, B3, B4, B5, B6, B7).

The services related to the development and construction of the community can be contacted to advise the project owner in his or her efforts. (cf. Files U1, U2, U3, U6)

In Paris, for assistance with applications for planning permission, it is possible to contact the BASU (reception and user service office) of the Urban Planning Department, 6 promenade Claude Lévi-Strauss (13e).

With regard to rainwater management, for any request to be connected to the City of Paris' sewerage network, you can contact the User Pole of the Water and Sanitation Technical Service (STEA) of the Waste Management and Water Department at the following address: Paris Sanitation Section, User Pole, 27 rue du Commandeur 75014 Paris. They can be contacted by e-mail at eau-assainissement@paris.fr and by telephone on +33 (0)1 53 68 24 70 (see Fact Sheet U4 - Respecting rainwater zoning rules).

Financers

Investors, banks, foundations, public financing, the organizations likely to finance an urban agriculture project are numerous and are presented in more detail in the [MF3 - Finding financing](#).

The actors of the neighbourhood

The local integration of the project within the neighbourhood is an essential point to ensure the sustainability of the project. The steps to be taken are described in the [ECO2 Fact Sheet - Facilitating the local integration of your project](#).

ECOSYSTEM OF ACTORS IN URBAN AGRICULTURE



ECO2 card - Facilitate the local integration of your

New entry

Urban farms often need the participation and buy-in of neighbourhood users to survive and thrive. So what actions should be taken to enable the local integration of your project?

In order to ensure the sustainability of a project, it is strongly recommended that a project leader should interest, involve and mobilise the users of the neighbourhood during the different phases of the project. Thus, the owners of the site, its inhabitants, but also the inhabitants of the district, shopkeepers, associations, businesses are all local actors whose commitment to the project is an asset for its good development.

It should be noted, however, that a special procedure must be followed for Parisculteurs calls for projects. Indeed, the competition rules specific to calls for projects do not allow the project leaders to be put in contact with the local community before the winners are chosen. However, this aspect is not to be neglected and the discussion with the actors of the district should be started as soon as possible.

For this purpose, several approaches and levers that can be activated at different stages of the project are presented in this sheet.

Studying the site and its environment prior to project design

- Understand the context of the neighbourhood, identify the history of the neighbourhood, its challenges and assets;
- Ensure that the site selected for an urban farm is not actively used for other purposes, including informal uses. An inventory of site uses prior to project design can help to design the project to best fit with existing uses of the site and avoid conflicts with users;
- Carry out a mapping of the actors present around the site, and evaluate their potential involvement in the project. The objective is then to approach one by one the actors identified as potential partners.

Integrating into the neighbourhood

- Include the owner/manager of the site in the reflection in order to best adapt the project to the typology of the building (office building, school, restaurant, etc...)
- Include local residents in the planning process for the urban farm; Where possible, it is worthwhile to identify ways in which the urban farm can provide the services desired by local residents. This can be done through the involvement of project leaders within a neighbourhood authority, for example.

- Attend neighbourhood meetings and become actively involved in important efforts for the neighbourhood, starting by presenting the idea of the urban farm in the neighbourhood councils organized by the borough halls and in the citizen councils for the districts of the City Policy ;
- Proactively respond to concerns about urban agriculture and explain the potential benefits for the neighbourhood (see ECO3 Fact Sheet - Urban agriculture: what concerns?) ;
- Contact the elected officials of the borough halls to promote the idea of the urban farm and find areas in which the project leader and the town hall can work together to achieve common and complementary objectives.

Focus on Neighbourhood Boards, Neighbourhood Councils and Citizen Councils

Neighbourhood boards are associations under the law of 1901 whose social object is the economic, social and cultural development of the neighbourhood. The régies develop their economic, political and social project thanks to the shared will of the inhabitants, the elected representatives of the communities, the representatives of the social backers and the socio-economic actors. Hiring as a priority inhabitants of the district, their aim is to provide a service to the inhabitants and to develop actions of insertion in employment: rehabilitation of housing, maintenance of housing, green spaces, etc.

Neighbourhood councils are made up of elected representatives, associations, qualified people, inhabitants, etc. Neighbourhood councils are places for information, listening, debate and expression concerning neighbourhood development projects, neighbourhood life or the improvement of the living environment. They help to better inform the population of the district. The organization of neighbourhood councils is the responsibility of the borough councils. As a result, the way they operate varies from one borough to another.

Citizen councils are set up in the City Policy districts (10th, 11th, 13th, 14th, 17th, 18th, 19th and 20th arrondissements) to allow residents to express their expectations, proposals and participate in decisions made on their territory. They are made up of volunteers and inhabitants drawn by lot. Neighbourhood councils are thus open to any person living, studying or working in a given neighbourhood or being a member of an association in that neighbourhood.

Involve and respect the neighbourhood

- Create a welcoming environment on the farm site that promotes a sense of belonging and ownership. For example, organize open houses, volunteer days, community barbecues, youth or family events, etc. Take advantage of events organized in support of urban agriculture such as the 48 Hours of Urban Agriculture or the Garden and Urban Agriculture Festival for example;
- Create opportunities for residents to be involved in the urban farm;
- Acting in accordance with residents' expectations regarding the appearance of their neighbourhood by keeping things in order, moving less attractive facilities and structures away from streets and pedestrian rights-of-way, confining compost piles and planting flowers or other decorative plants ;
- Maintaining agricultural sites through regular garbage collection, mowing, weed control in driveways, repair and maintenance of fences and structures, etc. ;
- Prevent nuisances such as loud noises or unpleasant odours by carefully maintaining compost and other organic fertilizers, applying manure, fish emulsion or other fertilizers according to the activities of the neighbours, and raising urban livestock properly (see Sheet EA6 - Raising animals).

Sources to consult

[Become a stakeholder](#), *City of Paris*

ECOSYSTEM OF ACTORS IN URBAN AGRICULTURE



ECO3 File -

Agriculture in the city: what are the concerns?

New entry

Urban agriculture is a booming activity and presents many opportunities for cities and their inhabitants. However, it sometimes raises concerns among some consumers and residents. What are they and what strategies can be used to overcome these obstacles?

Common Concerns

Common barriers that commonly impede acceptance of urban agriculture include lack of familiarity with urban agriculture, negative impressions of the appearance of urban farms, concerns about the presence of animals, vandalism and safety related to eating farm food, fear that farms will replace other valuable amenities, and concerns about the long-term sustainability of urban farms.

Being aware of these concerns and being prepared to respond to them is important in order to promote and defend one's project to the users of the neighbourhood but also to potential investors and financiers.

Focus on urban pollution

One of the most common consumer concerns is the health risks associated with eating food grown in cities. The question of the impact of pollution on urban food crops is often the first to be asked. There are several potential sources of pollution: soil, airborne, irrigation water, chemical pesticides and fertilizers. However, pollution can be controlled on the basis of certain good practices and preventive measures (see [Fact Sheet EA2 - Identifying and managing soil pollution](#), [Fact Sheet EA3 - Identifying and managing water pollution](#), [Fact Sheet EA4 - Getting information on phytosanitary products](#)).

Today, numerous studies have proven that transfers between air pollution and production are minimal and risk-free, by respecting a few logical rules such as the minimum height for fine particle protection for example. In addition, soil quality control and ecological crop management is systematic in Paris for each urban agriculture project.

In addition to good hygiene practices and in order to guarantee the safety of the products, it is advisable to carry out analyses of the production before marketing (see [Sheet EA9 - Distribute my products](#)).

How can these concerns be addressed?

Finally, the best strategy to overcome these obstacles is to communicate locally on the benefits of urban agriculture (see [ECO2 Fact Sheet - Facilitating local integration of your project](#)). Below is a list of potential motivating factors that can encourage community members to support an UA project:

- Social factors (socialisation, education and development of young people, cultural integration) ;
- Environmental factors (increase in biodiversity, reduction of air pollution, reduction of the urban heat island, rainwater management, recycling of organic waste, environmental education);
- Economic factors (job creation, increase in property values) ;
- Health factors (physical activity, improved access to fresh, nutritious food) ;
- Aesthetic factors (improvement of the urban landscape).

Sources to consult

[The impact of urban pollution on urban food production](#), *Greenloop*, 2013.

[Communication from the City of Brussels on the subject of pollution in the city](#), Brussels



Cycloponics at the Raymond Queneau parking lot ©Sarah

LEGAL STRUCTURE

The legal set-up of an urban agriculture project consists first of all in defining the status of the project leader as an urban rice farmer. The status of urban rice farmers is one of the main debates in the profession, with the issue at stake: "how to enable urban rice farmers to integrate the professional agricultural environment? ». (cf. [Sheet MJ1 - Defining agriculture](#)).

The definition of this status will have consequences on the continuation of the project and in particular on its possible affiliation to the Mutualité Sociale Agricole. (cf. [Sheet MJ2 - Joining the Mutualité Sociale Agricole](#)).

In addition to the status of the project leader, the legal form of the project holding structure must also be defined. Whether it is a commercial enterprise, an agricultural enterprise or an association, it is important that its form corresponds to the project(s) being carried out. (See [Worksheet MJ3 - Choosing the legal form of my structure](#)).

In addition, an urban farm is involved in agricultural activity, i.e. the management of living things and the marketing of edible foodstuffs. Therefore, its activity is regulated by the law, through the operating permit, which it is up to the project owner to apply for. (cf. [Sheet MJ4 - Applying for an operating permit](#)).

Finally, one should think about his project in such a way as to respect labour law. Labour law comes into play from the design stage of the project to make the necessary arrangements to accommodate workers and, of course, during the operation of the project when the project owner becomes an employer ([Sheet MJ5 - Understanding labour law](#)).

LEGAL STRUCTURE



File MJ1 - Defining agriculture

The status of urban farmers is one of the main debates in the profession. The contours of this issue are now well known. The issue can be summed up in one question: "what is agriculture?" and to one issue: "how to enable urban farmers to integrate into the professional agricultural environment? »

Current definitions

Today there are three definitions of agriculture, all of which are independent because they refer to different areas.

- The legal definition does not define the rice farmer but the agricultural activity. Article L.311-1 of the Code rural et de la pêche maritime defines the latter as "the control and exploitation of a biological cycle of a plant or animal nature and constituting one or more stages necessary for the development of this cycle as well as the activities carried out by a farmer that are an extension of the act of production or that support the holding". In the context of urban agriculture, there is generally little ambiguity: all farmers have an activity qualified as agricultural;
- The social definition is not about activities but about people. It aims to provide a framework for access to the Mutuelle Sociale Agricole (MSA), which is the social security scheme for farmers. It is based on the surface area of the farm as well as the hourly volume dedicated to agriculture (see Sheet MJ2 - Joining the Mutualité Sociale Agricole);
- The tax definition of agriculture is intended to establish which tax regime to apply for income tax purposes. To simplify, the activity will be subject to agricultural taxation if it is an agricultural activity in the legal sense, and if the agricultural profits are higher than the non-agricultural profits (animations, events...) of the farm.

Sources to consult

[Practical Guide to Regulatory Approaches in Urban Agriculture, DRIAAF](#)

LEGAL STRUCTURE



File MJ2 - Joining the agricultural social mutual

The Mutualité Sociale Agricole (MSA) is the social affiliation scheme for agricultural companies. In the case of farms in densely populated areas, it is not always easy to know whether or not one is covered by this system. What are the criteria to be met?

AMM membership

It is possible to be affiliated to the AMM in two capacities: farmer and agricultural employee.

The agricultural employee

If you are an agricultural employee, i.e. an employee of an agricultural enterprise, you are entitled to join the MSA. Article L.722-20 of the Rural and Maritime Fishing Code defines the agricultural employee. This includes, among others, employees working on the farm, as well as apprentices and trainees.

The farmer or self-employed farmer

If you manage a company involved in agricultural activity within the meaning of Article L.722-1 of the Rural and Sea Fishing Code, then you can join the MSA as a non-salaried agricultural employee.

This condition of non-employee covers three different situations:

- You're a farm manager;
- You're a farm manager;
- You are an unretired solidarity contributor.

The law defines the threshold at which you can belong to one of these categories. This threshold is measured by the Minimum Liability Activity (MLA), which encompasses three criteria. You are considered to be automatically affiliated if one of the three criteria is met.

- The minimum surface area (MSA). The developed area must be at least 1 MAS. This is defined by decree for each department and by type of crop. The department of Paris has not set a MAS;
- Working time devoted to agricultural activity. It applies in particular when the agricultural area cannot be taken as a reference, which is the case in Paris. The national threshold for affiliation to the MSA is 1,200 hours of work per year.

If you do not meet any of the above criteria, you may be attached to the AMM as a solidarity contributor. The thresholds for membership are lower, but this status is less protective. To be eligible, two cumulative criteria must be met:

- The surface area of your farm is between $\frac{1}{4}$ and 1 SMA; OR you devote between 150 h and 1,200 h per year to your agricultural activity;
- The annual income generated by agricultural activity is more than 800 gross hourly minimum wage.

These provisions appear to restrict access to the AMM to productive farms. However, the 2015 reform that put these rules in place emphasizes that activities "extending the act of agricultural production" are included in the calculation of hours worked - on condition that they are carried out on site and under the direction of the farmer.

These extension activities include the processing, packaging and marketing of products, but also "agro-tourism" activities, such as farm-inns, rooms for rent on farms, as well as educational activities, production-related activities, etc.

It should be pointed out that the associations under the 1901 law, even if their activity is agricultural, do not allow their employees or farm managers to depend on the AMM. They will be attached to the general Social Security system.

Sources to consult

[Practical Guide to Regulatory Approaches in Urban Agriculture, DRIAAF](#)

[MSA Île-de-France website](#)

[The Île-de-France MSAs, MSAs](#)

[Code rural et de la pêche maritime, articles L.722-20 and L.722-1, defining the populations that can be affiliated to the AMM, *Légifrance*](#)

[Decree n° 2003-685 of 24 July 2003 relating to the agricultural character of tourist reception activities located on agricultural holdings, *Légifrance*](#)

Several legal forms are defined by law for project holding structures. Whether it is a commercial enterprise, an agricultural enterprise or an association, it is important that its form corresponds to the project(s) being carried out. Choosing the type of structure is an important step.

The legal form of a company

The functioning of a structure, whether a company or an association, is framed by two types of texts. First of all, the law: it defines legal forms, for example SAS (Simplified Joint Stock Company), SARL (Limited Liability Company), SCEA (Civil Company for Agricultural Exploitation), etc. Secondly, by the articles of association: they are specific to each structure and expand on the framework provided by the law.

A distinction must be made between the legal form of the structure, which corresponds to its mode of operation and involves governance, economic, fiscal, etc. obligations, and the status of the activity (agricultural, commercial, or other). Some structures are designed for or exclusively open to certain types of activities.

The articles of association are mandatory documents for each company, which go into more detail about the functioning of the company or association than the basic framework given by law. This text gives its soul to the day-to-day running of the structure and is the law within it. It is therefore necessary to draft it with the future relations between the partners and/or employees in mind. It should be noted that although the statutes can be modified, this takes time. It is therefore possible to anticipate possible changes and provide for annexes to the articles of association, such as internal regulations, which will be amended more easily.

The legal forms of structures are very diverse: associations, classical commercial companies, cooperative commercial companies, civil companies, agricultural civil companies... the latter in fact constituting categories including several forms, each with its own particularities. This variety implies a certain complexity at the creation stage. It is important, from that moment on, to know the broad outlines of the functioning of the project(s) that the structure will carry out, as it is the legal form that must be adapted to the project and not the other way round. However, it should be noted that the law authorizes certain changes in legal form.

The different legal forms

There are several legal forms that may be of interest to a project leader in urban agriculture: commercial companies, civil societies, and associations.

Civil societies are those whose purpose is to manage a patrimony. Among them, agricultural civil societies stand out. Their functioning has been designed for the management and exploitation of agricultural land. They are SCEA (Société civile d'exploitation agricole), EARL (Exploitation agricole à responsabilité limitée), GAEC (Groupement agricole d'exploitation en commun) and GFA (Groupements fonciers agricoles). Each of these forms has its advantages, but they were created by the legislator for agricultural holdings in rural areas, so that they do not always correspond to the expectations of those carrying out agricultural projects in dense urban areas.

Commercial companies (SA, SAS, SARL, etc.) are those whose purpose is to carry out commercial acts, i.e. the purchase and sale of goods and services. However, they can also have an agricultural activity. However, the reverse is not true: SCEA, GAEC, EARL and GFA must respect their exclusively agricultural object (processing, packaging and marketing of agricultural products, whatever their importance, as long as they are in the extension of the act of production and host activities supporting the farm). Also, if your projects include activities that do not meet these criteria, another form of partnership should be considered.

Associations under the law of 1901 can have an activity of sale of products or services. However, they must comply with the principle of disinterested management, i.e. they act in a non-profit-making capacity. Also, as soon as the commercial activities represent more than 30% of the total income, the association will no longer be exempt from commercial taxes nor will it be taxed on donations made to it. This legal form is therefore unsuitable for many urban agriculture projects. However, it does allow for volunteer work and makes it easier to consider subsidies from public authorities, as these are often non-profit projects.

The declaration of activity of my structure

The declaration of activity is a step to be carried out at the time of the creation of any company or association. It enables the SIRET number to be obtained. It is carried out at the Centre for Business Formalities (CFE) of the competent consular chamber.

The consular chamber to which to apply depends on the main activity of the structure, whether it is an association or a company. Industrial and commercial activities are declared to the Chamber of Commerce and Industry (CCI). Agricultural activities are reported to the Chamber of Agriculture (CA). As for associations, they must be declared to the prefecture of the department.

There can only be one main activity per structure and it depends on the CFE to which it is addressed. In the case of projects including several types of activities, for example a farm supplying a restaurant with direct circuit food, it is therefore necessary to determine which is the main activity. There is no law defining the criteria, however, the ETCs will pay attention to the forecast turnover of each of the activities and will determine their competence to register you, among other things, on this basis. Generally speaking, in case of hesitation, registering with the Chamber of Agriculture has several advantages, including the possibility of being known to the health services, of being affiliated to the MSA if you are a business, etc.

Finally, it should be noted that although the compulsory procedures with the CFE are very inexpensive, the CFE is able to carry out other services to support the creation of a business, for a fee.

What are the criteria for choosing my legal form?

The legal form has consequences in terms of governance as well as economics and taxation. Indeed, it conditions :

- the financial responsibility of the partners and, in particular, the protection of their assets in the event of bankruptcy ;
- the minimum initial contribution, which constitutes a kind of guarantee because it corresponds to the sum that the partners commit definitively to their business. This contribution consists of capital in cash or in kind;
- the tax system of the enterprise and the entrepreneur ;
- the social regime of the head of the company (see Sheet MJ2 - Joining the Mutualité Sociale Agricole);
- possible sources of funding ;
- the activities that the company is entitled to carry out.

In order to choose the legal form that best suits the urban agriculture projects you wish to carry out, you must first of all be familiar with the projects themselves. Based on your proposals, the best thing to do is to consult the two structures that can advise you: the chamber of agriculture and the chamber of commerce and industry. The association of Ile-de-France IAPs (Ile-de-France IPAs) offers, in particular, Installation Welcome Points to advise project owners.

Sources to consult

[Choosing the right legal form for your project, the guide for creators of socially useful activities](#)

[PAI, Association des PAI d'Ile-de-France \(Association of Ile-de-France IDPs\)](#)

[Support for business creation, chamber of commerce and industry](#)

[Agricultural GmbH, Rural Vienna](#)

[SAS in Agriculture, Rural Vienna](#)

Some legal forms are detailed in Annex A (see Annex A - Some legal forms)

LEGAL STRUCTURE



File MJ4 - Applying for an operating licence

An urban farm is an agricultural activity, i.e. the management of living things and the marketing of edible foodstuffs. Its activity is therefore governed by the law, through the operating permit.

The authorisation to operate

The operating licence has two purposes. On the one hand, it gives several farmers who wish to set up on a plot of land the opportunity to do so, since it consists of a competition between potential farmers for the use of the land. Each applicant will thus be able to propose his project as a competitor of the farmer in question. This will be posted on the site of the Prefecture of the department. In addition, it enables the Direction Régionale Interdépartementale de l'Alimentation, de l'Agriculture et de la Forêt d'Île-de-France (DRIAAF) to get to know the farmers and their projects, in order to provide them with support when necessary.

To find out whether you are subject to a permit to operate when creating or extending a farm or holding, the DRIAAF has developed a preliminary questionnaire that can be downloaded online. Without having any legal value, this document will allow you to anticipate the demand and to contact us.

It should be noted that one of the main criteria is the presence or absence of a farmer with agricultural capacity. The list of diplomas giving this capacity is available on the Ministry of Agriculture and DRIAAF websites.

In order to apply for prior authorisation to operate, the future operator or company must :

- or follow the online procedure LOGICS ;
- or fill in the application form for a farming licence and send it with all the necessary annexes to the DRIAAF - SREA (Regional Agricultural Economy Service).

From the moment it has received your application, the administration has a period of four months in which to inform you of its decision. If there is no reply, this is a tacit agreement.

It is stressed that if you have participated in another competitive process, such as a call for projects, this does not exempt you from applying for an operating licence. These are separate steps.

How do you apprehend this authorization?

The operating permit process may seem cumbersome. However, it is not only an obligation, but above all a useful precondition for production.

Indeed, this registration with the authorities allows them to know and control the farm on its compliance with health standards. However, placing food products on the market involves significant health risks. Contamination of the consumer due to a lack of control exposes the operator to legal risks, which can go as far as criminal law. Moreover, if a crop is found to be affected by a disease or pest and this threat is not contained in time, the repercussions may affect an area much larger than the farm, and may extend to an entire regional industry. It is therefore in the sense of reducing the risk and not as an additional constraint that these rules should be considered.

For more information on health standards, see [Fact Sheet EA1 - Ensuring Food Safety](#) dedicated to the topic.

Sources to consult

[Guide to the procedures for obtaining authorisation to operate in urban agriculture, DRIAAF DRIAAF website, page dedicated to the authorization to operate \(preliminary questionnaire included\)](#)

[Pre-application questionnaire](#)

[List of diplomas giving agricultural capability](#)

The labour law of agricultural enterprises is regulated by two Codes: the Labour Code and the Rural and Maritime Fishing Code. These two texts are supplemented by collective agreements, the provisions of which result from branch negotiations and differ according to geographical area and branch.

Labour Law

Various aspects of salaried work in agriculture are regulated: individual and collective relations, contracts, working hours and remuneration, health and safety, etc. The general framework is provided by the Labour Code. The Rural Code specifies certain provisions specific to agricultural enterprises (Title Simplified Agricultural Employment, working hours, training courses, etc.). The Labour Code deals with many aspects of daily work as well as arrangements, detailed in articles R.4221-1 and following, which are the responsibility of the employer.

Special attention must be paid to sanitation facilities when designing a project. Articles R.4228-1 et seq. make changing rooms, washbasins, WCs and, where appropriate, showers compulsory. These must meet all the criteria applicable to work premises (lighting, heating, etc.). The simplest solution is to share the sanitary facilities in the support building, in agreement with the owner. If this is not possible, the project will have to provide for the creation and connection of the required premises.

Agricultural collective agreements

Agricultural collective agreements define, for a type of activity and for a geographical area, the conditions of employment, vocational training and working conditions for employees, as well as the social guarantees for agricultural employees. They fall hierarchically under the Labour and Rural Codes. As branch agreements, they may not depart from the laws in force in a way that is unfavourable to the employee.

The agricultural agreements define more specifically the categories of employees, their roles on the farm, and the associated remunerations. It should be noted that the employment and working conditions of self-employed workers, such as seasonal workers, apprentices or trainees, are also governed by collective agreements. They should therefore be consulted as soon as the use of one of these contracts is envisaged.

In Île-de-France, there are four agricultural collective agreements, each applicable to certain types of crops and departments, including Paris. These are extended agreements, which means that as soon as a company's activity falls within the scope of one of them, compliance with its provisions is compulsory, even if the employer is not a member of an employers' organisation.

Sources to consult

[Labour Code, Légifrance](#)

[Code rural et de la pêche maritime, Livre VII Dispositions sociales, Légifrance](#)

[The four agricultural collective agreements in Île-de-France, DIRECCTE](#)

[Legal aide-memoire on Corporate Health Facilities, INRS](#)



Well-bred at the Monoprix Bièvre ©Sarah

BUSINESS PLAN

The urban agriculture activities known today are diverse in their vocation, location, production of goods and/or services. Thus there is no standard economic model for an urban agriculture project. It is the role of the project owner to think about her/his economic model.

The business model - or business model - is the concept that enables a company to make money. It can be formalized in a document presenting the overall logic of the company and explaining the creation of value. It is a working document on the basis of which a project leader can design and develop his or her project, as well as a reference document, a communication tool for partners. In this order, the entrepreneur begins a work of reflection, diagnosis and synthesis to design his business model. He is then led to write his business plan which will validate the business model thanks to hypotheses and figures. (see [Sheet MF1 - Designing an economic model](#)).

The business plan is both a working document for the design of your project and a communication tool for the partners. Above all, it allows you to verify the viability of the company by manipulating the different hypotheses on which the economic model is based. Communicated to external partners, it will also be used to enable potential funders to understand the meaning and solidity of your project. (cf. [Sheet MF2 - Designing a business plan](#))

The financing of an agricultural project, especially in the early years, is vital for its realization. The search for support and partnerships is therefore a key phase in the constitution of the project. As far as possible, it must be done upstream and feed into the reflection on the financing plan. What sources of funding are conceivable in urban agriculture? (cf. [MF3 - Finding funding](#)).

In addition to the problems of financing the project, there is also the problem of securing the project. It is a question of choosing an insurance policy that covers damage caused to the entire operation and guarantees the civil liability of the project owner. (cf. [Sheet MF4 - Managing risks and insuring my farm](#))

BUSINESS PLAN



Sheet MF1 **Designing a business model**

New entry

The business model is a simplified representation of the economic system of your project. It is a working document from which you can design your project as well as a communication tool for partners. Once established, you will be able to use your business model to monitor your activity: the business model is scalable.

The economic model or business model

Every activity has a business model. The urban agriculture activities known today are diverse in terms of their vocation, their location, and their production of goods and/or services. There are professional or non-professional urban agricultures, with the production of various goods and services, based on low-tech or high-tech techniques, and accompanied by related activities such as processing and restoration or the manufacture of compost from urban organic waste .

These activities are also often hybrid: i.e. they offer several values such as food production and the facilitation of educational workshops, for example. It would seem that the viability of urban agriculture projects depends on the diversity of values proposed. Numerous studies are currently underway to identify the main economic models of the urban agriculture sector.

From a methodological point of view, the economic model is built after defining a general strategy for your project. It can initiate and accompany the drafting of your business plan, and can be included in the marketing strategy part of this document (see Fact Sheet MF2 - Designing a business plan).

The canvas business model

Several tools exist to represent the economic model of a project, such as the business model canvas for example. We can also call this representation of the economic model a business matrix. This business model mapping tool is a table composed of the 9 main segments of a project. The order of the segments is not insignificant: customers are at the heart of your business model. Each module must therefore be completed in order, but it is advisable to go back and forth between each module given their interdependence.

The elaboration of this business model makes it possible to identify the innovations brought by the project, to identify the critical points considering the operational and economic feasibility of the project. Above all, it is a synthetic and logical document that sets out the project's strategy at a glance. It is thus very practical for easily verbalizing your project and presenting it to potential partners or funders.

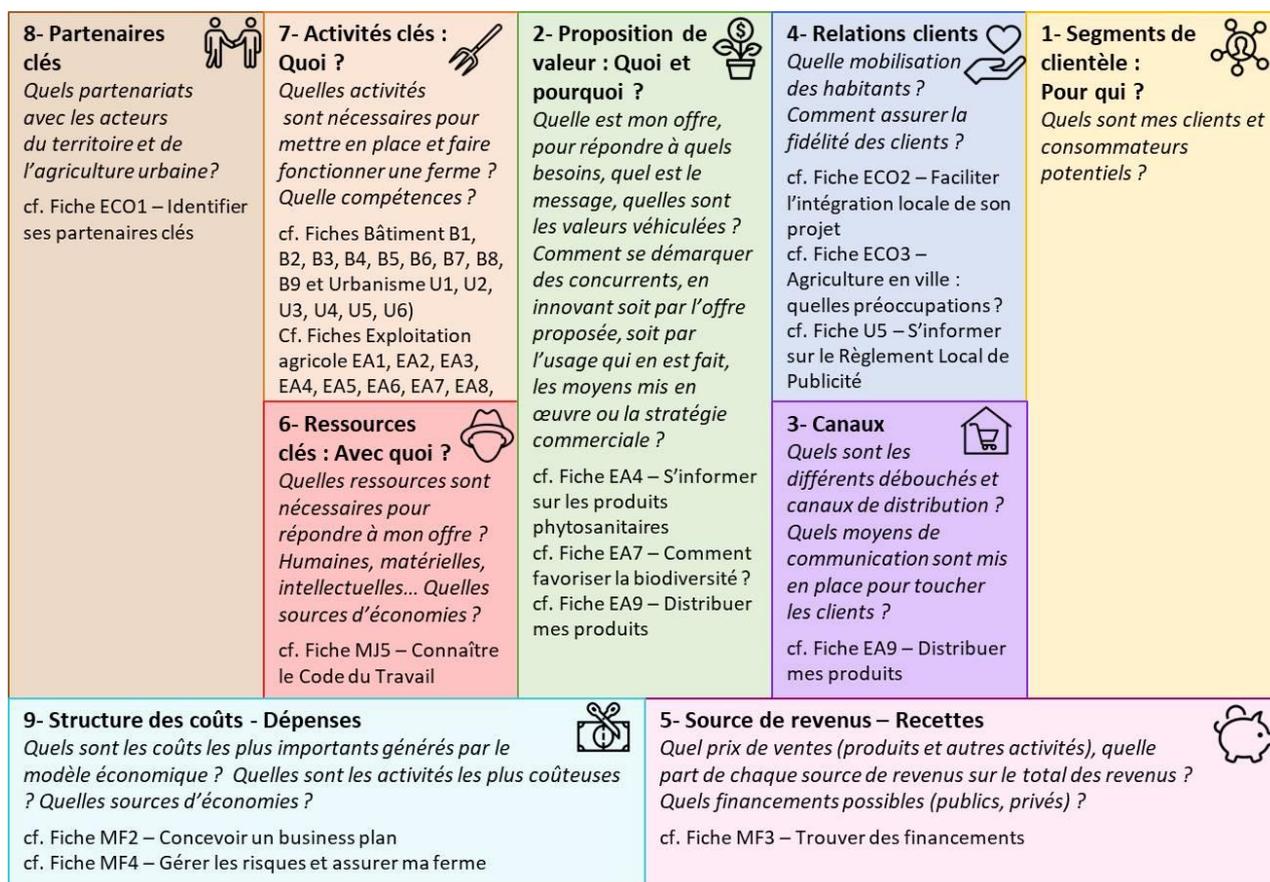


Figure F: Example of a business model canvas for an urban agriculture project, key questions and cross-references to the Toolbox sheets.

A blank canvas business model is available for download in the parisculteurs.paris website.

The economic model is expected to evolve as the project progresses. It is based on the choices made in the other fields of the project: technical and regulatory considerations during the installation and operation of the site, and the links forged with the ecosystem of urban agriculture stakeholders. It keeps a record of the successive developments and decisions regarding the orientations given to the project.

It is a good idea to surround yourself with the right support organisations when drawing up the business model and business plan. This ensures the construction of a realistic model that does not omit hidden costs or overestimate benefits. Qualified organizations are presented in Fact Sheet MF2 - Designing a business plan.

Sources to consult

- [Project set-up toolbox, Urban agriculture in neighbourhoods undergoing urban renewal, ANRU, 2019](#)
- [The Business Model Canvas, BPI France, 2019](#)

BUSINESS PLAN



Sheet MF2

Designing a business plan

Updated sheet

The business plan is both a working document for the design of your project and a communication tool for the partners. Above all, it allows you to verify the viability of the company by manipulating the different hypotheses on which the economic model is based. Communicated to external partners, it will also be used to enable potential funders to understand the meaning and solidity of your project.

Structure of a business plan

There is no standard formalising a business plan; it is the use of companies that has forged its form. Most often, it is a document in text format, but the financial part is always established on a spreadsheet program.

The elements of this master record apply to a business plan of type "project", i.e. concerning an operation. The same document applied to a business bringing together several projects will be composed on the same basis, but with a broader approach.

1. **Presentation of the project:** teaser, executive summary, genesis and composition of the company. This part presents in a synthetic way the object and the meaning of your project. It also details the history of your company, giving your contact person your previous references.
2. **Description of the technique, products and competitive positioning.** This part allows you to detail your technical mastery as well as your strategic choices. The aim is to convince you that your choices are the right ones and that your project is part of a context that makes it sustainable.
3. **Human resources, management and structure typology.** This part provides an understanding of corporate and operational governance. At the firm level, it is not always necessary to develop this part very much, but it is important as soon as a certain degree of complexity is reached. It also details the legal form of the structure.
4. **Assumptions:** key assumptions in terms of costs, sales, returns, risk factors and required financing. The heart of economic viability is here: this part allows you to objectify your orientations and your control of the processes. It is also an opportunity to explain each of your assumptions, which can then be easily manipulated.
5. **Economic balance sheets:** income statement, financing plan and projected balance sheet, cash flow plan, working capital requirements. These five elements, directly related to your assumptions, highlight the economic situation of your company at the end of each year over the period under consideration: its results (have you made or lost money?), cash flow statement (is your account positive or negative?) and deducting the need for external financing.

Economic assumptions

Your hypotheses should allow you, on the one hand, to display your ambitions in terms of productivity and easily check the viability of your project by modulating them one by one. In your spreadsheet, these assumptions will provide the source for the other tables. They must therefore be easy to manipulate.

For an urban agricultural project, the assumptions can be divided into several groups comprising several items. For example, for example, but not exhaustively :

Techniques	Economic	Human
Products (varieties, processed products, services, etc.)	Selling price (per product and per service)	Number and types of jobs
Productivity (by variety, frequency of services, etc.)	Installation costs (purchase of equipment, construction site, etc.)	Salaries (amount and related expenses)
	Operating costs (fluids, inputs, seeds, etc.)	

Table I - Examples of assumptions on which a business plan is based

Several sources can be used to support your hypotheses: scientific bibliography, professional or personal experience, technical data sheets from chambers of agriculture, estimates, etc. Relying on a reliable source, and citing it as such, is a guarantee of the solidity of your hypothesis and credibility with your interlocutors.

Economic balance sheets

Once you have made your assumptions, you can draw up your economic balance sheets.

The income statement

The purpose of the income statement is to measure the viability and profitability of the operation. In the professional farming world, the main indicator used for this purpose is the gross operating surplus (GOS). This indicator refers to the capital remaining once turnover (turnover), taxes and operating costs have been compared.

$$EBE = CA - (\text{Purchasing and Supply Chain}) + \text{external services} + \text{taxes} + \text{personnel costs}$$

The EBITDA is therefore a direct function of your assumptions. The exercise therefore consists of manipulating these assumptions realistically, to arrive at an EBITDA that is sufficient to repay the loans taken out, make a living from the operation and build up a security or self-financing fund.

Directly related to the calculation of the EBITDA is the establishment of the financing plan.

The financing plan

The purpose of this plan is to identify sources of income that are complementary to commercial income and that are intended to make up a trade deficit, particularly in the early years of operation. This includes, but is not limited to: capital, subsidies, bank loans, investor contributions.

Drawing up the financing plan is an exercise that leads to the precise identification of the amount and nature of the additional income to be obtained, as well as the conditions to be met for this. It must also be taken into account when drawing up the cash flow plan, as obtaining financing often takes time and can be done in instalments.

The cash flow plan

The purpose of the cash flow plan is to establish for each operating month the cash balance, i.e. to forecast whether the company's bank account will be positive or negative. In order to establish it, one obviously takes into account the net result established in the income statement and the capital inflows anticipated in the financing plan.

But the analysis, which is more refined because it is established month after month, records each cash inflow and outflow at the time they take effect and is therefore sometimes one or more months later than the time the transaction was carried out. For example, an installation site using a service provider for lifting equipment may be carried out but invoiced two months later. This time lag regularly creates cash flow difficulties in small businesses and should therefore be taken into account. It brings the notion of working capital requirements, which must be defined and respected in the business plan.

In addition, the monthly monitoring allows for very precise tracking of items operating on this basis: loan repayments, royalties, bank premiums, etc.

The expertise to mobilize for your business plan

Drawing up the business plan, and in particular its financial part, is by nature an iterative exercise: many back and forth trips will be necessary to establish precisely the interactions between investments, returns, loans and repayments, cash flow... each economic element that may lead to a review of the day-to-day running of the project.

The Île-de-France Chamber of Agriculture offers several services to help you draw up a business plan. As part of their support program, the Points Accueil Installation (PAI) of the Chambers of Agriculture can also help you draw up your business plan. More generally, the services of a chartered accountant will help you create a reliable business plan.

Sources to consult

Guide for future farmers, Crédit Agricole
Small Farms Program Resource Center, Cornell University

BUSINESS PLAN



Sheet MF3 Finding funding

New entry

Project Finance Ecosystem

There are different types of funding to be mobilised depending on the legal status of the project, its activity, its potential and its level of progress.

The **legal status of** a project in urban agriculture can thus influence access to funding:



Associations

The status of association may allow certain subsidies from public authorities to be considered.



Commercial companies

(SA, SAS, SARL...)



Agricultural Civil Societies

(SCEA, EARL, GAEC, GFA)
Some aids are specifically dedicated to agricultural enterprises.

Even more than the legal status, it is the purpose of the structure that can determine access to funding: for-profit or not-for-profit, cooperative enterprise, social and solidarity economy enterprise (SSE) .

Some funding is granted according to the **level of maturity of the project** (idea, feasibility study, testing and prototyping, launch, development...).

...depending on the **mission of the project...**

An agricultural project can be viewed from different angles, thus determining the sources of funding available to the project owner. The project can be considered first and foremost as an agricultural project, thus providing access to aid dedicated to agriculture. Other funding may also be mobilised depending on its experimental nature (innovation) and/or the positive impacts of the project:

Environment

Water resource management; Environmental education; Resilience; Waste management and recovery; Responsible product design, manufacturing and transportation chain

Social

Improving the situation of disadvantaged people

Product or service accessible to people with limited resources; Activities that generate local employment; Initiatives that contribute to the dignity of the person

Societal

Contribution to the common good

Action on the basic needs that contribute to the quality of life (food, health, education); Intervention on the challenges of today's and tomorrow's economy: ageing, climate challenge, territorial divide, underdevelopment, etc.

Governance

Modes of decision making with greater solidarity

Anchoring its project in the social and solidarity economy (think about specific statutes)

...and depending on the **personal situation of the project leader...**

Some funding or support schemes target specific groups such as women (support for female entrepreneurship), young professionals (support for young entrepreneurs, young farmers, etc.), job seekers (integration through economic activity, etc.). Geographical criteria can be applied depending on the place of residence or activity (political district of the city).

Territory

Territorial anchoring of the project

Development of an activity that is not present on its territory; Fostering of social links; Action in short circuits; Job creation on its territory

Fighting inequalities

Participation in the reduction of social inequalities; Promotion of gender equality; Encouragement of diversity

Many financing players revolve around the urban rice farmer. Below is a non-exhaustive overview of this system of actors. The funding provided by each actor is then detailed in the table in the appendix to this sheet ([Appendix B - Some economic aid](#)).

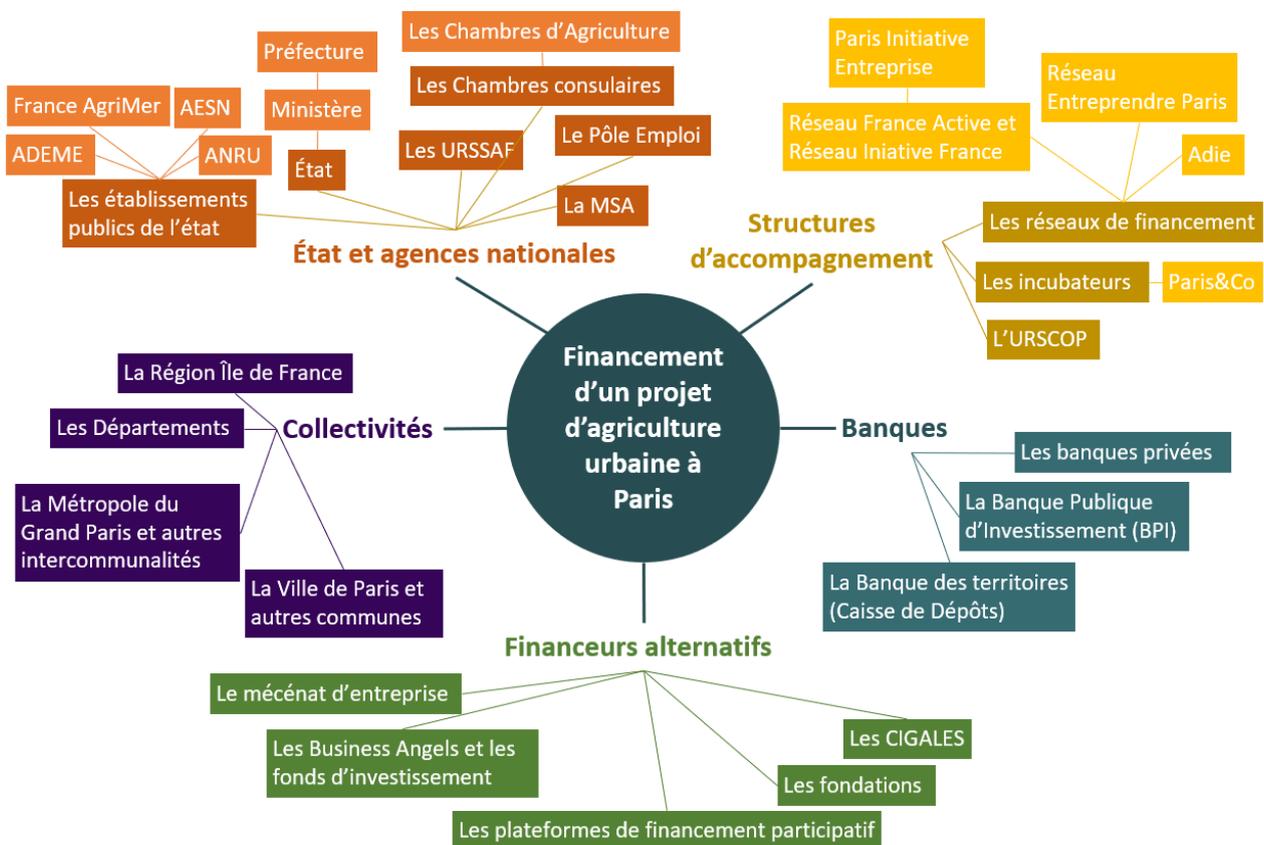


Diagram G: Mapping the actors of financing in urban agriculture

The different types of financing

Some sources of financing provide equity to the business, which will not need to be repaid. This is the case, for example, with contributions from investors (business angels, investment funds, etc.): they then become partners and enter into the governance of the structure. The contribution of equity capital following the obtaining of a grant is subject to recognition of the completion of an action.

Other sources are more in the form of loans. They include, for example: bank loans, honour loans (personal loans at zero interest rates granted by non-financial organisations - association networks, universities - which do not require any guarantee), micro-credit (extra-bank loans for people who have difficulty in accessing conventional credit because of a fragile personal situation).

One point of vigilance to note: a structure cannot be 100% financed by public subsidies. The project leader will always have to present private funds justifying the sustainability of its activity.

Methodology for fundraising

Doing the watch

A watch on the websites of the [Chamber of Agriculture](#), [FranceAgriMer](#), [BPI](#), [the Region](#), [ADEME](#), [Pousses.paris](#), [Yes association](#), [Devenir Agriculteur en Île-de-France](#), [the page dedicated to the AAP](#) (calls for projects) of the City of Paris, the information site on public aid [subsidies.fr](#), etc. will be useful to find out about the aid schemes in force.

Questions to ask

In order to identify appropriate sources of funding for a project, several questions need to be asked:

- Who is the help for? What are the eligibility criteria of the aid applicant (association, farmer, job seeker, etc.)?
- On what terms? What is the purpose of the funding? What are the eligibility criteria for obtaining it?
- What is the nature of the help? (capital contribution, grant, loan, etc.).
- How long does it last?
- Are there points of vigilance such as the accumulation of aid? Indeed, in a competitive field, as is the case for agriculture, a structure is not allowed to accumulate too many public funds.

Experts to contact

The team of Parisculteurs at the DEVE (City of Paris) is available to guide a project leader in his or her search for funding. Within the different structures mentioned above, advisors are also present to guide project leaders. You should therefore not hesitate to contact them for further assistance and follow-up with an economic adviser who will guide you according to your project and your situation.

On the whole, the subject of urban agriculture is not yet well known and may raise questions among funders. It will therefore be a question of highlighting the strong points of your project (workers' skills, technical mastery, soundness of the business plan, assurance of outlets, etc.).



Seed factor at the building Poste Immo ©Jean-Pierre Viguier

PROJECT ASSEMBLY

Planning a project is a key step in project planning. Drawing up a retroplanning will allow the project owner to anticipate the delays that occur during the requests for town planning authorisations but also during the legal set-up of the project ([see MP2 - Example of project schedule](#))

The installation phase of the project in particular is crucial in two respects. On the one hand, it must reassure the owner and users as to the ability of the project owner to guarantee the good condition of the support building. On the other hand, it is a time when the costs incurred are particularly heavy while operating income is non-existent ([see Sheet MP1 - Planning my installation site](#))

PROJECT ASSEMBLY



MP1 plug -

**Plan my installation
site**

Updated sheet

The installation phase of the project is crucial in two respects. On the one hand, it must reassure the owner and users of the project owner's ability to guarantee the good condition of the support building. On the other hand, it is a time when the costs incurred are particularly heavy while operating revenues are non-existent.

Prerequisites for the construction site

Prior to the construction site, it is particularly important to coordinate with the building owner and its users. Each stakeholder must be assured that there will be no damage, and that the construction site will be able to proceed in the best possible way. Therefore, several questions need to be asked.

- Which companies are involved in the project? How are they identified? Who are the contacts for each player?
- What materials need to be transported to the roof? What is their format, and for each one, how are they assembled?
- What measures are taken along the routes to avoid damage, especially in the elevators?
- What are the guarantees of cleaning after each stage of the construction site?
- Does the size of the construction site justify the use of special insurance?

Supplementary declarations to building permits

If your project requires a building permit, two steps are necessary to prepare the building site.

- Declaration of opening of the building site : Cerfa N° 13407*03 ;
- Declaration of completion of works: Cerfa n°13408*05.

The application must be sent by post, preferably by registered letter with acknowledgement of receipt, or deposited directly with the Town Planning Department of your commune. In Paris, the reference address is as follows: Mairie de Paris, Direction de l'Urbanisme, SPCPR -BASU, 6 promenade Claude Lévi-Strauss, 75013 paris.

For faster processing of your application, you can submit your file digitally at the online electronic counter set up by the City of Paris (this process requires authentication via the FRANCE CONNECT system).

The risk prevention plan

In cases where the size of the project or the complexity of the site in terms of access, co-activities, equipment, etc. require special attention, it may be useful to draw up a risk prevention plan. This document aims to identify upstream all the questions posed by the worksite in order to frame responsibilities. It usually consists of five parts:

- A presentation of the work and companies involved, with the contacts of the managers who can be contacted on site;
- The organization of rescue services in the event of an incident; the list and description of the equipment made available to responders (changing rooms, sanitary facilities, catering facilities, etc.);
- An analysis of each element of the construction site creating a risk (hoists, passage by an elevator, etc.), the nature of this risk and the prevention measure put in place;
- If justified by the duration of the worksite, the means of monitoring the prevention plan and, if necessary, its updating;
- As well as any other elements deemed necessary by stakeholders.

For assistance in drafting, many prevention plan templates are available on the Internet.

It may also be useful to carry out a preliminary inventory of fixtures and a post-construction report with the owner or site manager.

It should be noted that it is often advisable to set up at weekends, especially on tertiary buildings, so as not to disturb users. In addition, in a city as dense as Paris, anticipating the reservation of delivery parking lots via the Préfecture de Police can be crucial.

PROJECT ASSEMBLY



MP2 plug - Sample Project Schedule

Note that the timelines for each step vary by project and may therefore differ from those indicated here.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Relationship with the owner															
Agreement in principle with the owner															
Drafting of the Convention															
Signature of the Convention															
Studies and project design															
Gathering technical information															
Drafting of the project sketch															
Validation of the project sketch with owner															
ODA Drafting (Detailed Draft)															
Meeting with the Prefecture of Police															
APD validation with owner															
Writing PRO (Project Study)															
PRO validation meeting															
Filing of the PC (Building Permit)															
PC instruction															
PC reception															
Time limit for appeal															
Drafting of Business Consultation Dossier															
Business Consultation															
Carrying out the work															
Start of operation															
Creation of the structure and associated procedures															
Structure creation															
Consolidation Business Plan															
Initial declaration CFE (Centre de Formalité des Entreprises)															
MSA affiliation (Mutualité Sociale Agricole)															
Filing application for operating licence															
Instruction application for operating licence															



Topager at the Opéra Bastille ©Sarah

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Diagram F - Sheet MF1: Example of a business model canvas for an urban agriculture project, key questions and cross-reference to the Toolbox sheets.

Diagram G - Sheet MF3: Mapping of the actors of financing in urban agriculture

Annexes

Appendix A - Fact Sheet MJ3: Some Legal Forms

Annex B - Sheet MF3 : Some economic aid

QUESTIONING GUIDE

I have a question, which cards should I consult?

I want to choose my roof

Master record B1 - Defining the status of a building
Worksheet B3 - Knowing the maximum number of employees in my establishment
Fact Sheet U1 - Understanding Constructability Templates
Sheet U2 - Check the public utility easements applicable to my property

I want to receive from the public

Master record B1 - Defining the status of a building
Worksheet B2 - Day-to-day driving
Worksheet B3 - Knowing the maximum number of employees in my establishment
Sheet B4 - Ensuring safety on a roof
Sheet B5 - Checking the GHI status of the support building
Sheet B6 - Submitting a file to receive the public

I want to launch my structure

File MJ3 - Choosing the legal form of my structure
Worksheet MJ5 - Knowing the Labour Code
Data sheet MF2 - Designing a business plan

I want to live off my farm

Worksheet MJ1 - Defining Agriculture
File MJ2 - Joining the Mutualité Sociale Agricole
MF1 File - Choosing your business model
Data sheet MF2 - Designing a business plan
Data sheet MF3 - Finding financing
Factsheet MF4 - Managing Risk and Insuring My Farm

I want to build a shelter or a greenhouse

Sheet B7 - Knowing the nature of the waterproofing complex
Data sheet B9 - Building a roof greenhouse
Fact Sheet U1 - Understanding Constructability Templates
Sheet U2 - Check the public utility easements applicable to my property
Worksheet U3 - Know the private easements that may apply to my project
Sheet U4 - Respecting the rules of rainwater zoning
Worksheet U6 - Planning permission I will need

QUESTIONING GUIDE

I have a question, which cards should I consult?

I want to give or sell my production

Sheet MJ4 - Applying for a Licence to Operate
Fact Sheet EA1 - Ensuring food safety
Fiche EA2 - Identifying and managing soil pollution
Sheet EA3 - Identifying and managing water pollution
Sheet EA6 - Raising Animals
EA5 Sheet - Aquaponics Production
EA9 Card - Distributing my products

I want to install growing equipment

Sheet B7 - Knowing the nature of the waterproofing complex
Sheet B8 - Having access to water and electricity
Sheet MP1 - Planning my installation site

I want to anticipate the authorizations I'll need...

Sheet B6 - Submitting a file to receive the public
Worksheet U6 - Planning permission I will need
Sheet MJ4 - Applying for a Licence to Operate
Sheet MP1 - Planning my installation site
MP2 Sheet - Create my project's installation schedule
Worksheet EA6 - Raising Animals

I want to communicate about my project

Sheet U5 - Find out about the Local Advertising Regulations
ECO2 form - Facilitating the local integration of your project
ECO3 Fact Sheet - Agriculture in the city: what concerns?
MF1 File - Choosing your business model
Data sheet MF2 - Designing a business plan

I want to create an environmentally friendly project

Sheet EA4 - Information on phytosanitary products
Sheet EA7 - How to promote biodiversity?
EA8 Sheet - Managing my waste

LEXICO

PAA: Call for Proposals

ACAM: Authorisation to build, fit out or modify an establishment open to the public

ADEME: Agency for Ecological Transition (formerly ADEME - French Environment and Energy Management Agency)

ADIVET : French Association of Plant Roofs and Facades

AESN : Seine-Normandy Water Agency

AFAUP: French Association of Professional Urban Agriculture

AMA: Minimum Liability Activity

AMAP : Association for the maintenance of peasant agriculture

MA: Marketing authorisation

APCA: Permanent Assembly of Chambers of Agriculture

ODA: Detailed design

ANRU: National Agency for Urban Renewal

AREP: Stormwater Discharge Authorization

ARS: Regional Health Agency

BASU: Reception and User Service Office

BET: Bureau d'études techniques

BPI: Public Investment Bank

BRF: Fragmented Rameal Wood

CA: Chamber of Agriculture

CCDSA: Departmental Advisory Commission on Safety and Accessibility

CCI: Chamber of Commerce and Industry

CEREMA: Centre for Studies and Expertise on Risk, Environment, Mobility and Planning

CFE: Centre for Business Formalities

CIGALES: Investors' club for alternative and local management of solidarity savings

VOC: Volatile Organic Compounds

DAE: Waste from economic activities

DD(CS)PP: Departmental Directorate for Territorial Cohesion and Population Protection

DDPP: Direction départementale de protection des populations (Departmental Directorate for the Protection of Populations)

DEVE: Department of Green Spaces and the Environment of the City of Paris

DGAL: Directorate-General for Food

DGCCRF: Directorate-General for Competition, Consumer Affairs and Fraud Control

HB: Health Branch

DMA: Household and related waste

RFP: Advance Declaration of Work

DRAAF: Regional Directorate of Food, Agriculture and Forestry

DRECCTE: Direction régionale des entreprises, de la concurrence, de la consommation, du travail et de l'emploi (Regional Directorate for Business, Competition, Consumer Affairs, Labour and Employment)

DRIAAF: Interdepartmental Regional Directorate for Food, Agriculture and Forestry of Île-de-France

DRIEA: Regional and Interdepartmental Department of Equipment and Planning

DRIEE: Regional and Interdepartmental Directorate for the Environment and Energy

DRJSCS: Regional Directorate of Youth, Sports and Social Cohesion

EAJ: Authorized use in the garden

EARL: Exploitation agricole à responsabilité limitée (limited liability farm)

EBITDA: Gross operating surplus

IAS: Invasive Alien Species

EQRS: Quantitative study of health risks

ERE : Regional Livestock Establishment

ERP : Establishment receiving the public

HRA: Health Risk Assessment

ERT: Establishment receiving workers

LEXICO

SSE: Social and Solidarity Economy	PPR: Risk Prevention Plans
ETFE: Ethylene tetrafluoroethylene	PPRI : Flood Risk Prevention Plan
ETM: Metal trace elements	PPNU: Non-usable plant protection products
EVPP: Empty packaging of plant protection products	RLP: Local Advertising Regulations
EAFRD : European Agricultural Fund for Rural Development	RSD: Departmental Health Regulations
FSF: Federation of Spirulinaceous Workers of France	SA : Public limited company
GAEC : Groupement agricole d'exploitation en commun	SAFER: Société d'aménagement foncier et d'établissement rural (Land Development and Rural Settlement Corporation)
GBPH: Guide to Good Hygiene Practices	SARL : Limited Liability Company
GFA : Groupement foncier agricole	SAS: Simplified joint stock company
HACCP: Hazard analysis critical control point - Analysis of hazards and critical control points to be controlled	CLRC: Civil Society Farming Society
PAHs: Polycyclic aromatic hydrocarbons	ADM: Minimum area of subjection
HCT: Total Hydrocarbons	SPAn: Animal by-products
ICPE: Installation classified for environmental protection	SPSE: Paris Environmental Health Service
IGH: High-rise building	SRAL: Regional Food Service
INRS: National Institute for Research and Security	SRCE: Regional Ecological Coherence Scheme
IOP: Facility open to the public	SREA : Service régional d'économie agricole (Regional Agricultural Economy Service)
IOTA: Installations, works and activities	STAP: Territorial Service of Architecture and Heritage
ITAB: Technical Institute of Organic Agriculture	STEA : Technical Service for Water and Sanitation
ITAVI : Technical Institute of Poultry Farming	UP: Passage unit
LNE: national metrology and testing laboratory	URSCOP: Regional Union of Cooperative and Participative Societies
MSA: Mutualité sociale agricole	URSSAF : Unions for the Collection of Social Security Contributions and Family Allowances
PAI : Point accueil installation	NTA: Non-treatment zone
PC: Building Permit	
PCBs: Polychlorinated biphenyls	
PRM: Person with Reduced Mobility	
PRO : Project study	
PLU: Local urban plan	

ANNEXES

Appendix A Some legal forms

Form	Description	No. of Associates	Associate Participation	Financial Accountability	Share capital	Stewardship	Taxation
Association loi 1901	Disinterested management, not-for-profit	2 or more	Defined by status	Personal financial liability of the executive in the event of misconduct	Free	Determined by statutes	Depending on how lucrative it is. If business income < 30% of total income, exemption from business taxes
SA (Public limited company)	Capital company protecting the identity of shareholders.	2 or more	Based on the capital invested in the company	Partners' liability limited to their contributions	Minimum 37 000 €.	Chairman and CEO or Management Board and Chairman of the Supervisory Board	Corporation tax by operation of lawIncome tax possible subject to conditions
SAS (Simplified joint stock company)	A company of capital and persons allowing great flexibility, as its operation is essentially defined by its articles of association and not by the law.	2 or more Single Associates Only (SASU)	Based on the capital invested in the company, unless otherwise provided for in the articles of association.	Partners' liability limited to their contributions	Freely fixed by the partners	President and other bodies defined by the associates	Corporation tax by operation of lawIncome tax possible if majority owned by individuals
SARL (Limited Liability Company)	The LLC is the most common type of commercial partnership because it limits the liability of the partners.	Between 2 and 100 Possibility of a single partner (EURL)	Based on the capital invested in the company	Partners' liability limited to their contributions	Freely fixed by the partners	One or more managers	Corporation tax by operation of lawIncome tax possible subject to conditions

Form	Description	No. of Associates	Associate Participation	Financial Accountability	Share capital	Stewardship	Taxation
SCEA (Société civile d'exploitation agricole)	Company whose purpose is either the management or the management and operation of an agricultural estate, forests, management of built-up or undeveloped land. Usually made up of close persons or the same family, but not necessarily.	2 or more Non-operating partner possible	Based on the capital invested in the company unless otherwise provided for in the articles of association.	Indefinite in proportion to the shares	Freely fixed by the partners	Management by one or more persons, partners or not, appointed by a decision of the majority partners	Mandatory income tax; each partner is taxed on his or her share of income. Corporate tax election possible and irrevocable.
GAEC (Groupement agricole d'exploitation en commun)	The purpose of the GAECs is the joint development of several farms, as well as the joint sale of the partners' production.	Between 2 and 10, all farmers as main occupation	The "one person, one vote" principle	Partners' liability limited to double their contributions	Minimum 1 500 €.	The GAEC must be accredited by the departmental GAEC accreditation committee. Work obligation for all associates	Mandatory income tax; each partner is taxed on his or her share of income. Corporate tax election possible and irrevocable.
EARL (Exploitation agricole à responsabilité limitée)	The EARL can have two types of partners: operators and those who are simple capital contributors.	Between 1 and 10	Based on the capital invested in the company unless otherwise provided for in the articles of association.	Partners' liability limited to their contributions, unless personal guarantee is provided	Minimum 7 500 € of which 50% is held by associated operators	Management by one or more of the operating partners	Mandatory income tax; each partner is taxed on his or her share of income. Corporate tax election possible and irrevocable.

Form	Description	No. of Associates	Associate Participation	Financial Accountability	Share capital	Stewardship	Taxation
SCOP (Cooperative and Participatory Society)	Commercial company (SARL, SA, SAS) applying cooperative principles and strongly redistributing its income.	2 or more	The "one person, one vote" principle	Partners' liability limited to their contributions	30 € for a SARL or a SAS and 18500 € for a SA Divided into fixed and registered shares	Elected by the employees. Management bodies depend on the form (SARL, SA, SAS)	Corporate tax Not subject to the Cotisation Economique territoriale if at least 50% of the capital belongs to the salaried partners.
SCIC (Société coopérative d'intérêt collectif)	Commercial company (SARL, SA, SAS) allowing to associate employees, beneficiaries, volunteers, local authorities...	2 or more	The "one person, one vote" principle	Partners' liability limited to their contributions	Free for a SARL or a SAS and 18500 € for a SA SAP can increase or decrease without registration formality.	Chosen either from among the associates or from outside the CICS	Corporate income tax The sums allocated to the non-deductible reserves are deductible from the corporate income tax base.

Appendix B Some economic aid

New entry

State and national agencies				
Financier		Funding		Missions of the project
State/ Ministry/ Prefecture				
State		Taxes	Tax aid is available for business start-ups, young innovative companies, companies for research or innovation expenditure, young farmers. Business start-ups in priority urban policy districts can benefit from exemptions from charges. Recruitment of job seekers or young people followed by a local mission and residing in a priority district of the city policy may be eligible for financial aid for recruitment.	Business creation, Innovation
State	The regional prefecture and the departmental prefectures are the deconcentrated levels of the State in the territories. They are in charge of the local implementation of national public policies.	Prefecture of Ile-de-France region, prefecture of department	The financial aid available may relate to themes that are coordinated by the prefectures' directorates; <ul style="list-style-type: none"> - Employment, hiring assistance and training for the DIRECCTE (Direction régionale des entreprises, de la concurrence, de la consommation, du travail et de l'emploi) - Biodiversity and environment for the DRIEE (Regional and Interdepartmental Directorate for the Environment and Energy) - Sustainable development for the DRIEA (Regional and Interdepartmental Department of Equipment and Planning) - Associative life and social cohesion :DRJSCS (Regional Directorate of Youth, Sports and Social Cohesion) 	Business creation, employment, environment, development, associative life
Public and para-public agencies				

Consular Chambers	<p>The consular chambers are public establishments with a mission to support entrepreneurs, look after the interests of businesses and contribute to the economic development of the territories by promoting synergies between businesses. We speak of consular chambers to designate:</p> <ul style="list-style-type: none"> - The Chamber of Commerce and Industry (CCI) for commercial and industrial companies - The Chamber of Trades and Crafts (CMA) for craft companies - The Chamber of Agriculture <p>The consular chambers provide entrepreneurs with:</p> <ul style="list-style-type: none"> - Assistance in formalizing their project and drawing up a well-argued business plan; - Information on setting up a business, registration procedures and regulations; - Numerous training courses for everyone (creators, buyers, etc.). <p>A public service as a business formalities centre; - Business clubs (PLATO networks for SMEs).</p> <p>Subsequently, the consular chambers can be a means of maintaining your network, and of staying informed on the economic development of your region by the monitoring they carry out on the territory.</p>	Chamber of Agriculture of the Ile-de-France region	<p>The Chamber of Agriculture of the Ile-de-France region is referenced on its website and can direct project sponsors to the investment aid available for agricultural projects. The Agricultural Pact of the Île-de-France Region has developed 3 calls for projects open at the end of 2018, co-financed by the EAFRD Île-de-France: Call for Projects AGRICULTURAL BUILDINGS - PCAE, Call for Projects DIVERSIFICATION - PCAE, Call for Projects ENVIRONMENTAL INVESTMENTS - PCAE.</p>	Agriculture, Environment
AMM	<p>The Mutualité sociale agricole (MSA) provides social security coverage for the entire agricultural population and its beneficiaries: farmers, employees (of farms, businesses, cooperatives and professional agricultural organizations), and employers of labour.</p>		<p>The MSA grants partial or total exemption from contributions to young farmers and to those setting up and taking over agricultural businesses (ACRE).</p>	Agriculture
Pôle Emploi	<p>Pôle emploi is a public administrative institution (EPA), responsible for employment in France. It is in charge of accompanying people back to work, compensating jobseekers, and putting companies and jobseekers in touch with each other. jobseekers.</p>		<p>The Pôle Emploi offers assistance to business creators and buyers (ACRE and ARCE).</p>	Starting a business
URSSAF	<p>The Unions de Recouvrement des cotisations de Sécurité Sociale et d'Allocations Familiales (URSSAF) are private bodies entrusted with a public service mission, falling under the "collection" branch of the general social security system.</p>	For freelancers	<p>The URSSAF offers accessible aid to business creators or business takeovers that come under the self-employed workers' scheme or the micro-social scheme.</p>	Starting a business
		For Employers	<p>The URSSAFs have set up various schemes to encourage the hiring of employees. Depending on the case, they entitle the employees to exemptions from contributions and/or the payment of specific aid. Some</p>	Social (Job creation), Territory, Business

			exemptions are therefore geographical in nature, linked to the individual (apprenticeship, professionalization, integration, generation), for young innovative companies or young university companies, linked to the sector of activity (reintegration structures).	creation, Innovation
Ecological Transition Agency	The Ecological Transition Agency (formerly ADEME - Agency for the Environment and Energy Management) is involved in the implementation of public policies on energy and environmental protection, both in terms of research and the dissemination of information and support for innovation.	Ecological Transition Agency	The Ecological Transition Agency also helps to finance projects in its areas of intervention: Waste, Polluted soils and wastelands, Energy and climate, Air and noise, Transversal actions (sustainable production and consumption, sustainable cities and territories). https://www.ademe.fr/entreprises-monde-agricole/financer-projet/aides-lademe	Environment
AESN	The Seine-Normandy Water Agency (AESN) is one of the six French agencies in charge of pollution control and protection of aquatic environments. The Water Agencies are public administrative establishments placed under the supervision of the Ministry in charge of the Environment. They establish and collect charges for water abstractions and for the deterioration of the quality of the environments which they redistribute by allocating subsidies or refundable advances (to local authorities, industrialists and farmers) for the execution of works of common interest.	AESN	Aid may be granted to a project to combat water pollution, protect health, preserve aquatic environments and biodiversity, and ensure water quality and availability.	Environment
ANRU	The National Agency for Urban Renewal accompanies and finances global urban projects that enable the in-depth transformation of certain priority districts of the city's policy.	ANRU	Specific calls for specific projects related to urban agriculture and allowing the co-financing of operating and investment expenditure were launched in 2020 and could possibly be renewed. ANRU can also intervene on the transitional occupation of certain sites awaiting redevelopment. Urban agriculture is one of the possible occupations.	Agriculture Transitional urbanism
FranceAgriMer	The Établissement national des produits de l'agriculture et de la mer, also known as FranceAgriMer, is a French agricultural office whose mission is to apply, in France, certain measures provided for by the Common Agricultural Policy, and to carry out certain national actions in favour of the various agricultural sectors.	FranceAgriMer	Within the framework of the Major Investment Plan, which has an agricultural component, FranceAgriMer is setting up calls for future agricultural and agri-food projects.	Agriculture

Communities

Financier	Funding	Missions of the project
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Île-de-France Region	The Île-de-France Region is active in most of the areas that concern Ile-de-France residents: transport, high schools, apprenticeships, economic development, the environment, etc.		Through many different plans (Green Plan, Regional Strategy for Biodiversity, Brownfield Plan, Measures in favour of the social and solidarity economy), the Region has set up calls for projects and regional aid accessible to project leaders on the themes of agriculture, the environment, innovation, SSE, business creation, etc.	Agriculture, Environment, Biodiversity, Transitional Urbanism, Innovation, Territory, Governance (SSE), Business creation, Social
Departments	The Departments are leaders in the areas of social action and territorial solidarity.	Departments	The departments can provide co-financing on the themes for which they are competent, particularly in terms of social inclusion, employment support, and sometimes the social and solidarity economy.	Social
Greater Paris Metropolis	The Greater Paris Metropolis is a dense, urban inter-communal area comprising the city of Paris, 123 municipalities in the three departments of Hauts-de-Seine, Seine-Saint-Denis and Val-de-Marne and 7 municipalities in Essonne and Val d'Oise.	Intercommuality with its own tax system	The Greater Paris Metropolis has adopted a Climate Plan and is in the process of drawing up a Metropolitan Sustainable Food Plan. To date, no specific plan exists. The territorial public establishments (Territories), which are a decentralised level of the Greater Paris Metropolis, have expertise in sustainable development, urban ecology, urban renewal, economic development, integration and employment. As such, each territory can draw up support systems based on these skills.	Agriculture, Environment, Biodiversity, Social and Solidarity-based Economy, Employment, Social Insertion
Intercommunalities	An intermunicipality is a grouping of communes or municipalities in a legal structure with a view to cooperating in one or more areas.	Intercommuality with its own tax system	The other intermunicipalities, outside the Greater Paris area, have expertise in sustainable development, urban ecology, urban renewal, economic development, integration and employment.	Agriculture, Environment, Biodiversity, Social and Solidarity-based Economy, Employment, Social Insertion
The City of Paris	The City of Paris has at the same time competences of the Departments (social action), the Territories of the Greater Paris Metropolis and the Communes. All areas of public policy are thus covered	Paris City	The City of Paris has developed many plans and strategies to which urban agriculture projects can contribute: Urban Agriculture Development Strategy, Sustainable Food Plan, Circular Economy Plan, Paris Smart and Sustainable City, Climate Change Adaptation Strategy, Resilience Strategy, Biodiversity Plan, Paris Rainfall Plan, etc.	Agriculture, Environment, Biodiversity, Social and Solidarity Economy, Employment, Social Inclusion, Community Life, etc.
Other municipalities	Municipalities have competences in the field of local development and support for associations.	Other municipalities	Specific arrangements may exist in the municipalities. It is advisable to contact directly the local authority where the project is located to find out about any aid available.	Local development, Community life

Alternative financiers

Financier	Funding	Missions of the project
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CIGALES	A CIGALES club - Club d'Investisseurs pour la Gestion Alternative et Locale de l'Épargne Solidaire - is a citizen finance club that invests in small and medium-sized businesses, cooperatives and associations in its neighbourhood, town, department or region. In addition to financial assistance, club members contribute their skills, expertise and networks.	CIGALES	Les CIGALES provides financial support in the form of a financial contribution to capital, human support and adapted advice. The support is especially dedicated to the creation of activities that develop employment, creating an ethical local economy.	Territory, Governance, Business Creation
Foundations	Foundations are private non-profit organizations created by one or more donors to carry out missions of general interest.	Foundations	Some foundations issue calls for projects on the missions of general interest that they pursue. It is also possible to solicit them directly on the basis of a project description. The co-financing requested must be linked to the general interest mission pursued by the Foundation. For example, the Carrefour Corporate Foundation has set itself the objective of supporting sustainable and local production and the development of urban agriculture.	Agriculture, environment, biodiversity, social and solidarity economy, employment, training, social inclusion, etc.
Participatory financing platforms	Participatory financing is a fund-raising tool operating on an internet platform and allowing a set of contributors to collectively choose to directly and traceably finance identified projects. Project leaders wishing to raise funds for a personal or professional initiative can be companies, associations, individuals, etc.	Miimosa	Launched at the end of 2014, MiiMOSA is the 1st participatory financing platform exclusively dedicated to agriculture and food.	Agriculture
		Bluebees	BlueBees proposes projects for agricultural or food entrepreneurs in the start-up phase who have little or no access to bank credit, or for whom borrowing is too risky.	Agriculture
		AgriLend	AgriLend is the 1st platform for participative loan financing dedicated to the agricultural world.	Agriculture
<i>The platforms presented here are for information only. There are many other participatory financing platforms, whether specialized in agriculture or not, that can help a project leader.</i>				
Business Angels	A Business Angel is a natural person who invests part of his or her assets in an innovative company with potential and who, in addition to his or her money, makes his or her skills, experience, relational networks and part of his or her time available to the entrepreneur free of charge.	France Angels		
Corporate sponsorship	Corporate patronage makes it possible to mobilize private funds in return for the visibility of the patron in the context of communications on the project. It is only possible within the framework of missions of general interest	Companies	Corporate patronage can take the form of donations in cash, in kind or skills.	Any mission of general interest

Banks				
Financier			Funding	Missions of the project
Private Banks				

Bank of the Territories (Caisse des Dépôts)	The Bank of the Territories is a division of the Caisse des dépôts et consignations. It brings together the offerings of Caisse des Dépôts and its subsidiaries (SCET, CDC Habitat) in the service of the territories.	Bank of the Territories (Caisse des Dépôts)	The Banque des Territoires accompanies you and finances innovative territorial projects with a high environmental and social impact.	Environment, Governance (SSE), Innovation
Public Investment Bank (BPI)	Bpifrance is a public investment bank, a French corporate finance and development agency. It is particularly responsible for supporting small and medium-sized enterprises, mid-sized companies and innovative companies in support of the public policies of the State and the regions.	BPI France		Starting a business

Support structures				
Financier			Funding	Missions of the project
URSCOP	The Union régionale des Scop et Scic creates, accompanies and federates cooperative enterprises in Scop and Scic.	URSCOP	It offers a real platform of services and positions itself as a co-investor in your projects thanks to the numerous tools shared with all the cooperatives and future cooperatives in its network.	Governance
Incubator	A business incubator or a start-up accelerator is a support structure for business creation projects. The incubator can provide support in terms of accommodation, training, advice and financing in the early stages of the company's life.	Paris&Co - Smart Food Incubator Paris	Paris&Co is the economic development and innovation agency for Paris and the metropolis. It is a network of incubators dedicated to various sectors of activity: digital, tourism, software, eco-activities, video games, publishing, media, social...	
		Paris&Co - Sustainable City Incubator		
		Paris&Co -Arc de l'innovation		Innovation
Financing networks	There are several associative networks that offer start-ups and developing companies solutions to successfully pass the financing stage: financing tools adapted to your needs to strengthen your equity capital, integration into a network of entrepreneurs, pre- and post-financing support by volunteers and experienced entrepreneurs to help you structure your project and develop your business.	Adie	The Association pour le droit à l'initiative économique (Adie) is a French association recognised as being of public utility, whose aim is to enable people who do not have access to the traditional banking system (recipients of social minima and the unemployed) to set up their own business thanks to supported microcredit.	Starting a business
		Réseau Entreprendre Paris	A non-profit association, Réseau Entreprendre Paris is a private network of business leaders that supports young entrepreneurs with strong job creation potential.	Business Creation, Innovation, Governance (ESS)

		France Active Network - Paris Initiative Entreprise (PIE)	PIE is a financing platform with a unique social impact vocation in Paris. A non-profit association of general interest, PIE has been working since 2000 to promote business creation and the development of social and solidarity-based entrepreneurship. PIE offers the possibility of obtaining initial financing from banks through the leverage of loans to individuals or companies. We limit risk-taking by providing unsecured loans and bank loan guarantees. Finally, we support project leaders with projects financed over a period of 1 to 5 years and give them access to diversified networks (institutional, financial and entrepreneurial).	Business creation, Environment, Social, Territory
		Réseau Initiative France	Associative network of financing and support for business creators, buyers and developers.	Starting a business
		France Active Network	From emergence to development, France Active supports entrepreneurs in their financial problems, provides them with the financing best suited to their needs and gives them access to a unique network of economic and social players.	Business creation, Environment, Social, Territory

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