



#### NATURAL AREAS

AGRICULTURAL LANDER FOR EXPORTATION

AGRICULTURAL LAND FEEDING THE CITY POPULATION

**URBANIZED AREAS** 



PROJECTED AGRICULTURAL LAND FEEDING THE CITY POPULATION

PROJECTED URBANIZED AREAS



#### PROJECTIVE DIAGNOSTIC

As you can seen in the two maps above, Rosignano has an extension of 12030 ha, of which:

30% - Natural areas

20% - Urban Area

15% - Agricultural Area for local consumption

35% - Agricultural Area for export

It is noted that 50% of the total land is available for agriculture.

Rosignano has a large portion of land destined for agriculture, for a total of 6015 hectares. Of these 6015, it is estimated that only 15% (+/- 1000 ha) is destined for production for local consumption. The remaining 35% is for agricultural exports and leisure time.

15% was obtained in this way.

Local farms: 281

Farms authorized for direct sales in Rosignano (markets

and companies): 74

Assuming that all the available agricultural land (6015 ha) is distributed to 281 companies, proportionally, the 74 farms authorized to sell hold 1200 ha for local food needs. (estimated and not certain).

Today Rosignano has 30807 inhabitants.

From 2008 to 2018, a population change of - 0.37% is estimated

For the next 25 years, therefore, a population decrease of 9% is estimated. Probably, in 2045, Rosignano will have 28,000 inhabitants.



#### **FOOD SOVEREIGNTY**

Food sovereignty, which is to say our city capacity to feed its population on the long term is important to ensure both quality healthy food with sustainable reduced impact.

Actually, Rosignano produces only 15% (estimated percentage) of the food for citizens' needs. As mentioned above, from an estimate of the population, it is thought that in the next 25 years the population of Rosignano will decrease and this should stop the expansion of the urban area to the advantage of agricultural areas. In reality, the stop of urban expansion is already underway. Already today many citizens cultivated their own vegetable garden.

Local political interest, strengthened by recent regional food policies, should in the coming decades guide policies towards an increasingly local food supply. Reduce imports and try to get supplies within 150 km. (this is already in place in the services managed directly by the municipality such as the school canteen).

From the previous maps, it is clear that the land to be allocated to agriculture is available (about 50% of the total territorial extension), it could be exploited more to reach much higher levels of food sovereignty.





# What will we eat in ROSIGNANO MARITTIMO in

# 2045?



Looking for ratios between agricultural land surface and number of persons that can be fed with that land, we find many studies putting forward different results: on the internet the battle is strong between conventional farming and their growing multiple opponents! It became even more complicated if we consider average diet against low-meat diet or vegetarian one which of course doesn't mean the same think across European sociocultural eating patterns...

So in concrete terms, we propose to work the 2 following "working ratios":

1 Hain organic agriculture feeds 5 persons with a low-meat diet 1 Ha in organic agriculture provides fruits and vegetable for 75 persons.

These rough numbers are what we can call « quick and not too dirty », we are plenty conscious of that. We propose to use them to get an idea of « What we will eat in our city in 2045? »

#### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Current land dedicated to agriculture

Calculation of land to secure for 2045

1Ha

In organic agriculture feeds 5 persons with a low-meat diet

15% 1000 Ha

6015 Ha

Current proportion of agricultural land actually producing for the population of the city

5600 Ha

To provide the food for all the population **2800 / 5 = 5600 Ha** 

30 807 Ha

Current population in 2019

1Ha

In organic agriculture provides fruits and vegetable for 75 persons

28 000 Ha

Estimate of the population in 2045

373 Ha

To provide the fruits and vegetable for all the population  $12\ 000\ /\ 75 = 373\ Ha$ 

The projection for 2045, shows how potentially Rosignano, in the future, could have the agricultural land necessary to satisfy its food needs. To go in this way, we need a strong social and political motivation. Controlling agricultural policy isn't easy because Agriculture isn't a direct competence of the municipalities but can stimulate the creation of new farms with economic benefits and information activities.











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#### PROJECTIVE DIAGNOSTIC

The map above is a tentative visualisation of current land use in our city territory divided roughly in urbanized areas (924 Ha with red), and the rest represents agricultural land (4700 Ha of which 3103 Ha for agriculture, 258 Ha vineyards and 42 Ha of fruits trees) divided in over 4000 small agricultural farms, most of them uncertified from an ecologic perspective, and wild forests (653 Ha).

The official population in Vaslui is around 138000 inhabitants, but in reality in the city we can estimate living only 60-70 thousands (thousands of Moldavians establish their residence in Vaslui in order to get Romanian id's which represents a free ticket for the entire Europe). Our city has a large agriculture production, and we estimate that almost 40% (1880 Ha) of the food production is used locally to feed our population through our system of local markets (especially during warm periods of the year) and by direct connections between local producers and consumers, the rest being exported.



#### FOOD SOVEREIGNTY

Due to actual context, we can only hope that in 2045 our real population will be maintained between 60 to 70 thousands inhabitants. Nevertheless, in 2015 Vaslui Metropolitan Area was created using the OECD methodology, as an Intercommunity Development Association, composed of Vaslui Municipality and 10 rural territorial-administrative units. The structure will implement projects of common interest in agriculture, public transportation, creating new jobs, reducing poverty and improving infrastructure.

Vaslui Metropolitan Area has a stable population of 87000, and a total area of 53875 Ha, of which 39237 Ha have agricultural destination, more than enough to feed the entire population of Vaslui in 2045. Our biggest issues are not related to how much agricultural land to secure, because we have local products with short chain distribution, we have a functional market system supporting local producers, and those 4000 registered small production farms combined with numerous gardens cultivated for self consumption offer good hopes for future. Organic certification among our local producers is one of our main targets, while the need for alternative food solutions (commerciants) are imposed by hard winters which means that we cannot rely constantly on local producers to ensure a continuous flow of fresh vegetables and fruits locally.





## What will we eat in VASLUI in

#### "CALCULATOR" USED TO REACH A TENTATIVE VISION

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### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Current land dedicated to agriculture

Calculation of land to secure for 2045

1Ha

In organic agriculture feeds 5 persons with a low-meat diet

35% 1650 Ha

4688 Ha

Current proportion of agricultural land actually producing for the population of the city

7000 Ha

To provide the food for all the population 2800 / 5 = 5600 Ha

70 000 habitants

Current population in 2019

1Ha

In organic agriculture provides fruits and vegetable for 75 persons

**70 000** habitants

Estimate of the population in 2045

500 Ha

To provide the fruits and vegetable for all the population 12 000 / 75 = 373 Ha

It is therefore necessary in 2045 to have 7500 Ha of agricultural land to feed half of our population, and if Vaslui Metropolitan area will develop and reach it's purpose, than we will have around 39000 Ha with agricultural destination, which is more than enough to feed the population of the city.











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#### **PROJECTIVE DIAGNOSTIC**

Map 2019 shows the current distribution of land use for the municipality of Anthisnes, a rural area, with only 8% occupied by urbanization: housing, roads and quarries (old and current) very present in the region.

Population growth is relatively slow. It is expected to grow from 4,200 people currently to 4,800 people in 2045. The urbanization extend will be limited to reach around 10% of the territory, including a construction project on the site of an old quarry.

The aim is to densify the existing habitat areas.

Till now, the fact that Anthisnes is located off the main roads protected it from strong urban pressure.

The area used for agricultural production currently represents 56% of the territory. At present, some of these agricultural lands are in an urbanization zone and may therefore no longer be agricultural land in 2045.

The agriculture of our territory is a mixed agriculture (crops and cattle breeding with research for forage autonomy).

We can estimate that, currently, only 5% of food production are dedicated to the local population.



#### FOOD SOVEREIGNTY

The mixed nature of local agriculture favors the adoption of a diet low in meat.

In order to be able to feed 4,800 inhabitants, the

agricultural area reserved for local food production will have to increase by a little bit less than 1,000ha.

The agricultural area available on the territory of Anthisnes makes it possible to ambition to produce a significant proportion of the meat and dairy products consumed locally as well as almost all the necessary vegetables. Few fruits are currently produced in the region, which requires replanting fruit trees and berries to meet local demand. We could hope to produce 50% of the needs. Citrus fruits will continue to be imported from Sicily via a short circuit chain already in place.

Map 2045 shows that the availability of agricultural land makes it possible to envisage mainly local food production, but this will nevertheless require significant awareness-raising work, particularly in order to:

- Encourage farmers to opt for local food crops (for example by highlighting the success of those who produce exclusively for local food in short circuits, what they gain in quality of life, the structures of local sales (cooperatives, markets, shops, ...) and regional distribution channels supplying nearby urban centers (Point Ferme, La Ruche qui dit oui, Public Purchasing Groups, ...)
- To encourage residents to consume locally (which also means changing dietary habits, relearning to cook, cooking according to the seasons, devote the necessary time to cooking, balance the food budget, ...)
- To sensitize the landowners present on the territory, as well as the CPAS and Church factories, to make their lands available for local food production projects.







### What will we eat in PAYS DES CONDRUSES in

# 2025

#### " CALCULATOR" USED TO REACH A TENTATIVE VISION

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#### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Current land dedicated to agriculture

Calculation of land to secure for 2045

1Ha

In organic agriculture feeds 5 persons with a low-meat diet

Current proportion of agricultural land **5**% 104 Ha actually producing for the population

of the city

960 Ha

To provide the food for all the population 2800 / 5 = 5600 Ha

4200 habitants

2261 Ha

Current population in 2019

1Ha

In organic agriculture provides fruits and vegetable for 75 persons

4800 habitants

Estimate of the population in 2045

64 Ha

To provide the fruits and vegetable for all the population 480 / 75 = 64 Ha

It is therefore necessary in 2045 to preserve all the current agricultural land and to increase the share of cultivated areas (only 25 % today). Need to dedicate more land to feed the population of the city. With the adaptation of a low-meat diet, some pastures would be dedicated to local food production (provided that these lands are adapted to the crop).











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**URBANIZED AREAS** 

2019



PROJECTED AGRICULTURAL LAND FEEDING THE CITY POPULATION

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#### **PROJECTIVE DIAGNOSTIC**

The current population of Torres Vedras is about 80.000 inhabitants.

The map of 2018 expresses the local areas: urban (10% - 4.224 ha), agriculture & agroforest (66% - 26.992 ha) and natural (23% - 9.489 ha).

The region is high market by vineyards, greenhouses, orchards and vegetable production, but in conventional farming, being one of the Portuguese councils with a more dedicated area to food production. In spite of these high values in terms of territory, at the present time, only about 150 ha are dedicated to organic farming.

We estimate the population will grow until 2045, reaching 115 000 inhabitants.

Available data:

Local food providers: 45

Local farmers: 137 Integrated Production (2016) + 24

Organic (2017) + ? Conventional

Municipal Markets: 5 Suppliers Market: 1



#### FOOD SOVEREIGNTY

At present and future time, the region of Torres Vedras has the capacity to feed the population, but a high part is dedicated to a non local consumption. For 2045 we preview 18% urban (7327 ha), 56% Agriculture (22795 ha), 26% natural (10583 ha).

Local markets works well and are focus on local products, counting with a presence of 5 organic farmers which sells directly to consumers. The school meals for 3 – 10 age are already provided only by local products, through a municipal program (Sustainable Food School Program), were are included a part of organic fruits and vegetables. For 2020/2021, all the students population will be englobed in this local program and also will take access to high quality school meals.

Suppliers and consumers are increasingly sensitized about the planet sustainable issues: to purchase high quality, nutritional and healthy food, with a green impact for environment. Local and bulk products will be also mandatory.

For that, the Municipality vision for 2045 is that all the territory will be on organic farming mode, also promoting the short food chain values. We truly believe we will continue to be one of the highest regions in terms of agriculture and livestock production.







## What will we eat in TORRES VEDRAS in

#### " CALCULATOR" USED TO REACH A TENTATIVE VISION

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### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Current land dedicated to agriculture

Calculation of land to secure for 2045

1Ha

In organic agriculture feeds 5 persons with a low-meat diet

**66**% 17 815 Ha

26 992 Ha

Current proportion of agricultural land actually producing for the population of the city

23 000 Ha 2800 / 5 = 5600 Ha

To provide the food for all the population

78 500 habitants

Current population in 2019

1Ha

In organic agriculture provides fruits and vegetable for 75 persons

115 000 habitants Estimate of the population in 2045

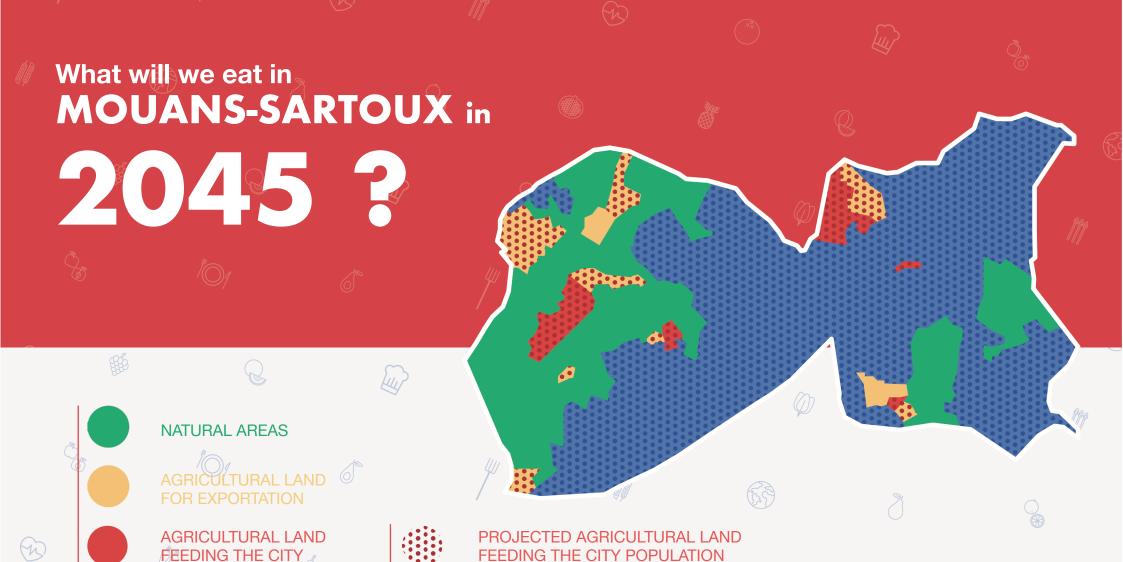
1533 Ha

To provide the fruits and vegetable for all the population 115 000 / 75 = 1533 Ha

It is, therefore, necessary for 2045 to preserve the maximum of the current agricultural land and to increase the available products to be consumed locally. Need to promote less exportation of the produced food.







PROJECTED URBANIZED AREAS

POPULATION

**URBANIZED AREAS** 

2019

#### **PROJECTIVE DIAGNOSTIC**

The map above is a tentative visualisation of current land use in our city territory. It is divided in 5 categories: Urbanised areas, natural areas, agricultural areas, agricultural areas dedicated to local consumption and cultivated areas. The municipality is helping new organic farmers to settle down in Mouans-Sartoux, but is facing some difficulties (fields are divided between different owners, no proper access to some fields, housing difficulties for farmers...). Some agricultural land is also dedicated to non-food producing activities (equestrian centre, perfume flowers production...).

The current population of our city is 9 991 inhabitants. A rapid estimate of population growth for 2045 would be 12 000 inhabitants. Located in a highly attractive region, facing a lack of available land, the municipality decided to adopt a non-sprawling strategy. It's trying to densify the existing urbanised areas and to limit the construction of new building on agricultural and natural areas.

Our city has a very limited agriculture production and we estimate that not more than 10% of the total agricultural land is dedicated to the local market (only 30% of the total agricultural land is cultivated). Which is to say that roughly only 13 Ha of our 132 ha of agricultural land feed the population.



#### FOOD SOVEREIGNTY

to feed its population on the long term is important to ensure both quality healthy food with sustainable reduced impact.

Knowing that the agricultural land is limited, Mouans-Sartoux would like to reach the autonomy for the production of vegetables and eventually fruits. Following the calculations for fruits and vegetables, 160 Ha could provide organic fruits and vegetables for the all population in 2045. To achieve this goal, the entire agricultural surface should produce fruits and vegetables. As it seems difficult to reach (due to non-food productions and the difficulty to cultivate the all agricultural area), this production could be supplemented with citizens gardening (in their own garden, which they could share with other citizens or with urban farming such as incredible edible). The share of agricultural land could also increase, but would need to reduce the natural areas.

Concerning the other products, partnerships could be established with producers coming from the highlands to avoid long transports for food. Nevertheless, a project of sheep and/or goat farming in the natural areas (woods) could provide a small share of animal proteins.





## What will we eat in **MOUANS-SARTOUX** in



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#### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Current land dedicated to agriculture

Calculation of land to secure for 2045

1Ha

In organic agriculture feeds 5 persons with a low-meat diet

22% 25 Ha

112 Ha

Current proportion of agricultural land actually producing for the population of the city

2400 Ha

To provide the food for all the population 12 000 / 5 = 2400 Ha

9991 habitants

Current population in 2019

1Ha

In organic agriculture provides fruits and vegetable for 75 persons

12 000 habitants

Estimate of the population in 2045

160 Ha

To provide the fruits and vegetable for all the population 12000 / 75 = 160 Ha

It is therefore necessary in 2045 to preserve all the current agricultural land and to increase the share of cultivated areas (only 30 % today). Need to dedicate all land to feed the population of the city.











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#### PROJECTIVE DIAGNOSTIC

The map is a tentative visualisation of current land use in Troyan divided into urbanized areas (blue), land dedicated to agriculture (yellow) and natural areas (light/green). The agriculture is developing at a slow rate and beginning to raise economical interest. Because of that the projection in 2045 shows that the agricultural land is established in a regular and even manner.

The current population of the municipality is about 33 000 inhabitants. In 2045 we expect that the estimate growth in population would be 38 000 inhabitants. We believed that due to the impact of the increasing economic attractiveness of the region, the job opportunities and the employment level, the inbound migration of people who would return to the city would have a positive effect.

In our municipality we have a huge amount of land available for fruit and vegetables growing to feed the city population. However, the utilization of land for agricultural purposes is still underdeveloped. In 2045, the perspective is positive for the agricultural development.



#### **FOOD SOVEREIGNTY**

Our city goals of feeding the population with quality and healthy food will be much more wide ranged in 2045. We hope that we will be able to achieve most of the meat, dairy, fruits and vegetables needs of the people. The not typical fruits and vegetables for the region and the whole country will be internationally imported.

Every Thursday an open market is available for everyone to buy from small farmers fruits, vegetables, herbs and nuts. The one meat producer in the city is capable enough to provide the whole quantity of meat needed. The diet of the population may not be different from nowadays but surely they will eat more fruits and vegetables. The quantity of meats, fish and dairy will probably remain the same. The dairy products should also come from two farmers within 15 km from Troyan who produce yoghurt, milk, cheese and yellow cheese. The Beekeepers union will provide the honey and honey products needed.



### What will we eat in TROYAN in

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#### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Calculation of land to secure for 2045

44 900 Ha Current land dedicated to agriculture

1Ha

with a low-meat diet

In organic agriculture feeds 5 persons

Current proportion of agricultural land 1/30 1 496 Ha actually producing for the population of the city

3800 Ha

To provide half of the food needed by the population in 2045 3800/75 = 373 Ha

32 555 habitants

Current population in 2019

In organic agriculture provides fruits 1Ha and vegetable for 75 persons

38 000 habitants

Estimate of the population in 2045

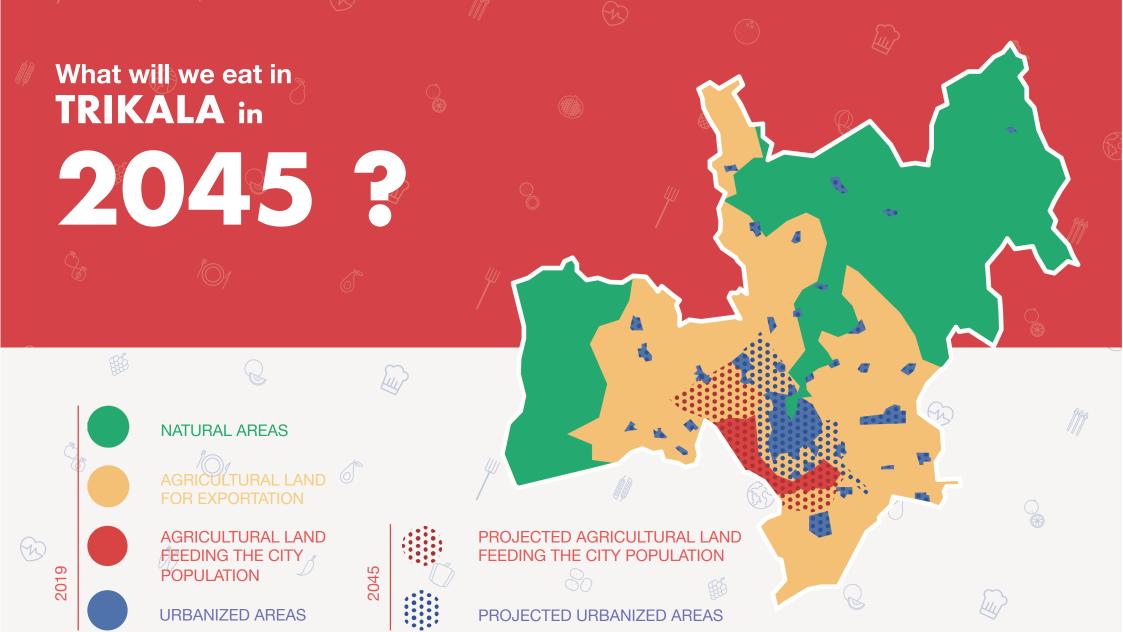
373 Ha

To provide half of the fruits and vegetable needed by the population in 2045 38 000/ 75 = 507 Ha, 507 / 2 = 254 Ha











#### PROJECTIVE DIAGNOSTIC

The Municipality of Trikala consists of 8 discrete Municipal Communities with a total population according to the last census (2011) of 81.355 inhabitants and a total surface of 63.200 Ha. The urbanized area of the Municipality is the City of Trikala, which concentrates more than the 75% of the population and covers an area of 6.000 Ha. Using the data of the Municipal Geographical Information System (GIS) the classification of the land uses is the following: Urban Areas: app. 13% - 8.216 Ha)

Agriculture & Agroforest Areas: app. 59% - 37.288 Ha) Natural Areas: 28% - 17.696 Ha).

The area is well known for its dairy industries and products, with the most important is the feta cheese (Product of Destination of Origin) and the soft cheese "kaseri" (Product of Geographical Indication). Specifically, to the dairy enterprises of the area more than the 40% of the production in national level.

The organic farming is not the "hot spot" of the area. Only 571,1 Ha (it represents the 1,5% of the agriculture areas) are dedicated to the organic farming and only 66 farmers have the label of "organic". According the last three census from 1991 to 2011, the population in the urban area, increased more than 19%, which was the highest rate in all over the Region of Thessaly. Taking into consideration the above mentioned indicator, the population in the Municipality of Trikala will increase until 2045, reaching the figure of 101.695 inhabitants. The Municipality of Trikala, cover their own needs in fresh vegetables, dairy products and meat by the local production, in a percentage of more than 70%. There is a deficiency to fresh fruits, which we have to improve in the future, if we focus to a self sustain economy.



#### FOOD SOVEREIGNTY

Food sovereignty, is a key element for a self-sustain economy and as long term goal it is very crucial fro the quality of the food. Concerning that the existent status of the agricultural production in the wider area and the balance between the production and consumption of dairy products+vegetables+ meat, the Municipality of Trikala will focus to be self-sustain to fresh fruits and to improve the indicator of the organic cultivations. For 2045 we foresee:

Urban Areas: app. 16% - 10.112 Ha)

Agriculture & Agroforest Areas: app. 56% - 35.392 Ha) Natural Areas: 28% - 17.696 Ha).

The overall goal for the Municipality is to be the 1st Area in organic products in national level. This means that we have to focus to the local cultivators in order to sensitize them for the benefits of the organic farming.

The BioCanteens project will be an excellent occasion to bring closer the farmers to the organic idea.

In 2025 all the canteen kiosks of the primary schools will modify their operational status, to the BioCanteens model, as it adopted from the 6th Primary School. In the same period, specific courses with the collaboration of the Nutrition & Dietetics Department of the University, will implement and will focus to the nutritional changing behaviour of the students.

Concerning the fresh fruits, partnerships could be established with producers coming from the neighbouring municipalities to avoid long transports for food.







## What will we eat in TRIKALA in

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### **CALCULTATION FOR THE SIMULATION**

#### **Calculation Factors**

Current land dedicated to agriculture

Calculation of land to secure for 2045

1Ha

In organic agriculture feeds 5 persons with a low-meat diet

22 580 Ha

Current proportion of agricultural land 72% 16 257 Ha actually producing for the population of the city

To provide the food for all the population 20 339 Ha 101 695 / 5 = 20 339 Ha

81 335 habitants

Current population in 2019

1Ha

In organic agriculture provides fruits and vegetable for 75 persons

101 695 habitants

Estimate of the population in 2045

1355 Ha

To provide the fruits and vegetable for all the population 101 695 / 75 = 1355 Ha

21 694 Ha

Total land needed 20 339 + 1355 = 21 694 Ha

The estimated increase of the population in 2045, will not affect the current status of the city's feeding needs. Even if all the cultivation area become organic, it seems easy to cover the needs of the population.



