Groupe interacadémique pour le développement

Summary report of the GID 2024 controversy on Food and Population

Background information:

At its general meeting on 3 October 2023, the Inter-Academy Development Group (GID) proposed to organise a first controversy, an original approach to discussion and exchange between academics based on contradictory proposals on specific topics.
The initial controversy, which focused on the theme of « Food and Population », was developed in a series of stages:

- Towards the conclusion of 2023, a framework note and a questionnaire comprising 38 questions were dispatched to approximately thirty academics who are members of the GID. The responses received, amounting to 174 typed pages, were disseminated to all participants.
- A face-to-face colloquium of the authors of the responses to the questionnaire was held on 30 May 2024 in Paris. The event brought together 22 academics and experts from 10 countries around the Mediterranean and sub-Saharan Africa, including Algeria, Benin, Ivory Coast, France, Greece, Italy, Lebanon, Madagascar, Senegal and Turkey.

The lists of academics who responded to the questionnaire and those who took part in the colloquium on 30 May are attached.

These rich and varied exchanges, often offering different points of view and positions, are the subject of these draft minutes, which are in two parts:

- A presentation of the main points raised in the responses to the questionnaire,
- The convergences and divergences expressed at the symposium on 30 May 2024, summarised in a number of questions.

Presentation and summary of responses to the questionnaire:

The 38 questions posed in the questionnaire have been classified into distinct sections. It is important to note that:

1. Food and agricultural production:

- Algeria makes the observation that food security is contingent upon water security, particularly around the Mediterranean.
- The meaning of food security is very different depending on the point of view: that of the State is not the same as that of the housewife.
- It is widely acknowledged that agricultural inputs (seeds and fertilisers) are of significant importance in ensuring food sovereignty. However, there is a divergence of opinion with regard to the use of chemical inputs, which present a challenge in terms of control.
- Lebanon observes that a proportion of the global food security is contingent upon the maintenance of the genetic resources of specific geographical regions, including the Middle East.

- The development of cash crops for export and their impact on food supplies are subjected to analysis and assessment from a variety of perspectives.
- Greece highlights the negative impact that monoculture can have on landscape quality.
- Food losses are mentioned everywhere; they are very diverse, present from the farm to the final consumer; however, they remain poorly documented.
- The proportion of agricultural production processed by the agri-food industries varies considerably from country to country, but all countries emphasise the essential nature of these processing facilities.
- In African countries, one of the major obstacles to the development of processed food products is the availability and cost of packaging and logistics.

2. Food, environment and transition:

- Assessment of the potential of agroecology to feed a country's population properly is often negative, even if it is a political priority.
- The positive role of seasonal emigration in agricultural productivity is widely emphasised by Spain, France and Greece.
- All the responses contain very detailed descriptions of the consequences of climate change.

3. Food and changing dietary habits :

- There is a sharp contrast in consumer trends between « westernisation » in Africa and « globalisation » in Europe.
- Ivory Coast is a case in point, where the closure of the northern borders halted the import of live cattle, leading to an immediate and considerable increase in poultry consumption.
- Food waste is significant everywhere, but is poorly identified due to a lack of reliable statistics. However, it seems to be decreasing after the COVID crisis.
- Several countries in sub-Saharan Africa report significant growth in urban and peri-urban agriculture.
- There is a significant rural exodus everywhere, but the urban/rural divide is not equally marked and is expressed differently in different countries.

4. Alimentation, éducation, nutrition et santé :

- There is a growing awareness of the importance of food education and its impact on health, with a number of policies being implemented in this area.
- There is unanimous agreement that too much sugar is being used by the food processing industry, and that this is having a detrimental effect on people's health.
- All countries attach great importance to local culinary traditions. This is a major and very popular cultural heritage, and promoting it through certification or labelling is, or would be, invaluable. The Cretan diet is mentioned in particular.

Responses to the questionnaire suggested other topics or dimensions:

- History of Food
- The importance of land issues in agricultural development
- Forward-looking proposals
- Food in times of crisis or for vulnerable groups
- Access to food
- Local food, kitchen gardens
- Food education in school curricula
- Importance of animal products

- Regional and international cooperation
- New technologies - artificial intelligence
- Consumers' economic situation (income or living wage)
- Solidarity between stakeholders
- Triple performance of food systems (social, environmental and economic)

Questions summarising the convergences and divergences at the conference on 30 May 2024

Discussions on the links between food and population were organised around four main themes: agricultural production, the environment and transition, changes in eating habits, and education, nutrition and health.
The points of view and discussions revealed a great deal of convergence, but also some very significant differences between academics and experts, which can be grouped together and summarised under the following headings:

1. **How can we reconcile food sovereignty and security with international trade?**

Food self-sufficiency is a vital objective for many countries, particularly those that are still developing. In Senegal, great importance is attached to food self-sufficiency as a means of guaranteeing national security. The authorities are emphasising the need to strengthen agricultural product conservation capacities in order to minimise post-harvest losses, which can be as high as 40-50% due to ineffective management of surpluses and seasonal concentration of production. This approach favours optimal management of existing resources rather than simply increasing production, thereby aiming to stabilise farm incomes and maintain the competitiveness of Senegalese products on international markets.
By contrast, Algeria faces significant challenges in terms of food self-sufficiency. With 70% of its food intake dependent on imports, the country is extremely vulnerable to fluctuations in world markets. However, Algeria has developed major production basins thanks to state subsidies covering 50% of the cost of fertilisers and pesticides. Nevertheless, the country has continued to suffer a chronic trade deficit since the 1970s, and crop losses due to inadequate inputs remain a major problem.
Madagascar offers an entirely different example of the struggle for food self-sufficiency. The island, where rice is the staple diet, has seen imports of the commodity rise sharply, now accounting for 25% of national consumption. Challenges include land inequalities and significant post-harvest losses, of up to 30% for market garden produce. Dependence on imports exposes the country to market risks, making food self-sufficiency a central aspect of Madagascar's economic and social development.
Despite its ability to contribute to global food security through its exports, France is facing internal challenges linked to the impoverishment of certain populations and conflicts between producers, distributors and consumers. Two scenarios for the evolution of food systems were discussed: an intensive agro-industrial model, with its negative externalities, and a sustainable territorial food system, more respectful of the environment and public health. France, through its technological innovations, is seeking to direct its efforts towards sustainability while maintaining a high level of productivity.

2. **How important are and will inputs be in agricultural and agri-food production?**

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Unlike European countries that adhere to EU policy measures and regulations, countries in the South continue to use inputs in agricultural and agri-food production.
In Algeria, the public authorities have no intention of reducing or banning chemical inputs. Instead, they strongly encourage this intensive technical system. The Algerian government currently subsidises up to 50% of fertiliser purchases from national and international public and private suppliers.
In Ivory Coast and Benin, the governments have no plans to ban chemical inputs either. On the other hand, Ivoiry Coast is encouraging other forms of production that respect the environment and take account of agro-ecological transitions. At the same time, it is strengthening its system for monitoring and approving inputs that do little harm to the environment and human health.
Similarly in Madagascar, there is very little use of herbicides and plant protection products, which seems to be due to their high cost and the low purchasing power of farmers. In terms of quality, however, poor control of the use of these products, and even their misuse, can have a serious impact on consumer health. This uncontrolled use of herbicides has also been observed in vegetable production in Senegal.

3. What role could new technologies play in agricultural and agri-food production?

The adoption of new technologies to improve food production and preservation was a major topic of discussion. Using the example of France, a pioneer in agricultural innovation, the need to coordinate efforts at local, national and international level to ensure food security was emphasised. Today, the country is banking on new technologies for a transition to sustainable food systems. Innovations in agriculture help to optimise resources and improve productivity while minimising environmental impact.
In Italy, the technological situation is in a state of flux. The country is investing heavily in precision farming, using drones and sensors to optimise crop irrigation and fertilisation. This approach reduces the use of natural resources while increasing agricultural yields. In addition, Italy is focusing on enhancing local farming traditions by integrating them with modern technologies to create high-quality products that are recognised the world over. By combining traditional and innovative techniques, Italy is able to maintain diversified and sustainable agricultural production.
Lebanon is exploring techniques such as drip irrigation, hydroponics and permaculture to reduce post-harvest losses and improve food preservation. The country, historically renowned for its agricultural know-how, is seeking to modernise its infrastructure to support this technological transition. It is also putting in place modern food storage and processing infrastructures to reduce post-harvest losses. However, the crisis situation is complicating this transition, making innovation all the more necessary.
In Algeria, technological innovation is also in the spotlight, with a ministry dedicated to start-ups promoting the development of new agricultural technologies. However, despite these efforts, the balance of trade remains in deficit, and 70% of Algerians' food intake depends on imports.
In Madagascar, post-harvest losses for market garden produce can be as high as 30%, an alarming figure that underlines the importance of implementing appropriate food preservation and processing technologies. The island is exploring solutions such as solar cold rooms and renewable energy dryers to improve the shelf life of agricultural produce and reduce economic losses for farmers.
In summary, although technologies and innovation offer promising solutions for boosting food security and agricultural productivity, their success largely depends on the ability of countries to adapt these technologies to their specific contexts and to overcome socio-economic and environmental obstacles. The diversity of national approaches reflects the complexity of implementing agricultural innovations on a global scale.

4. What impact will internal and external population movements have on food security and sovereignty?

This controversy has also highlighted the impact of migration and demographic change on national food systems. In Turkey, the massive influx of refugees and immigrants is weighing heavily on the country's ability to maintain its once self-sufficient food supply. Climate change adds a further layer of complexity that compromises the stability and profitability of local agriculture. The Turkish authorities must therefore navigate between managing migratory flows and adapting to the new climatic realities in order to ensure food security for their population.
In Lebanon, another country seriously affected by demographic and migratory dynamics, the destruction of the port of Beirut resulted in the loss of 120,000 tonnes of food, which, combined with food inflation of 400%, exacerbated an already precarious situation.
Benin and Ivoiry Coast are good examples of the challenges posed by rapid demographic change. Benin, with a young and growing population, is striving to achieve food security in terms of both quantity and quality, with the emphasis on processing and preserving agricultural produce to reduce post-harvest losses. Ivory Coast, although not totally sovereign in food matters, is working to diversify and improve its production to achieve sustainable food security by 2030. Both countries are emphasising the importance of innovation and modern infrastructure in managing the impact of demographics on their food systems.
Greece is a very popular tourist destination. Tourism plays an essential role in the Greek economy, helping to create jobs and generate income. However, the influx of tourists, particularly in summer, can pose problems for the local food supply and have an impact on the demand for food, especially in tourist areas, where restaurants and supermarkets need to increase their supplies to meet increased demand. In addition, there are some supply chain challenges (transport, storage and distribution), and sometimes locals and tourists face high prices due to increased demand.
Finally, the growing importance of tourism in relation to agriculture, and the shift from agricultural activities to tourism, is linked to changes in land use and investment (public and private employment in favour of tourism) and can ultimately have a negative impact on local agricultural production. The seasonal influx of tourists can put a strain on local food systems, leading to difficulties in meeting demand and repercussions on prices.

5. With climate change, what future for intensive agriculture and agroecology?

The challenges posed by climate change were discussed by a number of speakers, who outlined their impact, which varies from region to region. In Turkey, for example, extreme weather conditions such as droughts and floods are compromising the profitability of agriculture. These climatic events affect not only the quantity but also the quality of harvests, making agricultural planning and income stability difficult for farmers.
Similarly, in Madagascar, landlocked conditions and land inequalities exacerbate production difficulties, which are compounded by low pesticide use and significant post-harvest losses. The country needs to adapt to changing climatic conditions to ensure stable and sustainable food production. Local initiatives include the promotion of resilient farming practices, such as agroforestry and the use of drought-resistant crop varieties.
As far as Senegal is concerned, the importance of agricultural techniques adapted to local realities to meet the challenges of climate change was emphasised. The country is investing in water conservation infrastructures and reforestation programmes to combat desertification and maintain soil fertility. These efforts are essential to stabilise agricultural production against a backdrop of increased climate variability.
In France, the debate has focused on managing the negative externalities of the intensive agro-industrial model. The environmental impacts of intensive farming, such as soil and water pollution from fertilisers and pesticides and the loss of biodiversity, call for a transition to sustainable regional food systems. Agro-ecological and organic farming initiatives are encouraged to reduce the environmental footprint of agriculture while maintaining sufficient food production.

Italy, which faces similar environmental challenges, has to contend with a reduction in agricultural land due to urbanisation and population growth. The sustainability of its agricultural system is being put to the test by problems of soil toxicity and the need to adopt more environmentally-friendly farming practices. The introduction of organic matter as fertiliser is a key strategy for maintaining soil fertility and producing quality food while reducing environmental impact.
Finally, Greece, with its multitude of islands and massive influx of tourists, also has to manage the environmental impact of local food production. The country is striving to promote sustainable agricultural practices to preserve its ecosystems while meeting the growing food needs of visitors and residents.
Climate and environmental issues are universal, but require responses that are adapted to local contexts. There is no such thing as a universal agricultural model, because the objective realities on the ground in the respective countries are not the same. In other words, a policy must be defined according to the basic principles of the country's activities. For example, intensive agriculture is more widespread in Africa than in Europe, where an agro-ecology policy that respects the environment is favoured. In Africa, intrusive agriculture and agro-ecology coexist, compatible with a move away from the agro-industrial model.
Efforts to integrate sustainable agricultural practices, reduce greenhouse gas emissions and protect natural resources demonstrate a shared determination to tackle climate challenges. The need for international cooperation and the exchange of innovative and effective solutions was raised by several speakers: this cooperation is essential to build resilient and sustainable agricultural systems, capable of meeting the growing food needs of populations while preserving the environment for future generations.

6. How to deal with losses and waste?

In Algeria, the idea of tackling food waste by reforming food subsidies was first mooted in 2015. However, the transition from generalised subsidies to so-called 'targeted' subsidies, limited to needy households, has been postponed until 2022. This reform was hampered, on the one hand, by the absence of a reliable statistical system for defining target populations, and on the other hand, by a lack of relevant criteria for defining the vulnerability threshold. In the years that followed, the rise in oil prices led to the planned reforms being abandoned.
In Ivory Coast, wastage is attributed to the inadequacy of infrastructure for preserving and processing food products, but also to the high cost of transport due to the persistent rise in fuel prices at the pump, as well as to the rising cost of living, which limits people's purchasing power and therefore their access to the foodstuffs available on the markets. To deal with this, the authorities should set up systems for preserving and processing products that are on the market but unsold.
In Greece, food waste represents a major problem and a challenge for political decision-makers and the public sector, as well as for scientists, environmentalists and businesses. The country has adopted a multidimensional approach to the subject, primarily involving local communities, food businesses, environmental organisations and consumers, with an emphasis on sustainability and reducing environmental impact. Above all, the diversity of consumer behaviours and attitudes towards food waste, invites tailored interventions and educational initiatives to effectively tackle this issue. The multi-dimensional approach consists of awareness campaigns, incentives and collaboration between stakeholders.
In Turkey, the majority of food losses occur during marketing due to breaks in the cold chain. Losses also occur in fresh fruit and vegetables where the necessary infrastructure is inadequate. With the exception of a few projects run by local municipalities, there is no significant support from the government.
Reducing post-harvest losses can play an important role in building sustainable businesses and increasing overall production. By avoiding waste, more of the harvested produce will be distributed to consumers, contributing to food security and economic sustainability. The exact impact on increased production depends on the extent of losses and the effectiveness of the measures implemented. Generally speaking, efforts to reduce post-harvest

losses not only help to increase the availability of foodstuffs, but also support sustainable practices, by minimising the waste of resources and the impact on the environment.

7. What impact will prices and subsidies have on consumption, agri-food and agricultural production?

Southern countries insist on the need to maintain subsidies. However, they are demanding a targeted strategy for beneficiaries. By identifying the precise needs of farmers, it is possible to supply them with the agricultural equipment they need, to make their work less arduous. This means considering the sustainability of public subsidies in the face of budget deficits in the various countries.
This observation is reinforced by the situation in Algeria, where income inequality calls for recourse to state subsidies. These subsidies are undifferentiated and allocated to all social classes, which contributes to the over-consumption of cereals, sugar, oils, etc. Targeting vulnerable populations requires an information system to define the precariousness threshold.
Today's product prices do not take into account the hidden costs of food due to the deterioration in health it causes. This hidden cost is sometimes half the price paid by consumers in the shops. This means that if we included the hidden costs of food in the price, we would double it. Dialogue between the various sectors seems essential, as not all are equally concerned.