

## **Local Economic Development and Sustainable Global Development: Food Security and Food Sovereignty**

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### **ABSTRACT**

In this paper the author argues that sustainable development starts always solving the basic needs, mainly food needs and food security concerns of any community. Those concerns are key stones for any social-economic development process, and need to be addressed in terms of guarantees in time and through time.

Security concerns at several levels should be on the agenda, but food is a necessary condition to address the other dimensions of the human security concerns. The actual food system today represents one of the big achievements of the human community, at global/world level, in terms of solving the global needs in food, but it is still far away from solving the human needs at local community level and individual level where many problems are present. For example, hunger in the last 20-30 years have been always between 800 million persons and 1 billion, and malnutrition is now even with bigger numbers, with estimations for obesity above 1,2 billion persons.

The main argument of the paper is around the understanding that global sustainable development can only be achieved with local economic development, and it will be used the food system analysis to provide evidences on that matter. However this view cannot be confused with an inward perspective and it will be shown that improvements in trade flows are also important moves in most cases, regarding economic development and quality of life. Food security concerns and food sovereignty are both key dimensions to be analyzed in any food system, but both concepts have a lot in common, and can be seen as convergent in many dimensions. Two case studies will be used to provide support to the discussion, (one European Country and an African Country), showing that human welfare and food nutrition can be improved through time, where the food production system play an important role, but also trade, and where local economic development does not mean necessarily lower dependency from abroad. Policy and economic development experts should be able to address and provide solutions to improve welfare, food security and food sovereignty, preserving and improving equilibrium with nature, autonomy, freedom of choice, less vulnerability of the systems and, at the same time, taking full advantage of the international relations and trade opportunities.

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### **Introduction**

The development problems today are necessarily linked with sustainable concerns, mainly in the medium and long run perspective, but achieving a very real dimension in today's actions and planning which is every day more important and evident in our life time conditions. Climate change problems and respective "policy and political moments" have been on the international agenda and are clear challenges for the next future.

In the present discussion and research efforts directed to better evaluate alternatives and possible solutions for development policy measures, the author tries to point out some links and relationships that provide insights for possible solutions in complex food systems. The proposed discussion based on economic development models and knowledge will select some of the most frequently used approaches dealing with real challenges and requests for research, advisory and policy implementation in several countries, mainly the ones where the author has been directly involved. The convergence of possible solutions delivered by several different

approaches in development need to be better explored among the academic and research systems and research efforts, aiming to have impact in the actual living conditions, the quality of life and regarding improvements in sustainable conditions. The same can be said for the food security concept, respective evolution and the concern about food sovereignty which “official” formulation happen exactly at the same time (for both concepts), at the Food World Conference in 1996. The notion of a “common house,” the interdependence among all actions and countries is now much more evident and achieved at global level. This can be translated into the notion of a “common space”, which is turning out to be everyday more limited, but at the same time providing new opportunities and challenges, new markets and consumption possibilities. However, “consumption space” is a conceptual innovation that will be introduced and discussed showing that can help understanding some of the problems the world is facing, including sustainable development and sustainable agricultural and food dynamics. In some recent discussions it was demonstrated that consumption can be seen as the last step in a “production chain,” that is consumption means always “production of utility” for someone and, in this sense, can be seen like being “endless.” However, looking at micro-conditions and local terms, it is not difficult to find a lot of restrictions in consumption capacity, which can be studied and analyzed. The linkages between production and consumption within a neo Keynesian perspective have been at the center of frequent discussions, namely during the economic crises, inclusive during the last crises in the recent years.

### **Problem Statement**

Security concerns are on the agenda internationally at least since the Second World War, after 1945, and is now suddenly more evident that the challenge continues, mainly after the 2008 crisis. The linkages between human security needs and freedom of choice and systems vulnerability are quite evident. One of the features of those challenges rely on the macro interfaces, that is, any country needs to be able to count on an international environment that provides minimum levels of global guarantees in regard to a set of variables, principles and norms. However, with the global effort regarding basic needs and hunger in the last decades, and specifically in regard to hunger, it became evident that global success in deliver enough food supply does not solve the problem, but still is a necessary condition.

Food and agricultural systems really provide a sound sector example where global solutions are necessary but not sufficient. Hunger problems cannot be solved without a local solution approach. Similarly local economic development is a necessary condition for a sustainable development process.

Supply and Demand linkages are also critical issues, mainly looking at sustainable conditions, but it is possible to say that during the industrialized revolution the general believe was that growth in supply would create the necessary demand growth and the markets would be able to provide those connections and equilibrium. The financial and economic crisis in 1929, was the first relevant moment where this view was questioned deeply and where theoretical discussion (relationship between supply and demand) began. John Maynard Keynes was probably the most relevant author able to provide a huge contribution showing how important it is the public intervention providing support to the markets. The recent crisis in 2008, in a much more sophisticated and complex economic world somehow showed how actual those discussions are today, and how relevant regulation should be, but at the same time giving space for freedom of choice, creativity, and private initiative.

In the Food and Agricultural system, after middle of 1985, the facts showed that the systems are now much more demand driven than before, even because food is now available to satisfy food needs globally. In one side, demand characteristics need to be taken into consideration, and the author, (Carvalho 1989) showed how

important demand constraints were and still are today, demonstrated in several recent published work. Demand conditions are now every day more important, in a world with supply surplus, and/or at least with a supply capacity surplus. On the other side, the present work argued that in many conditions, such as the ones with low income levels, (family and country levels), where potential demand exists, but not effective one, supply growth with local development is a very effective way to move forward toward a more sustainable development process.

The need to have macro favorable conditions for economic action, investment and business activity has been demonstrated frequently, however less frequently micro/local conditions have been stressed also as essential for a sustainable (long run) development process. Growth and development are not necessarily convergent processes, but at least it is possible to say that local development can create the necessary effective demand to support global development, but the reverse is not true. Local economic development, by its nature, is much more effective to provide demand growth impact at least in the food systems at low income level conditions. However, being clear and evident in the food system the closest relationship between supply growth and demand growth in low income countries, and where there are “short food chains,” it is possible to argue that with good economic policy and “good economic environment” this linkage can be applied in several other sectors and conditions. However, the important linkages are always related to how to act to transform “potential demand” toward “effective demand”, based on the capacity to do an inclusive development process where labor productivity (and respective return) can grow.

Regarding food and food security, territorial considerations are necessary, but looking for sustainable development, there is no doubts that territorial conditions are also key issues to be analyzed and studied. The concern with local development approach is a clear linkage with a territorial dimension, which needs to be on the center of the system considerations.

## **Objectives**

Looking at food (and nutritious) security and sustainable development challenges the paper stress the factual linkages among those issues and the need to understand better the linkages among global and local conditions. Factual data showed that there is no solution for the “hunger problem” based on global development approach only. Local development is a necessary concern which needs to address the “territorial” connections and relations. Convergence among different perspectives and models will be searched, looking at the evolution on concepts and acquired knowledge regarding results obtained and future objectives defined at the international arena, such as the Sustainable Development Goals (established in 2015).

Freedom of choice and quality of life with the lowest risks and vulnerability in the system with good governance seems to be the focal aspects where economic and food policy should be concentrated and deliver sustainable solutions. For this objective, sovereignty and food security are pretty much convergent perspectives. For sustainable development, local and global development, similarly, needs to be well integrated. Local development issues and food (and economic) policy seems to provide at least part of the solution in regard to the consumption driven world, but where supply growth can be very important transforming “potential demand” into effective demand. Along the same lines, helping to solve demand constraints, trade improvement among regions, and especially among countries, international trade, still are very important solutions and possible contributions (important policy assets) to promote the food system dynamics and value creation rational.

## Methodology and Approach

Concepts evolution is an important aspect to better understand the changes on perceptions about real world conditions and also about the interfaces with the scientific knowledge and messages communicated to the society, meaning messages that were spread in the community (scientific, political and general communities). The case for food security is very interesting, because the concept has been around at least since the II World War, but was not the central focus of the international community when establishing the 2015 Millennium Development Goals – MDG's/ ODM's in 2000. Only hunger and poverty were mentioned. However, nowadays in the 25<sup>th</sup> of September 2015, the establishment of the Objectives for Sustainable Development/Sustainable Development Goals –SDG's/ODS's clearly states the concerns and the terminology of “food security.” The author, Carvalho (2014), states that food security means “availability and access, in physical and economic terms, to enough and healthy food intake adequate to achieve a good nutritious status in a continuous and permanent path in time and space” and involves at least five dimensions: a) availability; b) access; c) utilization and consumption; d) stability; and e) vulnerability of the systems. However the official/“formal” international accepted definition based on FAO (1996) World Food Summit states: **Food Security exists, when all people at all times, have physical, (social) and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.**

It is relevant to note that the “social” dimension was included later in 2002 (Simon 2012) and also that the “official” definition implies availability, access, utilization and stability but not yet any considerations on vulnerability. However the recent concerns with climate change impacts and sustainability, expressed in several ways on the international actions and concerns (for example on the United Nations Sustainable Development Goals - SDG's of 2015) will end up looking to the weaker points on the food system and necessarily to the need of minimizing vulnerabilities. Indeed, the work by the United Nations initiative, as a result of the request by the UN Secretary-General's call at the UN Millennium summit about a World “free of want” and “free of fear” resulted on a job financed by the Japan's government. This Report, with the title “Human Security Now,” presented on 2003, was focused on several dimensions for global security needs, but clearly links those concerns with the need to promote autonomy (and freedom of choice) and protection. The same applies to all dimensions of human security and to food security. The concept of Food Sovereignty is also a new concept “officially born” at the FAO (1996) World Food Summit. Its roots are different and were proposed by an organization called “Via Campesina” which congregates more than 150 organizations in the World, related to family farming and defending an agricultural model based on small dimension and family farming looking at local development, sustainable development and environmentally friendly agricultural activities. Almost all of those principles have been discussed and are on the “agenda” of today's agricultural policies in many regions.

**The concept of “sovereignty” applied to food clearly tries to stress the need to have freedom of choice related to a certain space and territorial issues linked by its nature. The convergence from different backgrounds and points of view is now evident in this case.** Again improving “security” and freedom of choice is an “everyone concerning business” goal. According to the author (in Carvalho 2011) at least three dimensions should be taken into consideration:

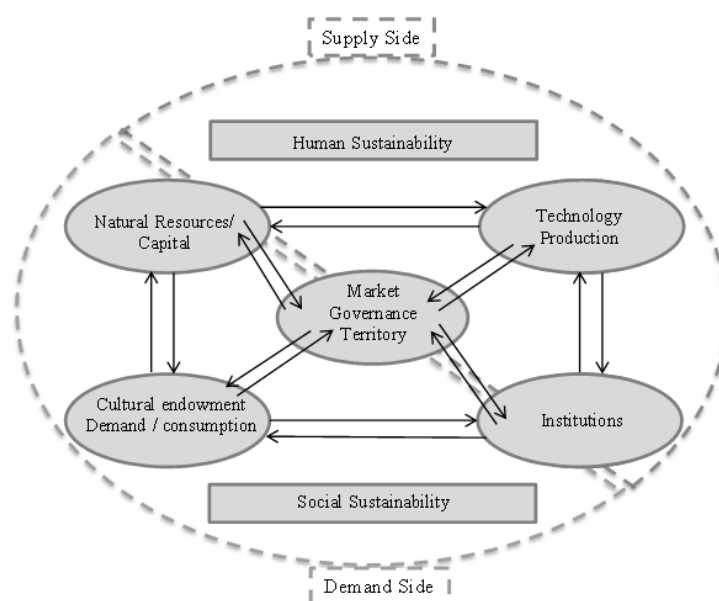
- a) Protection (improving protection);
- b) Promoting autonomy (and freedom of choice);
- c) Minimizing vulnerabilities of the system

The study of this subject has been pursued in many different ways. From the experience and work performed within an international network – REDISA-CPLP, network for education, information and citizenship for food security and sustainable development, it is important to point out the main referential models utilized in many different situations, which are:

- a) Dual models ( with a specific contribution based on “paradox” identification and possible rational explanations on a dynamic systems approach);
- b) Structural Models ( with a specific use of the WFSE-world food security equation discussed in the literature);
- c) Demand Constraints and New Demands;
- d) General Equilibrium Model – GE/ICI model – induced changes and innovation
- e) Regulation and Governance

From all of them it is possible to derive some policy recommendations, but indeed it is useful to use them as a set of “tools” and comprehensive “modelization” of the food system and economic development process. At this point it will be presented and analyzed in more detail the most global approach, discussing some potential applications, which is the general equilibrium model – ICI – induced change and innovation model.

The Fig 1 below shows the interfaces among different factors, and the model structure which assumes that any process of change is economically dependent and with economic rational in a multi-factor world and systemic perspective. Any food system and food chain can be analyzed using this background, as well as a complement to the simpler SWOT analysis (strengths, weaknesses, opportunities and threats). Recently, the same structural model is used by the author, for policy design purposes, with a quite new approach matching food technology engineering with economics: HACCP - Hazard Analysis Critical Control Point is (accordingly to the Canadian Food Inspection Agency, [www.inspection.gc.ca](http://www.inspection.gc.ca), 2016) “ an approach to food safety that is systematic and preventive. It is recommended by the Codex Alimentarius Commission, the United Nations international standards organization for food safety. HACCP is used by most countries around the world. It has been in use since the 1960s. HACCP goes beyond inspecting finished products. It helps to find, correct, and prevent hazards throughout the production process. These include physical, chemical and biological hazards.” It is time to add another dimension to the food system “risks and uncertainties” analysis, the economical dimension under a systemic analytic structure. Efficiency and governance need to be studied understanding the rationale behind the actual situation and change processes along the time. This should be done at local, regional and global levels, understanding changes and looking for better results in a competitive world.

**Figure 1 - Structural Model – Induced Change and Innovation (ICI) Model for Agricultural Development****Case studies, data analysis and discussion**

Food security in each country depends from national and international conditions and both dimensions are relevant. Development, sustainable development and degrees of “freedom of choice” in food are certainly relevant issues for any community. Sometimes it is evident the “tradeoff” between local solutions and/or international solutions “vis a vis” development potential and economic dynamics. But gains from trade which are very well known in economic terms cannot undermine “freedom of choice level” which should also be improved together with economic gains (if the goal is a sustainable development process).

In studies of Food Policy definition and strategic analysis for implementation of measures to improve efficiency and governance of the food system for sustainable development it is important to use the above ICI/GE – general equilibrium model together with other approaches such as the SWOT – strengths, weaknesses, opportunities and threats, analysis. A recent innovation is the use by the author of the HACCP – Hazard Analysis and Critical Control Points principles, but in social and economic terms. This instruments help to have a clearer picture of the needs of intervention and when related with the GE model/ICI allows defining strategies for action.

Looking at this rationale it is useful to look at two examples where international relations and trade have been improving but where it is necessary to guarantee that “freedom of choice” and future alternatives development will not be compromised. In other words this means that sovereignty will not be diminished, which also means that production potential capability should not be compromised either, and those conditions are not necessarily obvious and taken for granted (and guaranteed). Those issues deserve attention and discussion and should be under the agenda for all professionals dealing with sustainable development and food policy design. Under this background in this paper it is analyzed the case of one country in Europe, Portugal, and another case in Africa, São Tomé e Príncipe, hoping to deliver some insights for better food and development policies.

**The Portuguese Example in Europe**

Europe leaves in a relative stable situation in the food system, but with a lot of “regulation” and policy measures. However, it is fair to say that policy measures use always “as much as possible” the market mechanism. Portugal option to enter into the European Community (CEE in 1986) as the eleventh country to “join the club” was a political option that brought a lot of new challenges and opportunities. In the food and agriculture sector the country was not with great performance also surviving to a significant instable period after the revolution in 1974 (dealing with the cold war and under a significant Moscow influence), which affected mainly the south with an important agrarian reform. By its natural conditions (natural resource base) and tradition the country has been an important food importer. Indeed, from historical perspective, the country moved toward other markets and natural resources access, also motivated by its needs on food security.

Looking now to the ICI/GE model and to the structural model WFSE (World Food Security Equation), in terms of the Food System, EU-12 and EU-15 were on the III Phase, after the 1980 decade and up to the end of the XX century, but in transition to the IV phase in the XXI century. The III phase means a referential situation were production continues to grow faster than demand with systematic surplus. The IV phase means that some equilibrium is achieved under a set of policies /regulation (Carvalho 2013).

In regard to Portugal itself, isolated from the rest, it is obvious that the country is a food importer country, almost by tradition. However his situation in “food balance” terms in the 1980’s was getting close to self-sufficiency in many crops and food chains and in some of them a net exporter, like in fruits and horticulture. This is not to say that the country is not, to some extend, dependent from the exterior in some specific crops, such as some cereals, like wheat, but shows that the agribusiness sector is competitive in many crops and food systems, mostly where natural conditions have more favorable conditions.

**Table 1 – Rates of “self-consumption” (local –national production/national consumption, GAA – grau de auto-abastecimento %), before and after EU integration, measured in 1980-82 up to 1990-92 period, selected the best years giving a referential situation to represent before entrance to the Community – EU – 12 and the year of 2006-2008 for representing the situation after EU entrance.**

	Before EU – GAA %	After EU – GAA%
Cereals	47	27
Wheat	37	11.5
Rice	63	53
Corn	47	29.2
Roots and Tubers	94.2	58.7
Hortic+Fruits	178.8	166.4
Bovine Meat	96.2	52.2
Swine Meat	100.7	51.3
Chicken Meat	100	93
Ovine+Goats	100	79.8
Milk	100	106.2
Fish	102.1	41.1

Source: Ministry of Agriculture in Carvalho (2014).

The data in table 1 is quite surprising. The expectations regarding the food situation in the country has been always with a strong dependence from abroad, but indeed, this dependence was much weaker than expected in the 1980's. Remember that accordingly with the WFSE model, (Carvalho 2013) industrialized countries tend to be on the III phase of the food balance. It's a fact that Portugal is not a natural resource based rich country for food production neither a strong industrialized economy. What is evident after EU integration is, that only in one sector (production "vis a vis" consumption) the country production base was able to reinforce its situation, that is, to improve the self-sufficiency rate (milk sector).

The dependence from the exterior is quite significant and increasing recently. What can be said regarding food security, at global and at local level. The answer is not "linear." What can be shown regarding local conditions is that people is leaving with better conditions given the global infrastructures and income development improvements. So, in average, families welfare improved. For sector and global analysis there is no simple answer. However, some analysis can be offered and some discussion provided, with some possible derived conclusions.

**Table 2 – Growth rates for the agro-forestry sector, food and fish sectors and also for the economy in the period 2000 to 2011 (% growth in nominal terms).**

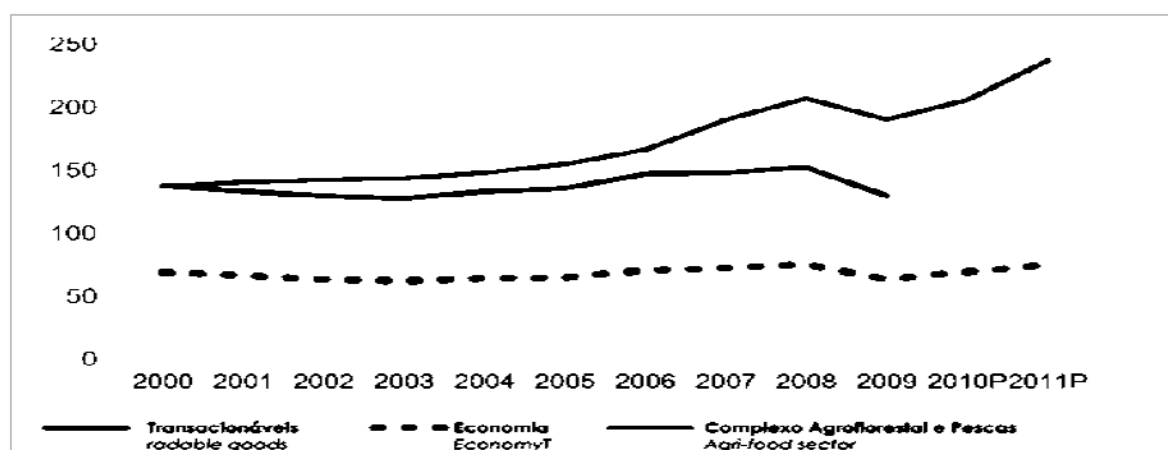
	Imports	Exports
Agriculture	4,0	10,9
Fisheries	4,3	6,1
Food, Beverage and Tobacco Industries	4,8	8,0
Forestry	-1,8	5,0
Forest Industries	1,6	4,4
Agri-food Sector	4,6	8,2
Forest Sector	1,1	4,4
Agroforestry and Fisheries Sector	3,8	6,2
Economy – Goods	2,3	4,0
Economy - Goods and Services	2,6	4,6

Source: Estimates of the GPP, Ministry of Agriculture, based on the National Accounts data (INE), Carvalho (2014)

Table 2 provides the relevant information about external relations and the positive behavior of the agro-related sector, and about the economy as a whole. It is obvious the obtained success in the first decade of the XXI Century, and more recent information confirms the trends.



**Fig. 2 –Degree of Openness for the agro-food sector, for tradable goods and economy as a whole in the period 200-2011 (% in nominal terms).**



Source: Ministry of Agriculture – Estimations from the GPP (Cabinet for Planning and Policies), based on National Accounting data, National Statistics Institute (INE), in Carvalho (2014).

Fig 2 shows the strong degree of openness to the exterior, measured in terms of international transactions in relation to local/national production, (with international transactions measured adding up exports and imports). The superior line represents the agro-food and fish sectors, the second line below what is happening with the tradable goods in general and the third, last one below, the economy as a whole. What we can see is a country open to the exterior in a very confident way, indeed with a tradition to import more goods than export, with a trade balance that has been negative for many years up to 2013.

The balance of trade imbalance (disequilibria) is indeed one of the main structural problems of the country that has been corrected with a strong economic crisis after 2011. (What is very interesting to see, is that the agro-food sector is doing very well with growth rates above 2% per year under the economic adjustment process).

**Table 3 – Trade Balance for Portugal – millions of Euros**

Year	Exports		Imports		Trade Bal.
	Goods	Services	Goods	Services	Net Trade Balance
1996	19 322	6 077	26 897	5 002	-6 499
2000	27 209	9 830	43 641	7 622	-14 225
2013	46581	21935	54 564	10 999	2 953
<b>2014</b>	<b>47385</b>	<b>22817</b>	<b>56350</b>	<b>11870</b>	<b>1 981</b>

Fonte: Bank of Portugal in PorData, 2013 e 2014.

Indeed it is not the time and space to analyse in detail the adjustment process. What is evident is that the agro-food sector is giving an important contribution for the autonomy of the country. For many years the agro-food sector was not considered as it is today, and it is important to say that should continue to give an important contribution as well as the services sector with which should interact much more in the future.

Secondly, international relations continue to be crucial, but cannot overlap the need to have a local based strategy, able to provide and improve autonomy and freedom of choice, where food sovereignty is certainly one dimension to be taken into consideration well connected with local conditions and resources.

### São Tomé e Príncipe case study

The country São Tomé e Príncipe is a small country in the middle of the Atlantic, exactly at the equator level, and has been followed by the CIAT-CD – center of tropical agronomy – cooperation and development, since 1992. The food system has been studied to better understand the possibilities to improve people food security status and sustainable development.

São Tomé e Príncipe is a country with huge development challenges, but with a reasonable behavior regarding food and nutrition security. The country has great environmental and natural resources potential, very much dependent from nature for food production. The country also uses the international markets based on its natural conditions, and was the first producer and the first world exporter of cocoa beans in the beginning of the XX Century. However, is a country with little more area than 1000 km<sup>2</sup>. The main Island has 859km<sup>2</sup>, S. Tomé, and the second 142 km<sup>2</sup>, Príncipe. There are some other little islands called “ilhéus”. The distance to Gabon is around 300km.

The country is on the equator type of climate, but with great variations from humid tropical to dry tropical conditions, which provides great opportunities for vegetable production. In the South the rain fall achieve numbers around 3000 mm, and in the North much less. At the Capital, airport control, the rainfall is around 800 mm.

The last two decades since 1992, the studies in food consumption and food security have been performed in close connection with the local institutions, the National Research Center – CIAT-Poto, and based on many collaborations with the University of Lisbon, CIAT-CD in Lisbon, mentioned above. The last work Silva (2014), based on a Master thesis, is used with other previous studies to better understand the evolution along the time.

**Table 4 – Basic Indicators**

	Value	Obs
GDP per per capita in PPP ( constant 2005 US\$ )	1653	2011
GNI per capita in PPP ( constant 2005 US\$ )	1792	2011
GDP per capita current US\$	1190	2010
Population growth rate (annual %)	1,8%	2010
GDP growth (annual %)	4.5	2010
Life Expectancy at birth, total years	64.1	2010
Mortality rate, infant (per 1000 live births)	53.1	2010
Literacy rate, youth female (% of females ages 15-24)	95.8	2010

Source: UNDP(2011) – Quick facts in Santo et al (2012)

To compare the country situation in regard to others in Africa, it is useful to look toward the Portuguese speaking community, and look to one of the main indicators for development which is the Average Expectancy of life at birth.

**Table 5 – Average Expectancy of Life at birth for the CPLP – Portuguese speaking community, Sub-Sahara Africa and at World level.**

Countries	Year	
	2000	2012
Angola	45,2	51,5
Brasil	67,7	73,8
Cabo Verde	69,7	74,3
Guiné-Bissau	44,8	48,6
Moçambique	39,3	50,7
Portugal	75,7	79,7
São Tomé e Príncipe	65,1	64,9
Timor-Leste	-	62,9
África Sub-Sahariana	48,7	54,9
World	66,9	70,1

Source: PNUD (2002) e PNUD (2013) in Silva (2014)

What is evident is the relative good situation of São Tomé e Príncipe, with expectancy of live in 2000 close to the world average. However no improvement in the last decade which is certainly motive of great concern, where the World improved more or less 3 years in average.

**Table 6 – Daily consumption evolution in caloric, protein and fat contents, in per capita terms, EMD – equivalent man per day, between 2002 and 2014. Data obtained from different research works performed at CIAT-CD/REDIS-CPLP.**

Local	Year	Calories (kcal/EM/day)	Proteíns (g/EM/day)	Fat (g/EM/day)	Observations
Água-Grande	2002	2682,1	113,7	n.d.	Santo S. (2008)
Água-Grande	2004	2780,08	94,94	n.d.	Tavares (2005)
Água-Grande	2008	3354,4	147,3	23,73	Santo S. (2008)
Água-Grande	2011	2650,75	n.d.	n.d.	Almeida (2011)
Água-Grande	2014	3601,26	125,21	95,86	Autora (2014)

Source – Silva (2014)

**Table 7 – Daily consumption evolution in Kcal per capita per day in STP, between 2001 up to 2010, with classification of the origin of products, in national or international origin, local production and imports.**

Kcal/day/Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Nacional Products (Kcal/dia)	1514	1428	1398	1159	1163	2031	1342	1399	1316	1250
Imported Products (Kcal/dia)	1082	1320	968	1133	1639	1322	1279	1329	1764	1809
Total	2596	2748	2366	2292	2802	3353	2621	2728	3080	3059
Nacional Products (%)	58,32	51,97	59,09	50,57	41,51	60,57	51,20	51,28	42,73	40,86
Imported Products (%)	41,68	48,03	40,91	49,43	58,49	39,43	48,80	48,72	57,27	59,14

Source: INE-STP in Silva (2014).

**Table 8 – Daily consumption in Kcal, proteins and fat in STP for two different districts, (the two most populated), Agua Grande (73 000 inhabitants) e Mé-Zóchi (45 000 Inhabitants), representing more than 50% of the total population, in terms of National Products and Imported Products in 2014.**

Consumption	Água-Grande			Mé-Zóchi			General		
	Calories	Protein	Fat	Calories	Protein	Fat	Calories	Protein	Fat
	Kcal/EM/d	g/EM/d	g/EM/d	Kcal/EM/d	g/EM/d	g/EM/d	Kcal/EM/d	g/EM/d	g/EM/d
National Prod.	1473,47	76,9	30,93	1442,08	69,55	28,54	1457,775	73,225	29,735
Imported Prod..	2127,79	48,33	64,95	1924,86	40,93	61,92	2026,325	44,63	64,835
Total	3601,26	125,23	95,88	3366,94	110,48	90,46	3484,1	117,855	94,57
National Prod. (%)	40,92	61,41	32,26	42,83	62,95	31,55	41,84	62,13	31,44
Imported Prod. (%)	59,08	38,59	67,74	57,17	37,05	68,45	58,16	37,87	68,56

Source: Silva (2014)

Tables 6, 7 and 8 are quite illustrative, showing a strong improvement in food consumption (and certainly in food security for the “average family”) in the last years, but also showing that the country evolution has been on the direction of more dependency from imported products, which from a sustainable point of view is clearly very problematic within a country with good natural resources for agricultural production, and lack of capacity to export.

### Some Comments and Conclusions

The two countries under analysis cannot be compared directly. The situation are completely different and the stages of development also very different. However, both have a tradition of being net importers of food, and also both with agri-business activities that contribute significantly for national export capacity. The two countries also have other characteristics in common. One relevant in terms of food security and sustainable agricultural activities is the Market dimension. Local markets tend to be small, and in São Tomé e Príncipe very small. Demand constraints are obvious in both cases and markets do need several types of interventions to perform in good conditions.

The food system dynamics have been quite active, and from the consumption point of view improved a lot in São Tomé e Príncipe. Given the relative good situation in Portugal (little space to improve in caloric intake, since already has one of the highest performances in Europe), improvements have been quite good in terms of production increase and exports. However in both cases the “openness” to the exterior improved, the contribution to local consumption also improved, but it is not clear if the best economic and social solution was achieved mainly in regard to the “dependency status” and sustainable conditions in the future. What is expected on a well behaved economy and fair world is a great contribution from trade to improve production and consumption levels and general welfare, with productivity growth and specialization. However, some vulnerabilities should be taken into consideration and some risks and uncertainties should also be part of the social choices of each society, where territorial considerations and food production focus deserve special attention.

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