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Short report

Food and nutrition security public initiatives from a human and socioeconomic development perspective: Mapping experiences within the 1996 World Food Summit signatories

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ABSTRACT

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. In a global scenario where hunger and obesity affect millions of people, public actions have been developed towards Food and Nutrition Security (FNS). In 1996 during the World Food Summit, 186 countries signed the Rome Declaration, committing themselves to assess and address Food and Nutrition Insecurity. In this exploratory study, we compile secondary internet data using keywords in four languages to map the global distribution, among signatories, of FNS public initiatives and assess their association with key national-level socioeconomic indicators. As a result, we found FNS public policies in 123 countries, reports on the state of FNS in 139 countries, and the presence of both in 114 countries (61%). The proportion of countries with any type of, as well as with specific, FNS policy or diagnostic was higher in least developed countries. There was a statistically significant association between these proportions and selected national-level socioeconomic variables. The results are discussed along with population vulnerability, international cooperation mechanisms and political discourse and how these factors impact the existence of FNS public actions.

Introduction

According to the Rome Declaration of 1996, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 1996, p. 5). Since then, the concept of food security has evolved to include the notion of nutrition security and variables such as healthy dietary practices, as shown in the Brazilian concept of Food and Nutrition Security (FNS) (BRASIL, 2006, p. 1).

Expressions of Food and Nutrition Insecurity (FNI) compose a continuum, extending from undernourishment to overweight and obesity. Around the world, 868 million people were chronically undernourished in 2010–2012, of which 852 million were in developing countries (FAO, 2012a). The highest prevalence was observed in sub-Saharan Africa, which includes some of the least developed countries in the world. With regards to overweight and obesity, over 200 million men and nearly 300 million women were classified as obese in the world in 2008 (WHO, 2012).

Determinants of FNS were identified at different levels as classified by Walleser Kepple and Segall-Corrêa (2011) and included: nutritional and health status, gender, race, education, and income at individual and household levels; public health services and basic sanitation at the local level; Human Development Index (HDI), national public policies and international economic trends at regional and macro socioeconomic levels, among others (Cole & Tembo, 2011; Dean & Sharkey, 2011; FAO, 2011; IBASE, 2008; IBGE, 2010; Martin & Lippert, 2012; Nord, Andrews, & Carlson, 2009; Pimentel, Sichieri, & Salles-Costa, 2009; Silva et al., 2013; Tolossa & Tafesse, 2008; Tsai et al., 2011). These determinants vary from one region to another: while Africa is concerned about the variability of its agricultural production and the availability of food (USDA, 2012), Latin America and the Caribbean are more concerned with access related issues, especially income inequalities and rising food prices, while also facing growing rates of overweight and obesity (FAO, 2011). In the United States, since food insecurity is mainly correlated with obesity, its determinants are discussed both with the expansion of highly processed food and its accessibility (Dinour, Bergen, & Ming-Chin, 2007).

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In recognition of the widespread prevalence of food insecurity and its population health consequences, representatives from 186 countries met in 1996 to discuss plans of action to promote FNS, in the first World Food Summit (WFS) specifically dedicated to food security (FAO, 1996). Attendees of this Summit committed themselves to the implementation of national FNS policies, continued surveillance of population FNS, and assessment of FNS policy effectiveness. These commitments were renewed in the World Food Summits of 2002 and 2009.

However, some elements lead to the hypothesis that uptake of FNS policies is not uniform among signatories, especially when analyzing such policies within the perspective of human development as defined by Amartya Sen's conceptual basis for the Human Development Index (HDI), where social progress and economics as a means to reduce inequality are critical development factors (UNDP, 2012). As a matter of fact, the overview of FNS determinants shows that it is intricately linked to human development, thus supposedly implying different responses in the face of Food and Nutrition Insecurity according to the human development context. In the meantime, studies show that human development as a whole, measured though the HDI, or some aspects of it, such as public health characteristics or income inequalities, is linked to public policies that reflect political priorities and willingness, decision-making processes, capacity and implementation. For example, findings from Pickett, Kelly, Brunner, Lobstein, and Wilkinson (2005) suggest that nutritional problems are associated with income inequalities in developed countries and that such inequalities may impact the effectiveness of nutrition programs. Moreover, income and health inequalities were found to be associated with the type of states and their political priorities (Beckfield & Krieger, 2009). Using HDI as an indicator, Scartascini, Stein, and Tommasi (2008) demonstrate that development levels do not only impact the effectiveness of policies but also the policymaking processes and the state's willingness and capability to implement them. Therefore, we should expect the portfolio of required potential and required public initiatives for addressing the WFS commitment to be vast and diversified.

Past studies have not yet shown how the development level of the 1996 WFS signatories relates to the initiatives they have taken to promote FNS. This study therefore intends to answer the following question: does human and socioeconomic development explain international differences in FNS public initiatives and monitoring across signatory countries of the 1996 World Food Summit? The objective is to evaluate relationships between FNS public initiatives and selected socio-economic variables within the signatories of the 1996 WFS, based on mapping and characterizing FNS public policies and diagnostics.

Methods

This is an exploratory research study of secondary data available on the internet, as such it did not require ethical approval. The research was performed in four languages (English, French, Spanish and Portuguese) and covered the 186 signatories of the Rome Declaration. The WFS has been used as a historic reference point and only initiatives taken after 1996 were included.

The research was performed in two main steps. Firstly, from September 2011 to March 2012, a research grid was applied to each country, the research was made by two different researchers in order to maximize the findings. This grid included research from government and national statistics agencies web pages, and Google, based on a list of key words (in English: "food security", "food and nutrition security", "national policy", "assessment", "surveillance", "monitoring"). Secondly, from March to April 2012, the information found was completed using existing international mapping and information systems on FNS public policies and status, these included FAO "Right to Food", "Improved Global Governance for Hunger Reduction", "Global Information and Early Warning System" and "Special Programme for Food Security" webpages and websites, as well as International Food Policy Research Institute (IFPRI), World Food Programme (WFP), Famine Early Warning System Network (FEWSNET), Food Insecurity Vulnerability Information and Mapping System (FIVIMS), and Integrated Phase Classification (IPC) websites, in between others.

The criteria used for including policies and diagnostics found into the FNS initiatives database were as follows: (1) to use the term "food security/insecurity" or "food and nutrition security/insecurity" in the policy objectives (FNS public policies) or in the evaluated fields (FNS reports and diagnostics); (2) to have a national, rather than local, scope – being considered national when it intends to act in all or most regions of the country; (3) to be formulated, at least in part, or mandated by the national government or by a public national institution; (4) to be at least at the stage of being formulated (FNS public policies); (5) to be published in full (FNS reports and diagnostics) or at least mentioned (FNS public policies) on the internet in one of the four research languages.

The variables analyzed were: (1) the type of information found; (2) the type of public policy or diagnostic found; (3) the concept used. The categories were identified along with the findings and defined as follows:

(1) Type of information found: Detailed document (final version, draft, legal declaration with the content of the policy, revision versions); citation;
(1) (a) Type of public policy found: Specific FS or FNS policy; comprehensive policy that enables to address all dimensions of FNS as conceptualized above (food and nutrition policies, development policies, and government global program or strategy); sector policies (such as agriculture policies, nutrition policies, food safety policies, poverty reduction policies); no public policy including FS or FNS in its objectives found;
(b) Type of diagnostic found: specific report for evaluating the state of FS or FNS; another evaluation report or an FS/FNS specific policy including a chapter or a sub-chapter dedicated to the diagnostic of FS or FNS; another type of FS or FNS diagnostic (for example a chapter or a sub-chapter dedicated to the diagnostic of FS or FNS within a public policy other than an FNS specific policy); no FS or FNS diagnostic found;
(2) Concept used: Food security (FS); Food and Nutrition Security (FNS).

Possible associations with the following variables were assessed: (1) the continent; (2) the Human Development Index (HDI); (3) the Income Gini Coefficient – measuring income inequalities; (4) the population living below $1.25 (Parity of Purchase Power – PPP) per day; (5) the *per capita* daily calorie intake; (6) the child malnutrition rate (stunting); and (7) the net Official Development Assistance (ODA) received between 1996 and 2010. These are the most used variables related to FNS determinants identified through literature review; the daily *per capita* calorie intake is the indicator historically used by the FAO to measure undernourishment (FAO, 2012b); the ODA was added afterwards when observing that many policies were issued from partnerships between the international community and local governments. These variable values were collected from the United Nations Development Programme (UNDP), the Central Intelligence Agency (CIA), the FAO, and the OECD databases (CIA, 2012; FAO, 2012b; OECD, 2012; UNDP, 2011), and categorized either according to UNDP classification or by quartile.

Table 1
Number and percentage of 1996 WFS[a] signatories with at least one FS[b] or FNS[c] public policy and one FS[b] or FNS[c] diagnostic found.

Continent	Countries with an FS[b] or FNS[c] public policy	% Of sign.	Countries with an FS[b] or FNS[c] diagnostic	% Of sign.	Countries with both	% Of sign.	Total nr. of signatories
Africa	46	88%	51	98%	46	88%	52
LA&C[d]	27	82%	27	82%	26	79%	33
North America[e]	2	100%	2	100%	2	100%	2
Asia	33	73%	33	73%	30	67%	45
Europe	8	20%	20	49%	6	15%	41
Oceania	7	54%	6	46%	4	31%	13
Total	**123**	**66%**	**139**	**75%**	**114**	**61%**	**186**

[a] World Food Summit.
[b] Food Security.
[c] Food and Nutrition Security.
[d] Latin America and the Caribbean.
[e] United States and Canada.

Considering the low proportions of countries found in some categories, the first and last two quartiles quarters of each variable were merged and the variables of interest were categorized into only two groups, in order to perform Fisher's exact test and assess association(s) of interest. Statistical tests were performed using SPSS software (13.0 version) and association was considered statistically significant when $p \leq .05$.

Results

The global picture

Of the 1996 WFS signatories, 123 countries (66%) were found to have a public policy including FNS or FS in its objectives and 139 countries (75%) an FS or FNS diagnostic. Both elements were encountered in 114 countries (61%) (Table 1).

A specific FS or FNS policy was observed in 94 countries. Only 30% of these policies had their detailed document found and 27% used the full concept of FNS. Among the remaining countries, 18 possessed a comprehensive policy and 11 had sector policies including FS or FNS in their objectives (Fig. 1).

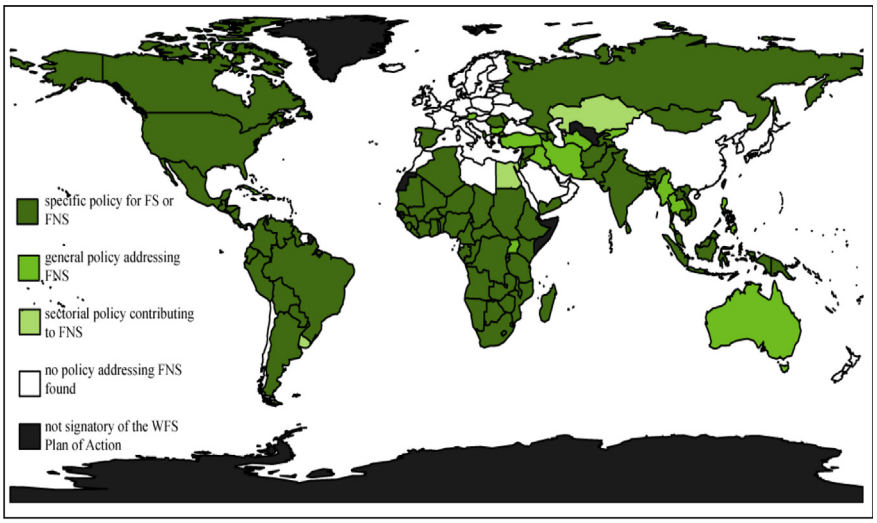
Specific FS or FNS reports were encountered in 73 countries. Among the remaining countries, 44 had another evaluation report or an FS/FNS specific policy including a chapter or a sub-chapter dedicated to the diagnostic of FS or FNS; the other 22 countries had another type of FS or FNS diagnostic (Fig. 2). Of the total 117 countries, which had a specific report or a specific chapter on the state of FS or FNS, 83 published their reports from 2007 onward. Only 33% of all diagnostics found used the term of FNS.

Analysis according to development indicators

The typical profile of a country with a specific FS or FNS policy and report found is a country with: Low HDI (according to UNDP classification), above 29% of the population living below $1.25 (PPP) per day, above 46.13 Income Gini Coefficient, below 2253 calorie daily intake *per capita*, above 38% child stunting rate, and above USD 7114 millions total ODA received between 1996 and 2010 (see supplementary electronic material).

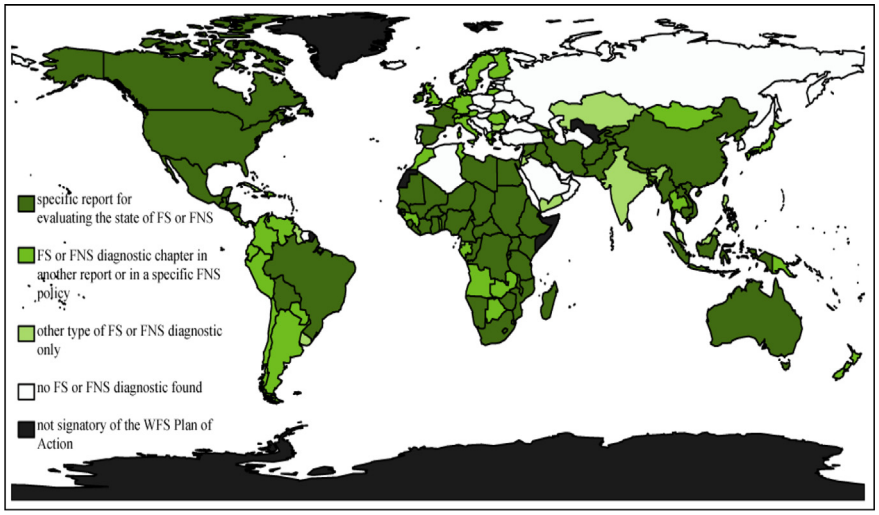
An FS or FNS public policy was identified respectively in 96%, 89%, 64% and 23% of low, medium, high and very high HDI countries. Likewise, we found an FS or FNS diagnostic in 98%, 89%, 64%, and 60% of low, medium, high and very high HDI countries, in that order. Fisher's exact test confirmed that there was a significant association between HDI (low or medium and high or very high), and the presence or absence of FS or FNS public policy ($p = .000$), or diagnostic found ($p = .000$).

We found a specific FS or FNS policy (as opposed to general or sector policies) in 95%, 77%, 62%, and 50% of the countries with any type of FS or FNS policy within the low, medium, high and very high



[1]Food Security; [2]Food and Nutrition Security

Fig. 1. National FS[1] or FNS[2] public policies per country, according to the type of policy found, among the 1996 World Food Summit (WFS) signatories.



[1]Food Security; [2]Food and Nutrition Security

Fig. 2. National FS[1] or FNS[2] public diagnostic per country, according to the type of diagnostic found, among the 1996 World Food Summit (WFS) signatories.

HDI countries, respectively. Meanwhile, we encountered a specific FS or FNS report (as opposed to a diagnostic in another document) in 82%, 59%, 24%, and 23% of the countries with any type of FS or FNS diagnostic within the low, medium, high and very high HDI countries, in that order.

Similar trends in the proportion of countries with an FS or FNS public policy or diagnostic were observed for all other development variables. A significant association was observed between each variable and the presence or absence of FS or FNS public policy found. Likewise, a significant association was found between the presence or absence of FS or FNS diagnostic found and the percentage of the population living below $1.25 per day (PPP), the daily calorie intake *per capita*, the child stunting rate and the total net ODA. Among the countries found to have an FS or FNS policy or diagnostic, the proportion of countries with a specific FS or FNS policy or report was observed as being higher in the least developed quartiles.

Discussion

Results show that most of the signatories did take action towards FNS, and the proportion of countries with an identified FNS initiative decreased while the HDI increased. Similar trends were observed with the other development variables and statistical tests confirmed the results. Conceptual definition and the integration of nutrition security with the use of the Food and Nutrition Security concept, especially in most developed countries, shows a difference in focus and priorities according to development contexts.

In view of the adopted methodology, upon failing to find any FNS public action, we can affirm that such information is not readily available on the internet. From a human right to food perspective, grounded in government accountability and public participation (Chilton & Rose, 2009), we should expect detailed and accessible information to be made available on the internet by all governments, directed to the right holders, independent of the countries level of development.

Results suggest that the vulnerability of the population is an important determinant for the development of FNS public initiatives. However, other factors are to be considered.

First, we must not forget that words have social and political signification. Many of the found documents treat the *seguridad alimentaria*, *sécurité alimentaire*, or *segurança alimentar* in the sense of food safety and not food security. Such examples being: The Spanish *Estrategia de Seguridad Alimentaria 2008–2012* and the European *Livre Blanc sur la Sécurité Alimentaire*. In France, despite obvious similarities with a Food and Nutrition Security program, the National Program for Food does not use the term of FS or FNS neither in its objectives nor in its action plan. Yet, international cooperation policies of the same countries/institutions do use the concept of FS with a similar definition as that of the Rome declaration. The exclusive use of the FS concept in international relations in some developed countries raises questions about this being a deliberate political choice. In 1997, Riches affirmed (p. 64): “A key issue is that governments of advanced industrial nations refuse to acknowledge the existence of hunger. They are assisted in their denial when, for example, the United Nations Development Programme reports on the problem of global poverty without providing data on hunger and poverty in industrial countries”. The absence of data on poverty and food availability for developed countries was indeed observed in the UN databases, used for the present research, 15 years later. The study indicates that countries like the United States, Australia and Canada did take action, demonstrating that even in so-called developed countries there has been a need to face the reality of food insecurity.

However, one could argue that it is more important to name an issue and communicate about it whenever external resources and support are needed to face it.

Indeed, the existing mechanisms of international cooperation could explain why information of FNS public initiatives was found mostly for developing countries. Many public initiatives found were formulated or implemented by the national governments in partnership with UN agencies. One significant example is the National Programme for Food Security, implemented by the FAO in collaboration with local governments. Results showed a significant association between the existence of FNS public initiatives and the total net value of ODA received between 1996 and 2010.

It is worth mentioning the debate surrounding the Paris Declaration (OECD, 2005), and its directives on development policies being “owned” by the developing countries, and on the concept of mutual accountability. Such concepts are critical in order to address the issue of power imbalance inherent in the donor–partner relationship, especially as there is growing consensus that

development aid will be more effective when leadership is assumed by the recipient countries (Droop, Isenman, & Mlalazi, 2008). However, the concept of ownership is not always compatible with political realities and is difficult to put in practice (Hyden, 2008). Although the present study shows that international cooperation did have an impact, at least in terms of policies and diagnostic formulation, it does not allow one to know the extent to which national governments were involved or the products of these initiatives. As for mutual accountability, Mutasa (2008) affirms that the aid beneficiaries report to the donor countries first, at the detriment of their own population, which probably had an impact on the type and quantity of information found.

Conclusions

This study intends to evaluate relationships between FNS public initiatives and selected socio-economic variables within the signatories of the 1996 WFS. It is an exploratory research based on secondary data compiled from the internet, in which the presence and type of FNS public initiatives per country were analyzed according to development indicators. Results show that most of the signatories did take action towards FNS, providing positive feedback on the Summit's impact, especially in the least developed countries. In response to the research question, the study shows that human and socioeconomic development does explain international differences in FNS public initiatives and monitoring across signatory countries of the 1996 World Food Summit. In fact, the proportion of countries with an identified FNS initiative decreased along with the increase of the HDI, similar trends were observed with the other development variables and statistical tests confirmed the results. Results demonstrated an association between the presence of such initiatives and the Official Development Assistance, raising questions about the role of international cooperation in the elaboration of these policies and diagnostics.

This study intends to serve as a basis for further research, so as to provide an incentive to expand initiatives, increase efforts to monitor food and nutrition insecurity, and empower citizens by making FNS information more widely available. Recommendations for future research include a more in-depth analysis of each development variable impact, with the inclusion of other determinants, the role of international bodies and of FNS political discourse used in different contexts.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.socscimed.2013.12.025.

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