

## **Conference: Enhancing Human Security**

### **Title:**

Food insecurity and capability deprivation in the Peruvian and Colombian coffee growing zones. Gender Analysis from the capability approach.

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### **Abstract**

In the capability approach, analysis of social costs or benefits of different policies can be measured different from utilitarian way. I apply in this paper the Amartya Sen and Martha Nussbaum proposals to the analysis of Food insecurity and capability deprivation in the Peruvian and Colombian coffee grown zones, including a gender perspective.

Coffee is the second world commodity and of its production, depend important revenues for exports of developing countries. Also, it is the main source of liquidity for producers in areas where the alternative uses of land are scarce. After six years of crisis in the international coffee market, producer's income reduced drastically. In this paper I identify adaptive preferences for the Peruvian and Colombian coffee producers. I compared the different income trajectories of this producers from coffee with a time series analysis of the historical data of prices for both countries from 1989 to 2004. Rent levels are the starting point for practical evaluations and its analysis is the first step of our analysis.

In utilitarian approach these are the "objective" indicators to measure welfare for public policy; we reviewed in last sections, that "objective" in this case mean "implicit" weights of the functions of the producers. From 1997, the coffee prices have been reduced 6 times, from US\$300 cents per pound to US\$50. And the forecasts are that it will never be bigger than US\$100 in a long term. Identifying adaptive preferences of the Peruvian and Colombian coffee producers, we can determine the importance of relative rather than absolute income trajectories differences.

Sen hypothesizes that someone who has never known anything other than material deprivation may not be unhappy or dissatisfied with his or her circumstances. Indicators about food insecurity in rural coffee grown zones in Perú and Colombia like presented in this paper will give us tools of analysis and also to think about the importance of the alimentary sovereignty in the capability approach applied to analyze this problem. It will be the second step of analysis.

Adaptive preferences involve that with big inequalities, the sanction to governments that do not apply policies to help producers is not so visible for producers that had been impoverished for a long time. In this case, recovering real rent, will not be enough. To evaluate changes in welfare, it will be necessary to evaluate other spaces of functions, and for this it will be interesting to consider the Martha Nussbaum proposal. Here we consider her first function of central importance: Life, where it is included do not to suffer food insecurity.

Food insecurity is a consequence of different variables, not only reduction of income, but changes in patterns of land use and local and regional productive vocation. We will

analyze statistical indicators about food insecurity like sub nurtured population rate. This and other indicators of the subjective assessment of well-being of the coffee producers will give important elements for the analysis of public policies, specially related with the role of women to fight against it. And it will be very helpful for people in poor countries to elect proposals of the politicians about how to increase the welfare of the rural population.

In summary, we analyze the social impact of coffee crisis over food insecurity specially for women when the income trajectories of the Colombian and Peruvian coffee producers start in different levels. This paper will conclude with proposals of policies that bring more efficiently to the reduction of food insecurity.

### **Keywords**

Capability approach, food insecurity, alimentary sovereignty, coffee prices, well-being, gender, adaptive preferences.

### **Introduction**

Amartya Sen in his book "Development as Freedom" (1999) points out that the process of expansion of real capacities that the individuals have should not be the only goal of the development, but one of its main means. These capabilities are understood as to live a lot and to live well while one is alive.

In the theory of capabilities, it is more important to focus on improving the quality of life that we live and the freedoms that we enjoy, than in the economic wealth. Also, there is a consideration about the initial distribution of the wealth for the analysis of the well-being that allows to include the individual's previous experience with their income trajectory. Consequently, the analysis of the social costs and benefits of different policies can be evaluated from an alternative way of the "utilitarian"

The adaptive preferences for the Peruvian and Colombian coffee producers are identified from the valuation that they carry out about the big losses generated by the crisis in the international coffee market. Peru and Colombia have different income trajectories from the coffee, and the producers evaluate their loss in well-being more in relative terms than in absolute way, depending on their income trajectory history.

After six years of crisis in the international market of coffee, the income of the coffee producers decreased drastically, the coffee supply growth faster than the demand; the loss of well-being felt by the producers has been very big and the widespread poverty in the rural zones of the coffee countries brought many movements, like that of the NGO "Oxfam" and the International Coffee Organization called "Poverty in your cup", which tries to increase the concern of the consumers of the importing countries about the critical situation presented among the producers.

The coffee is the second world commodity and from its production, it depends an important percentage of the total exports of 50 developing countries. For example, for the year 2002: Burundi 79%, Ethiopia 54%, Uganda 43%, Honduras 24%. In Table No 1 we can see the list of the sixteen producing countries that during the period May 2003-April 2004 exported more than one million bags of 60 kilos. It is important to highlight that since the system of quotas was eliminated in the year 1989, the countries that have increased their exports the most are: Brazil, Vietnam, India and Peru. Colombia has diminished its

volume of exports, but with high variability between year and year, like we can see in the last column of Table No.1.

**Table No.1**  
**Volume of exports of coffee from the principal countries producers to all destination. (bags of 60 kilos). May 2003 - April 2004**

Country	Category	Exports Total 2003-2004 (bags of 60 kilos)	Average Exports 1989-2003	Standard deviation Xs 1989-03
Brazil	A / R	24.436.391	19.555.942	3902440
Vietnam	R	12.811.609	5.780.253	4535835
Colombia	A	10.642.946	11.432.466	1978430
Indonesia	R / A	4.606.000	5.334.262	875386
India	A / R	4.143.162	2,857,713	849452
Guatemala	A	3.542.266	3.727.572	572557
Uganda	R / A	2.650.384	2.957.532	764447
Mexico	A	2.600.189	3.693.223	791313
Peru	A	2.594.520	1.742.823	662068
Honduras	A	2,572,094	2.018.970	440884
Ethiopia	A	2.244.264	1.564.148	466565
Ivory Coast	R	2.156.804	3.607.630	1117274
Costa Rica	A	1.840.313	2.145.813	223602
El Salvador	A	1.217.909	2.053.946	489699
Papua New Guinea	A / R	1.178.800	1.095.658	150454
Nicaragua	A	1.102.816	815.351	285215

Source: International Coffee Organization  
Own elaboration.

The categories of coffee for the 85.539.181 bags of 60 kilos that were exported during the period May 2003-April 2004 were: Arabics (A) that includes the Mild Colombian (14%), Other Mild, that it includes the Peruvian coffee (24%), Robust (R) 34% and Brazilian Natural 27%.

In Colombia, the coffee has been historically an important factor of internal accumulation of capital, closely tied to the agricultural, industrial development and the expansion of the domestic market. So, it has been source of finance for the rest of the economy and it allowed the linking of the national economy with the international market.

Coffee constitutes for Colombia one of the main economic activities as strategy of generation of income for more than 560.000 rural families. Other indicators of their importance are: it links to more than 4 million people among producers, workers, transport, industrialization, internal commercialization and export. It generates the equivalent of 529.248 employments. It occupies 753.816 hectares in the cultivation of coffee, distributed in a total of 559 municipalities. The coffee activity represents today 2% of the national GDP and it contributes with 22% to the formation of the agricultural GDP, although in the last years a fall is observed in the participation from the coffee to the formation of this. The value of the exports of the grain represents 8% of the aggregate value exported by the

country and its importance is very significant as demand source and of development in the inter Andean regions, where it concentrates most of the domestic rural population.

**Table No.2 .**  
**Percentage participation of the coffee in the agricultural GDP of Colombia**

<b>Branch of Activity</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Coffee	14,06	12,97	12,61	13,49	10,86	11,07	12,62
Agricultural without coffee	43,73	45,65	45,79	44,61	48,41	49,22	47,29
Cattle	38,27	37,81	38,01	38,38	37,31	36,38	36,21
Products of Forestry and wooden extraction	1,44	1,27	1,29	1,31	1,22	1,20	1,10
Fish and other products of the fishing	2,50	2,30	2,30	2,20	2,20	2,12	2,78
AGRICULTURAL GDP, FORESTRY, HUNTS AND HE/SHE FISHES	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Source: DANE. National Account.

Like we say before Colombia is a country producer of soft Arabic coffee washed, whose productive area in the 2002 is considered in 753.816 hectares<sup>1</sup>, 25% smaller than the registered at the beginning of the decade of 90's. With this extension, the cultivation of the coffee represents 20,2% of the domestic agricultural total area. This area is distributed in 559 municipalities located in 16 departments.

73,7% of the coffee productive units have a size that oscillates between 0,1 and 5 hectares, of which 37,15% constitutes its properties smaller than 1 hectare. The total area of the properties that exploit coffee is 3,5 million hectares, of which 23% is dedicated to the coffee, 34% to grasses, 8,5% to other traditional agricultural cultivations as the sugar cane "panelera" and the corn, 35% remaining is in mounts.

A research carried out by the Regional Center of Coffee and Managerial Studies, between 1997 and 1998, the coffee units of smaller size, of 0,1 up to 1 hectare, dedicate 77% from their surface to the cultivation of coffee, while the biggest to 5 hectares have a DFy of 20%. Productive strategy that obeys mainly to coffee is the economic activity that generates the biggest contribution to the family income. Also, the rural small producers use family manpower intensely, that which allows them to reduce in crisis part of the costs of cultivation and to stay in the business.

It is necessary to mention two important aspects about the coffee: First, it is a labor intensive cultivation where this factor represents 60% of the cultivation costs and harvesting of the coffee. And the importance of the family labor force, in which the woman's participation and the children constitute an important element in the cultivation and harvesting of the coffee. As it is observed in Table No. 3.

<sup>1</sup> Ministry of Agriculture. Agro national survey 2002.

Another strategy of diversification of the income is recruiting the family labor force and sale of services in big and medium coffee properties. However, this way of economic diversification has been restricted in a significant way before the loss of profitability of this activity and the impact of the crisis on the global structure of the Colombian coffee sector, that have diminished the family income and the employment, reducing the consumption of the coffee and increased the levels of poverty in the cultivation areas.

**Table No.3**  
**Structure of Operating costs for coffee in Colombia<sup>2</sup>**

Variables	Participation (%)
Harvesting of coffee	31
Permanent labor different to those corresponding to harvesting	29
Inputs	21
Administration	16
Financial costs	3

Source. Luz Fonseca.

On the other hand, the situation becomes more critical if we added that in the last decades the domestic coffee sector has presented an massive entrance of new producers and the decrease from the dedicated area to the cultivation. It is considered that at the present time the number of coffee producers is superior at the 500.000 and the size average of the coffee plantations is of 1.5 hectares, while in 1970 it arrived at 300.000, and in 1980 the dedicated area to coffee was of 4,6 hectares.

In the case of Peruvian coffee, the history is shorter than the Colombian case. After the elimination of the system of quotas in the coffee market in the year 1989, began the growth of the production, occupying the lands that were abandoned during the conflict 80s when "Sendero Luminoso" was present in the rural zone of Perú. From 90s to now, Peru has been entering successfully to special coffee markets like organic, fair trade and friendly with birds.<sup>3</sup>

## Methodology

In the first section of this paper, It is carried out a bibliographical revision on the theory of capabilities, specifically starting from the proposals carried out by Amartya Sen and Martha Nussbaum.

In the second section, I present historical data on the trajectories of income from coffee for the Colombian and Peruvian coffee producers. With this information, there are identify the adaptive preferences. Then, the different indicators of subjective valuation of the well-

<sup>2</sup> Reference in the coffee chain in Colombia. Observatorio Agrocladenas Colombia. [www.agrocladenas.gov.co](http://www.agrocladenas.gov.co)

<sup>3</sup> Flores Tenorio, Pedro. "Economic Valuation of the biological diversity and of the environmental goods and services of the Peruvian coffee landscape." This work was published as part of the book "Economic Valuation of the biological diversity and the environmental services in the Peru." Lima: 2001. IRG-Perú. BIOFOR(USAID. INRENA).

being of the coffee producers analyzed in the areas where they live, like rate of homicides and proportion of reduction of the cultivation area.

To identify the adaptive preferences of the Peruvian and Colombian coffee producers is an useful exercise that allows to take into account that the examples outlined by Sen on differences in the well-being of people when dissimilar trajectories of income are not incidental; And, when applying them in the analysis of the policies in the agricultural sector they can contribute to carry out solid proposals with those that policy makers and the private sector, act like strategic partners..

Finally, I analyze the social impact of the crisis of coffee, taking into account that the trajectories of the entrance of the Colombian and Peruvian producers that begin in different levels. Conclusion will be that there are evidences to accept that adaptive preferences exist in the coffee producers of Peru and Colombia.

### **The theory of capabilities. Proposals of Sen and Nussbaum.**

The theory of capabilities has been taken into account for the analysis of the social policies from the seminal work of Amartya Sen in a multidisciplinary way in "Development as Freedom" (DF) in year 1999. The theory has being criticized and enlarged in different works like "Women and Human Development: The capabilities approach" (MHD), of Martha Nussbaum (2000). The key concepts on which the theory of the capabilities is built are defined next:

#### **Definition of Capabilities:**

Capabilities are a type of freedoms: fundamental freedoms to obtain different combinations from the functions. (To choose the life that we have reasons to valued).

#### **Definition of functions:**

Functions are different things that a person values to make or to be.

Example of valuable functions: Elementary, like good feeding and not to suffer avoidable illnesses; Complex, like being capable to participate in the life of the community and not to be shame when it happens.

Chapter 3 of DF has special importance for the analysis of this theory; because it set up the bases of information like decisive principle for the realization of value judgements. Sen highlights that utilitarian, liberal and justice-rawlasians theories sustained explicit or implicitly in bases of information with serious deficiencies. Specifically he considers the exclusion of important information for the welfare evaluation like the recognition of the individual freedom or the violation of the fundamental rights in the utilitarian theory, the most influential about the justice during one century, begun by J.Bentham<sup>4</sup> and whose works were continued by J.S.Mill, S. Jevons, F. Edgeworth, A. Marshall and B.C. Pigou.

Sen gives examples of the indifference toward the distribution and the mental restrictions and of adaptation like other defects in the utilitarian conception of justice. With regard to the last critic, he points out "Our desires and capabilities to experience pleasure adapt to the circumstance, especially to make bearable life in adverse situations. The measure of

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<sup>4</sup> In the "benthamitas" functions of utility, the "utility" represents a measurement of pleasing, happiness or satisfaction. Also, Sen extends its critics on "neo-utilitarian", that understand "utility" like the satisfaction of desires or some representation of the conductual election of a person.

the utility could not be fair for people permanently impoverished: for example: ... small traditionally precarious farmers that live in a world of uncertainty... " <sup>5</sup>

The utilitarian theory doesn't make a difference if a person consumes more than 2200 kilo calories for first time or if this consumption has been made during all the life of that person. In the first case, the person has irreversible effects over the opportunities that this person can choose in the future and this fact should be considered for the welfare analysis. Policies for rural development must be necessary and to fight with the problem of food insecurity.

With reference to the most influential contemporary theory in the justice, that of John Rawls, Sen begins its analysis with the "condition of the priority of freedom" where some rights have the absolute priority above the achievement of social objectives (included the elimination of the poverty and the misery). Sen defends that it should be necessary to reduce the priority of this condition. He says that freedom should be taken into account but without passing so easily the economic necessities; and it is specially critical with Robert Nozick's modern liberal focus that is considered inflexible with regard to social system with "the priority of the freedom." Since with these bases of information, it is left aside the achievements for the improvement of the level of real income, the theory is too weak.

After presenting the advantages and disadvantages of the three focuses, Sen approaches the important differences that exist between income and resources; freedom and well-being. Sen highlights that a big advantage of the theory of capabilities is that it has to be explicit the list of important achievements and the corresponding capabilities for the exercise of the evaluation of the well-being. Martha Nussbaum, in the chapter 2 of their WHD take into account this strength of the theory and envelope neo-Aristotelian bases proposes in a tentative and open way to discussion a list of ten central human capabilities, where are included<sup>6</sup>:

1. Life. Be able to live a life and to finish it in a normal longitude of human life.
2. Corporal health and integrity.
3. Corporal integrity. Being able to move freely among places; being able to be sure against violent attacks, including the sexual assault. . .
4. Senses, imagination, thought. Being able to uses the senses; being able to imagine, to think and to reason. . . ; being able to express them with guarantee of freedom of expression like political speech as artistic and freedom of religious exercise; being able to have pleasant experiences and to avoid avoidable damages.
5. The emotions: being able to choose people and things freely, to be able to love people that love each other and they take care of us, not having the emotional development of one destroyed by fear or anxiety.
6. Practical reason. Being able to formed oneself the conception of the good and to commit in the critical reflection on the planning of the own life of one.
7. Affiliation. Being able to live in community, to recognize and to show concern for other human beings, to engage in several forms of social interaction; being able to imagine the situation of other and to have compassion for that situation; Being able to be treated as a dignified human being whose value is similar to others.
8. Other species. Being able to live with concern for and in connection with animals, plants and the nature.
9. Recreation. Being able to laugh, to play and to enjoy recreational activities.

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<sup>5</sup> Sen. DL. pág. 85

<sup>6</sup> Nussbaum, WHD, Chapter 2.

10. Control on their environment. (A) Political: being able to participate effectively in political elections that exercise influence on the life of each one; having the right of political participation, expression and association freedom. . .

(B) Material: being able to hold property (both land and movable goods); having the right to look for employment in equal basis like others. . .

Sen highlights<sup>7</sup> that to make a list as the one made by Nussbaum it is a complicated work of public election, but it is good to make it explicit, instead of maintain it implicit. Gough (2002) increased the debate on this list when considering other basic functions to take into account. Sen highlighted that the center of attention of the space of evaluation of policies that affect the well-being in the focus of the capabilities is that of "functions carried out" (what a person can really make) or the "group of capabilities" of the options that he has (his real opportunities). In other terms, the combinations of a person's functions reflect his real achievements; the group of capabilities represents the freedom to obtain them.

Sen says that it is also possible to give importance to the fact of not taking advantage of the opportunities. In fact, the "option" can be a valuable function itself and to have a basket X where there is not any alternative can be reasonably different from choose X when exist alternative important. This type of elements in the theory of capabilities allows an analysis of the well-being with better basis of information in comparison with the utilitarian theory.

With the objective of carrying out a social evaluation of the functions, it is necessary to make weightings. And for this, it is required some consent type. It is necessary an exercise of "public choice" that requires a public debate, which is very different to the utilitarian concept of the practical measure of the value of change to weight goods, and doesn't allow to carry out interpersonal comparisons of the levels of utility. Sen precise that real income is an imperfect indicator to analyze the well-being and the quality of life that the individuals have reasons to value, because the comparisons cannot be deduced from the realized elections. Sen concludes that some important problems as the mortality, the loss of biodiversity, the education, the environment, the freedoms and recognized rights received an implicit zero weight in the evaluation based only in real income. So, to confuse the comparison of well-being with the comparison of real entrance is very serious.

In Chapter 2 of WHD<sup>8</sup>, Nussbaum highlights in its list three functions as of special importance: the "practical reason" and "affiliation" and in a third place of importance "the corporal integrity." However she says that all are of central importance, and it cannot have any substitution among them. Nussbaum talks about a general agreement in time. A continuous process of complements of the dialogue among different cultures supplements its philosophical focus. In this sense the list remains "open and humble." She limited their neo-Aristotelian proposal to a partial and not understanding conception of a good life, only for purposes of policies analysis. In this case, the proposal of Sen is more complete because he goes beyond the practical purpose of evaluate the economic and social policies. Specifically his fundamental topic is the best way to judge the individual advantages and the most reasonable way of making interpersonal comparisons.

Finally, in Chapter 2 of WHD, Nussbaum describes the process of adaptive preferences and analyzes the obstacles that these propose to secure the agreement in the minimum

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<sup>7</sup> Sen, Cap.3 op.cit.

<sup>8</sup> Nussbaum, op.cit. pág.82

norms to leave the conditions for a flourishing life. She says that the desires in contrast with the preferences are not completely adaptive.

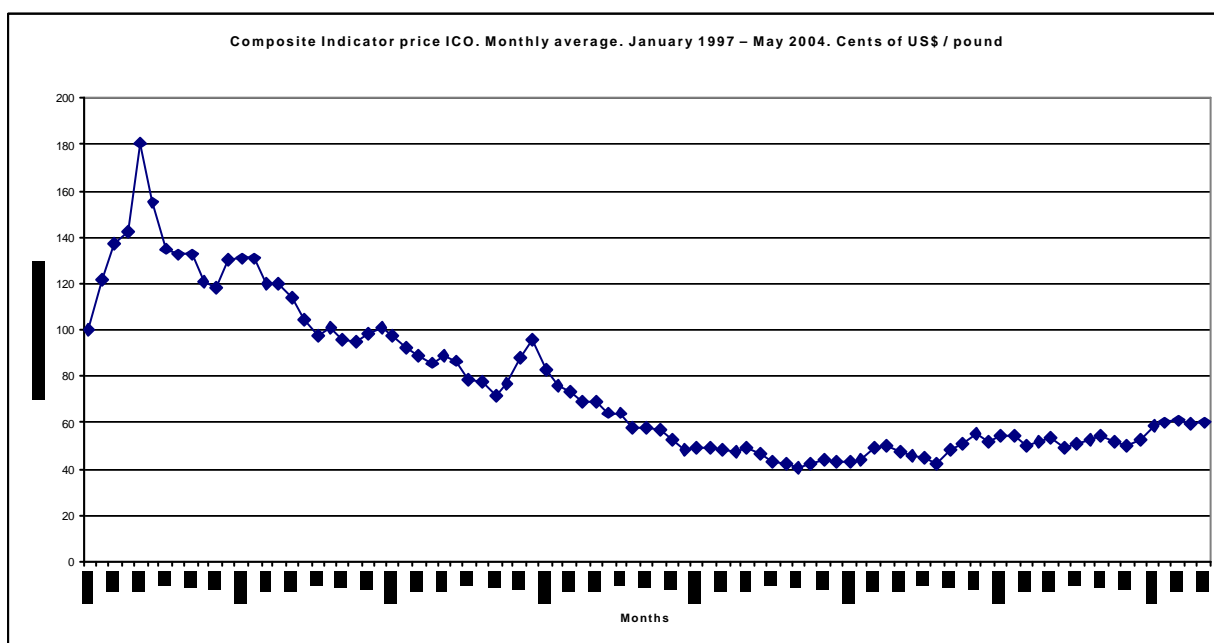
### **The crisis of coffee and the real income of producers in Peru and Colombia.**

It is considered that coffee provides a sustenance to 25 million families of producers around the world. (550.000 in Colombia and 125.000 in Peru). It is a permanent cultivation that is not easy to change to an alternative for geographical reasons (as altitude) and of profitability, when the prices are in today's levels, then the consequences about the well-being of the countries are big, especially in both countries where the coffee is one of the first products of agrarian exports.

The crisis of coffee already takes seven years, it began in 1997 and from there the fall of the prices has been of until 75% less, with historical registrations of low prices. (See Graph No.1). So, it is easy to deduce that both Colombian and Peruvian coffee producers were affected directly in their level of real income by the fall of the international prices.

As it was mentioned in the Introduction, the Colombian coffee is recognized in the international market as Soft Colombian, and it receives higher prices than the other types. On the other hand, the Peruvian coffee, it is included in the category of Other Soft ones. However, the crisis of prices has generated that the difference among both categories has decreased reinforcing the process that came from the opening of the market of coffee in 1989. (See Graph No.2).

### **Graph No.1**

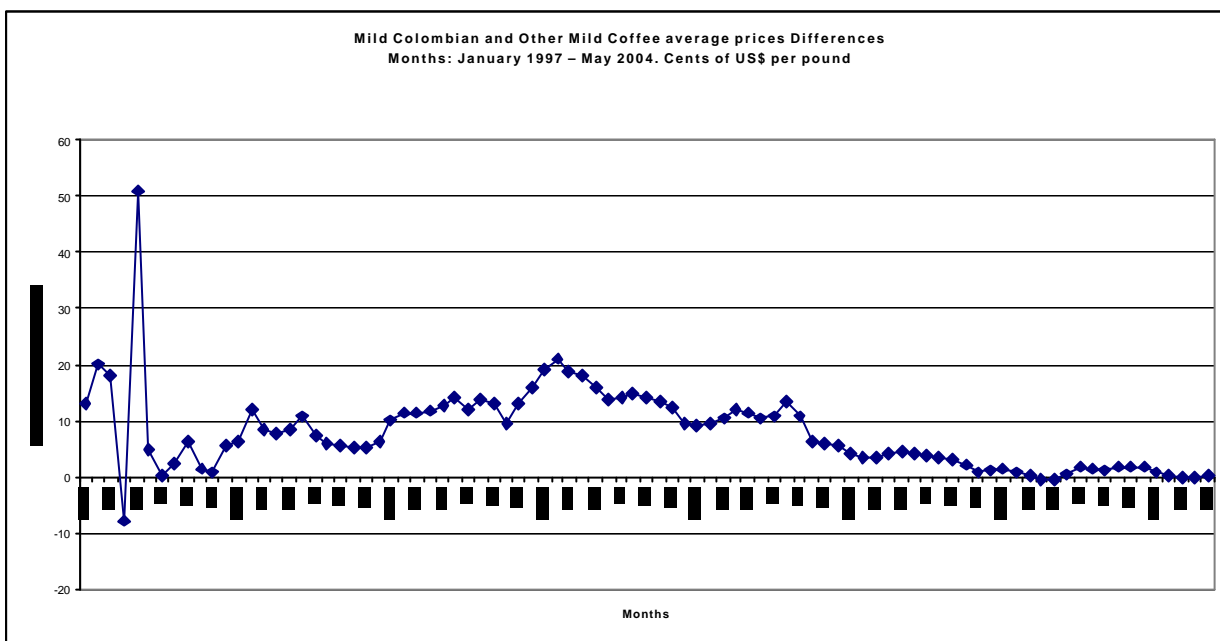


Source: International Coffee Organization  
Own elaboration

The coffee mainly has as component inside the costs, the manpower, in some cases with 70%. With the crisis many producers have seen diminish their real entrance and with it

their purchase capacity, given the importance of liquidity that provides the coffee in the rural areas of both countries.

**Graph No.2**



Source: International Coffee Organization  
Own elaboration

### Causes of the coffee crisis

The International Organization of Coffee (ICO) is an intergovernmental entity that studies policies to overcome the problem of the coffee crisis. For them, the main cause of the crisis was the imbalance between supply and demand<sup>9</sup>, with the production of world coffee growing at average yearly rates of 3,6% while the demand grows at only 1,5%. Vietnam, Brazil, India and in fourth place Peru were the countries that increased the most their production.

The second cause identified by the OIC is the decrease in quality of the coffee bean, which can be observed in the case of the great increment in the supply of the robust variety of coffee from Vietnam. This situation generated economic benefits for the toasters and wholesalers companies that made their blends using coffees of small quality and price.

Retail prices for the coffee have not changed as much as if they have made it the prices received by the producers. NGO OXFAM began in year 2002 the world campaign "Poverty in your cup" to sensitize to the public opinion and to press so that the toasters and multinationals pay a fair price.

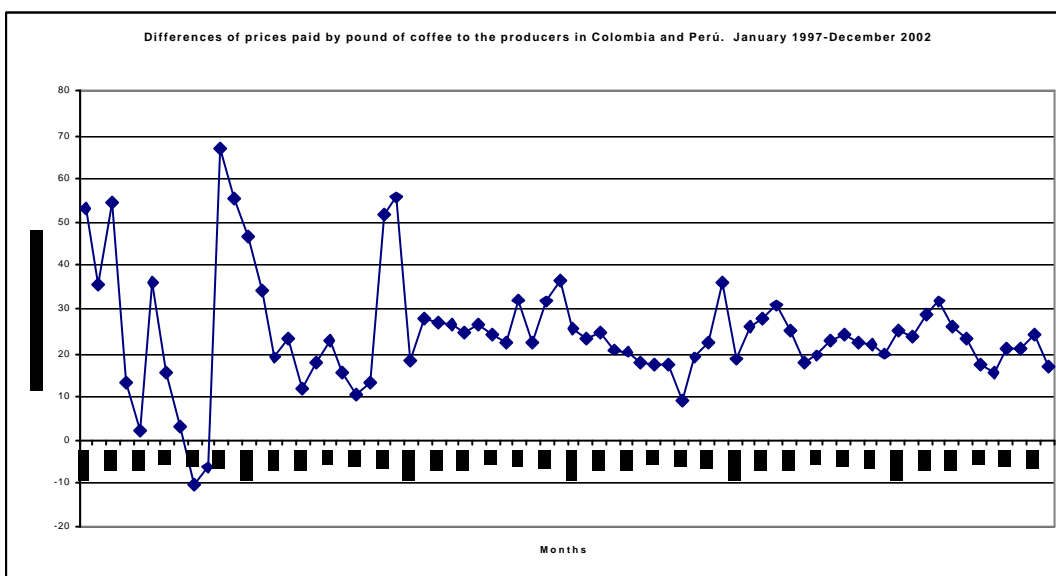
ICO also identified a category of consequences of crisis of coffee for the regions where the farmers depend much of the coffee for its income, like in the case of the Peruvian and

<sup>9</sup> ICO. Coffee crisis. [www.ico.org](http://www.ico.org).

Colombian coffee areas where producers had gotten in debts to try to maintain a level of previous consumption to the crisis and where the generated debts have forced to abandon some properties or to change to illicit cultivations.

In Peru, for example, the crisis of coffee has generated the abandonment of many properties, and with it the plague of the "drill" it has affected to 10% of the crop in year 2004; If we consider that each exported quintal has an average price of 40 US \$dollars, the country would have a loss of 15 millions 600 thousand US \$dollars.

**Graph No.3**



Source: OIC  
Own elaboration

In Graph No. 3, we can see the disparity in prices paid to producers of Colombia and Peru per pound of coffee. Colombian producers receive an average of US. \$0,2455 more for pound than Peruvians for the period January 1997 - December 2002. This can be explained by the better historical recognition of Colombian coffee in the international market like a high quality coffee, also to the best power of negotiation of the Colombian producers through solid and a strong organization like the Colombian Federation of Coffee producers that endowed a big institutional capital that permits policies like that for stabilize the income of producers with the Stabilization Fund of Prices and the continuity of research programs of first level like that carried out by National Center of Research for Coffee (CENICAFE).

Comparing Graph No.3 with Graph No.2 we can see that the disparity in prices received by the producers has been bigger than the difference in the prices received by the exporters in the international market. It is important to indicate that while the exporters don't arrive to sixty in Peru, the producers are 115.000. The crisis affected both, but mainly to the disorganized small producers whose main income is coffee.

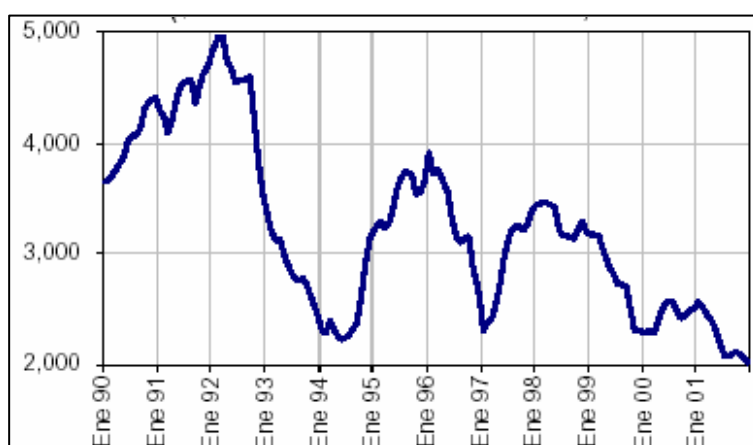
In synthesis, the effect of the crisis over the level of real income was very high. From year 1997, the prices of coffee have decreased from a maximum level in the month of May of 318,50 and 267,27 cents of US \$dollar for the international prices for Colombian and

Peruvian coffees until a minimum of 58,10 and 54,27 respectively. Furthermore, the price for the Colombian and Peruvian coffee in the international market reduced in 81,75% and 79,69% with a standard deviation of 49,25 and 46,31 cents of US \$ dollars respectively.

For May 2004, the prices for Colombian and Peruvian coffees are only 24,4% and 28,8% of their level in May 1997; and the forecast of the specialized analysts like of the Andean Community consultants based on the decreases of goods of the freezes in the Brazilian production of coffee that has moved to less vulnerable areas and general tendencies in the commodities markets, concluded that in the long term, coffee prices won't overcome US\$1,00 per pound. This is, they won't overcome 31% of the price in May 1997. Besides, it exist threats with the transgenic coffee and the possibility of more production in China and India, if the consumption of coffee begins to grow more over there.

**Graph No. 4.**

**Income for coffee in Colombia: Value of the crop accumulated in 12 months <sup>10</sup>  
Jan 1990- Jan 2001 (US \$ Thousands of constant millions of Dec. 2001)**



Source: Luz Fonseca

In this context, the Colombian government looks for policies in the coffee sector that try to recover the loss of real income of the producers (See Graph No.4). Some of the policies include promote the tourist services in coffee area, try with alternative production. They know that in the long term it will be impossible to maintain the Fund of price stabilization for the coffee. The government recognized that the social costs of leaving alone producers in the crisis are bigger than if they maintain programs like the Stabilization Fund, but with the commitment that it will be only for emergency. In the Peru they have not been carried out that guarantee support to those producing with subsidy on the price or specific programs, but help them with isolated actions like donations of organic fertilizers, fomenting the strategic planning, the invigoration of the organizations of producers and the sanity, but with very limited resources on the part of the national budget.

<sup>10</sup> Fonseca., Luz. Op.Cit. Pag 15

## **The subjective indicators and the adaptive preferences of those producing of Peruvian and Colombian coffee.**

The first step in the focus of the capabilities for the practical evaluations about the well-being is the analysis of levels of real income, In the utilitarian theory, these are the "objectives" indicators to measure changes of welfare with public policies; however, like we have revised in the first section, this "objective" measure means implicit weighting of functions of utility and of production functions. For example, considering people that can't satisfy their minimum consumption of kilocalories with people that can, with trajectories of real income very different. Losses of the first are not compensated by better incomes of the second group.

In the previous section we observed the magnitude of the crisis for the income of Peruvian and Colombian producers; however, we outline that this is not the only impact to take into account to analyze the change of the well-being. The economic impact on the base of trajectories of differentiated real income and environment and social impacts are components for policies analysis that are not appropriately taken in account, for do that it is necessary to work with "subjective" variables, built indicators with public participation and design complete processes of planning. This process is more difficult in Peru than in Colombia, because the Peruvian National Government does not have a National Department of Planning nor a Ministry of Environment and Natural Resources, that it permits a holistic analysis of the policies, as if it happens in Colombia.

In Graph No.3 it was observed that the difference between the price received by the Colombian producers per pound of coffee with the Peruvians had a maximum of 66,53 cents of US \$dollar in November of 1997 and it stayed in an average of 22,92 cents of US \$ during 2002, the worst in the crisis as for fall of international prices. This means that for 15 quintals of coffee that on average can be harvest by a family in a hectare, Colombian producers have received US \$343,87 more per year.

The biggest real income present in the Colombian coffee area is the result of efficient public policies and active and responsible participation of private sector and local and regional authorities. It has redounded in a construction of capabilities of the population to develop the rural area, like we can read in a comparative study of the two countries for Rosemary Thorp<sup>11</sup>. Also, we can see in Table No.4 indexes from the Report of Human Development of the United Nations where Colombia appears in a clearly superior place that of Peru.

**Table No.4**  
**Indexes of Human Development (IHD) of Peru and Colombia.**

<b>Position IDH</b>	<b>Countries</b>	<b>Hope of life (years)</b>	<b>Rate of literacy (% , &gt;15)</b>	<b>GDP p.c. (PPP US \$)</b>	<b>Index of Hope Of life</b>	<b>Index of Human Development</b>
64	Colombia	71,8	91,9	7.040	0,78	0,779
82	Peru	69,4	90,2	4.570	0,74	0,752

Source: United Nations, data year 2001.  
Own elaboration.

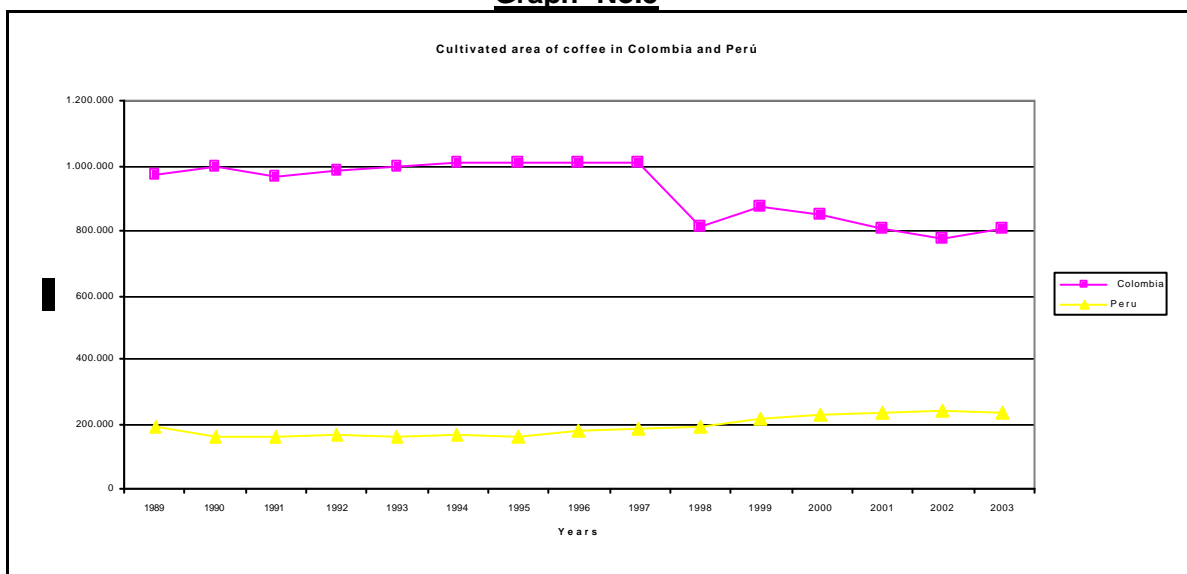
<sup>11</sup> Thorp, Rosemary. "Económico Development in Perú and Colombia". Research Center of the Pacifico University. Lima: 1996.

The hypothesis of Sen in the theory of capabilities is that somebody that has only known material privations in its life cannot become unhappy or displeased with changes in its circumstances. In this perspective, the information about human development helps us to identify key indicators like life expectancy, although the proportion of homicides is bigger in Colombia than in Peru for its interior conflict, but their infant mortality proportions are clearly smaller than the rates that can be in the Peru, mainly in the rural area.

Identification of adaptive preferences is easy to see in this point when the level of real income of the Colombian producers is higher than the Peruvian. Although, they have a Stabilization Fund for coffee, producers won't be willing to reduce its purchase power until a very low level, as which receives the Peruvian producer. In Graph No.5, we can see that in spite of the reduction of prices Perú increases its production. With this, we can see a subjective indicator of well-being for the producers after the crisis. The adaptive preferences involve initial inequalities and to weight it in the analysis of well-being, is an additional step on the theory of capabilities.

It is observed that while the policy makers do not support the producers that have lived impoverished during several years, their inactions are not observed as clearly as those that if some steps have advanced in the improvement of their quality of life. In this case, to increase real per-capita income is not enough to evaluate changes in the population's well-being. It is necessary to evaluate other spaces of functions, and here is useful the proposal of Martha Nussbaum and sound policies, including public participation.

**Graph No.5**



Source: FAO  
Own elaboration

**Social impacts of the crisis of the coffee for the Peruvian and Colombian producers.**

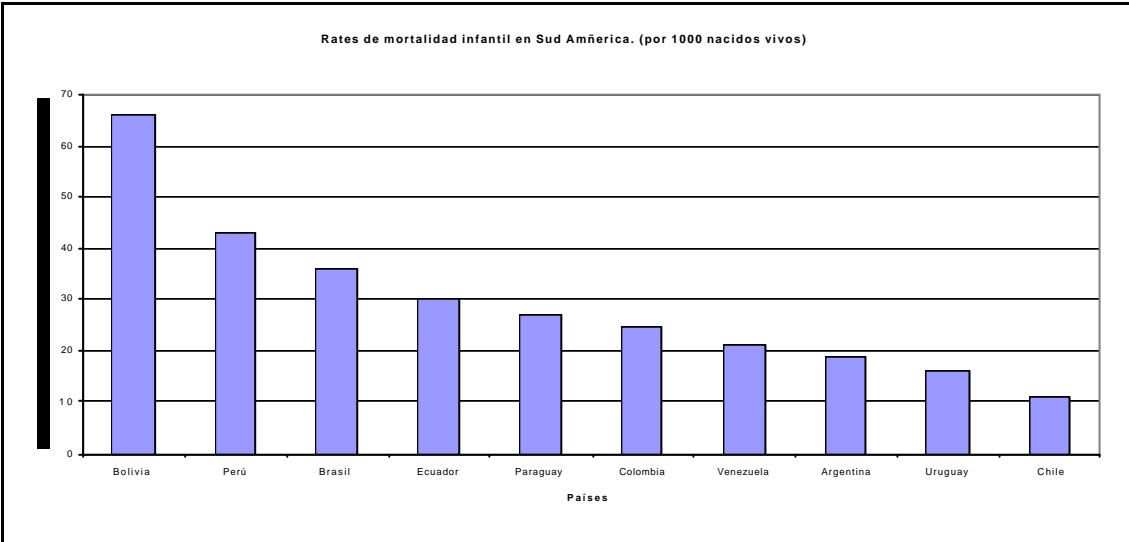
The inclusion of social impacts for the analysis of political, plans and projects involve a complex exercise, but that every time it is gaining more importance in the developed countries; through different processes like the Social Impact Assessment, together with the Environmental Impact Assessment and the Strategic Environmental Assessment the

analysis of well-being is not only using money as measure unit; it is exercising a pressure over the purely political decisions motivating the public participation for development.

In this paper, it has been evaluated like the proposal of the theory of capabilities with the analysis of additional variables to changes in the real income, they can help to carry out a complete analysis of well-being. The identification of social impacts of the crisis of the coffee on the Colombian producers and Peruvians it also involves the necessity to identify indicators that can be recognized and appreciated by the respective affected actors as real. Next, we focus on a valued function like do not to suffer food insecurity, that it is explained with the help of concepts like the role of women in the alimentary sovereignty.

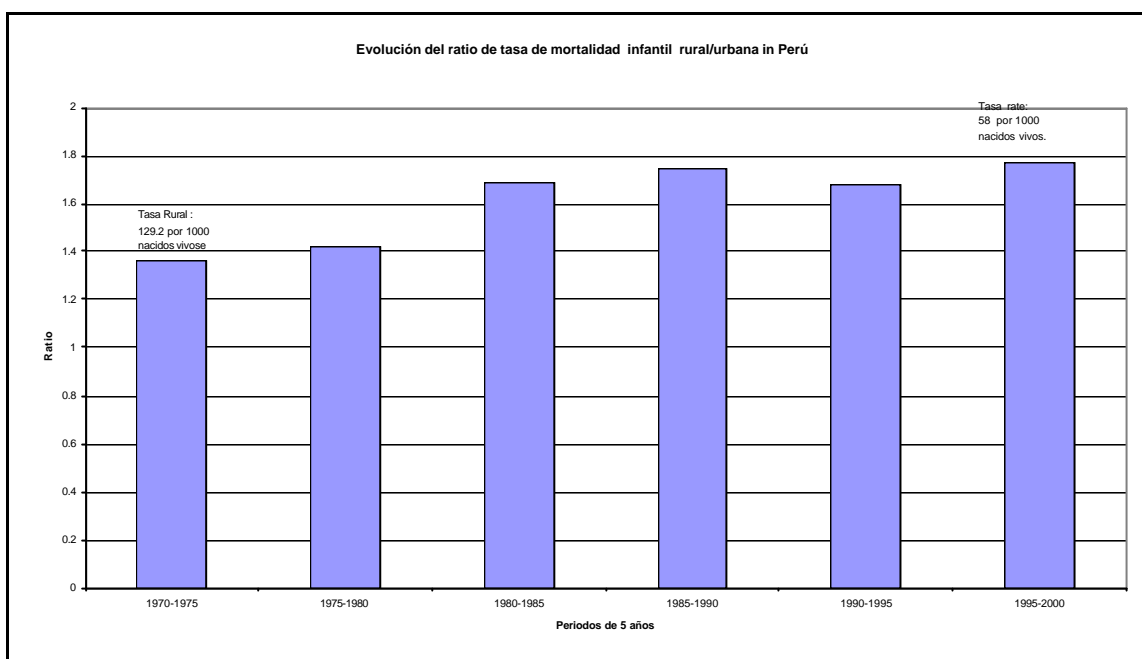
The identifiable social impacts in the coffee rural areas of Peru and Colombia, would seem to give evidences that the hypothesis of Sen on the adaptive preferences is right, and it would also allow us to explain the paradox on how in spite of so many helps with policies to improve the well-being of the Colombian producers and with a very similar reduction of prices for both countries, the Colombians have reduced its harvested area during the crisis while the Peruvians have increased it. Furthermore, the indicators about the quality of life in the rural areas in Peru and Colombia presented in Graph that No.6, where the infant mortality proportion is shown for countries in South America and Peru is the worst second, with a proportion that is almost double of Colombia. Also, in Graph No.7, it is seen that although this proportion has been reducing from the 70s, the rural proportion has been increasing to twice. In Colombia, for 1995-2000 the rural difference/urban one has been reducing until being only 50%.

**Graph No.6**



Source: United Nations  
Own elaboration

**Graph No.7**



Source: National Institute of Information and Statistics  
Ownelaboration

### Impacts over the food security function and capital deprivation and importance of gender analysis in Colombia

In a general way, we can point out that the coffee crisis has affected mainly to the coffee small producers, agricultural workers of low qualification, small merchants and transport. The main social impacts can be summarized in: the fall in the consumption of the coffee homes and the number of employments, is considered that near 255.000 people would be dismissed, 180.000 in direct form and 75.000 in an indirect way, increasing poverty levels in the coffee areas.

Another indicator that shows us the deterioration of the conditions of quality of life in the last years in Colombia is the Index of Quality of Life (IQL). Between 1993 and 1998, the IQL experiences a slight increment when passing from the 70,8% to 73,3%, but between 1999 and 2000 it shows stagnation signs. In synthesis, the increment observed in the IQL for the population's total is attributed in its biggest part to the increments that were presented in the component "children of 6 or less years in the home" <sup>12</sup> ( See Table No.5).

**Table No.5.**  
**Index of Conditions of life (IQL) for area.**

National. 1993. 2000	1993	1997	1998	1999	2000
Total	70,8	73,3	73,3	75,2	75,7
Head	79,0	82,3	82,9	83,0	83,3

<sup>12</sup> Planning National Department.DNP. System of Sociodemographic indicators for Colombia, SISD 30. Economic current issues and social indicators . December 2001.. Pag. 18.

Rest	46,6	51,0	50,6	54,8	55,5
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Source: Calculations DNP-DDS - Social Mission with base in the Surveys of Homes DANE

It is worthwhile to point out that economic indicators as the IQL agree with the capabilities theory of Amartya Sen in that the well-being is based in the capabilities or potentialities that the individuals prepare and in the distribution and access to the private and collective resources that it allows them to have a worthy life.

Conditions of life that present the 500.000 coffee homes are concerning the country. Person's number for coffee home is on the average of 4,3, being bigger in the oriental region 5,47, and smaller in the central region 3,93. 13,1% of the members of these homes is smaller than 5 years old, 34,5% have between 6 and 20 years old, while the 30,6% have between 21 and 50 years old, the rest is bigger than 51 years old. Most of the home heads have an age average that surpasses the 50 years, and everything seems to indicate that an important proportion of homes are compound by grandparents and women that take charge of raising the grandsons and small children, helping the children or husbands that have migrate to cities or other domestic areas looking for new opportunities<sup>13</sup>.

Regarding the 15 year-old illiterate population and more in 1997 the total number of illiterate women was of 2.556.871 millions of people of which 53,4% is it for condition of poverty. For 2003 the total population of illiterate women in this age range was of 2.359.993 millions. When carrying out a comparison between 1997 and 2003 it is observed that in the national average diminish lightly.<sup>14</sup>

The occupational position of most of the home bosses is of independent worker, that which confirms the ideas of a coffee grower average traditional as small proprietor that works in its property and that it hires wages or it is hired as journeyman to supplement revenues. In the central region, where the coffee activity concentrates, the income of the home bosses comes in 80% of the coffee revenues, while in the other regions more diversified levels of sources of income are presented.

Important effects have been in the increase of the number of violent facts and the migration of great quantity of urban and rural population of the coffee areas toward economically less depressed areas that offer better conditions of life and working. As well as, the change to other activities economic combats and illicit, for example in the case of women toward the domestic service or the informal economy and in that of the workers in agricultural illicit cultivations.

In the case of the number of violent facts in the survey of quality of life of DANE, it is observed that while between 1997 and 2003 the national level didn't register variation in the number of homes in which some of their members have been victim of violent facts, in the regional environment it showed a light increment, especially in the central region and the Orinoquia and Amazonía. Situation that has its explanation in the growing processes of migratory toward this domestic area.

While in the central region in 1997 of a total of 1.261.202 homes 8,7% registers victims with violent facts in the 2003 this same phenomenon affection to 9,5% of the homes, it is

<sup>13</sup> Fonseca., Luz. Op. Cit. Pag 8

<sup>14</sup> DANE. Survey of Quality of Life. 1997 and 2003.

necessary to highlight that the urban area was more affected than the rural one when passing from 9,9% to 10,6% in front of the rural one that didn't present bigger variation, from 6,1% to 6,8%, for the same years. In the case of the Orinoquia and the Amazonía for this same period the number of homes affected by facts violent step from 9% to 13,4%, figures that ratify results found by Rubiano and Granados in their study about internal migrations and violence.<sup>15</sup>

In accordance with this study a narrow correspondence exists between the migration variables and the presence of violent deaths, being explained by the fact that the social pressure taken place on a territory by the arrival of new habitants can finish generating close contacts and confrontations that are solved in a violent way. The study also points out that the departments that occupy the first places like the most attractive for the migrants are those that also face a bigger conflict, and in consequence they reach the highest rates in violence.

The main violent facts that registered increase were the cases of personal lesions or violations, kidnappings or disappearances and evictions. It is worthwhile to stand out that one of the violent facts that present a decrease, so much at national level as regional, was robberies.

Context that takes us to the following reflection: can the coffee crisis be considered as an important agent in the increase of the armed conflict that faces Colombia and for that of the stagnation of human development?. To this respect it is important to make the following consideration: We cannot attribute to the coffee crisis in Colombia all the responsibility of being the causing of the violence in the country because that would be to ignore some of the main facts and historical processes that have configured the current conflict situation, what we can point out it is that the goods and impacts of this have helped the conditions and scenarios for the expansion of the economy of drug traffic the same as the violence, especially in those domestic regions that for their geographical conditions and of socioeconomic development have been the appropriate place for the development of the cultivations of coca and "amapola".

From this perspective, the coffee crisis can be considered as a factor that has contributed to the privation of the necessary material and social conditions for the development of the functions or necessary basic capabilities<sup>16</sup> for the individual and collective human development. Among these functions, the security and alimentary sovereignty that constitute one of the essential conditions for the development of these capabilities.

If we consider that the conflict constitutes one from the main threats to the increase in the quantity and the warm of the opportunities or possibilities that have the habitants of a country and for that the main obstacle to the human development. Then, we can affirm that the armed conflict is a definitive negation of this "central nucleus" or basic of the human development since the violence: it truncates the option for a lingering and healthy life; it uses the force instead of the reason, that is to say, it excludes the option of the knowledge; it destroys the wealth what contradicts the option of a satisfactory life, if we consider that the wealth is one of the means so that the human being can take a full life; and it impedes

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<sup>15</sup> Rubiano., N. y Granados., E. Migrations and violence in Colombia: Price of the regional equilibria In "Desplazados, migraciones internas y estructuraciones territoriales".University National of Colombia/ Ministry of Interior. Bogotá, 1999.

<sup>16</sup> Like that indicated by Martha Nussbaum

the dialogue, that is to say, it denies the option of participating in the collective matters, specially for women.

To this respect, we can point out that one of the necessary conditions for the support of this "basic nucleus" that has been affected by the serious economic crisis, increased by the coffee crisis, and of violent that the country lives it has been the alimentary security, included the alimentary sovereignty.

According to data of FAO, 11% of the Colombians cannot satisfy its daily alimentary necessities for its low revenues, in spite of the fact that the country has enough production. The main cause of the hunger is the poverty, and this owes among other causes to the armed conflict, the unemployment, the loss of the crops, the forced displacement or the non equal distribution of the revenues.<sup>17</sup>

Almost 4,9 million Colombians don't have the resources to acquire food, and the population displaced by the violence, about two millions, it has been constituted in the most vulnerable group. Those displaced had means to produce their food, but now they didn't only lose their land and houses, but rather they live with "the worst uncertainty", looking for the daily food, and the situation is even more it criticizes if we added those two millions of victims of the rural violence, near a half of them are women and children.

According to a study of UNICEF, chronic malnutrition affects to 14% of Colombian infantile population, about 840.000 children, and of them, 25.000 have severe malnutrition. Situation that spreads to be increased if one keeps in mind that in the mark of the Colombian armed conflict the areas of local production of food have diminished for the abandonment of lands, for the substitution of cultivations of coffee and food crops for illicit cultivations. And that the Colombian cities, where lives near 80% of the population, they are constantly threatened in the supply of food by the vulnerability in the security of the domestic vial system. The main highways have been object in the last years of continuous blockades of illegal armed groups or of citizens that protest.

Inside this context, then it is possible to say that in the country although the food security aspects, food supply is good, and the level of dependence of imported products is low, although with tendency to increase. However, the social iniquities make the great contingent population that lives under conditions of poverty in the country to be in vulnerability situation as for the accessibility to an appropriate alimentation.

So, in this order of ideas, we can say that the domestic population's food security especially that of the poorest sectors, has been seriously affected or truncated because of the violation of the fundamental conditions for the existence of that security: the accessibility. If we take into account that "**food security exists when all the people have physical and economic access at every moment to enough innocuous and nutritious food to satisfy their nutritious necessities and their preferences for food in order to take a working and healthy life.**"<sup>18</sup>

Another aspect that has been also unsound, not only for the coffee crisis and the violence but for other facts as the economic opening, it is the denominated sovereignty alimentary

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<sup>17</sup> "El País" newspaper: Colombia a hungry country: FAO. October 16, 2002.

<sup>18</sup> FAO. Guidelines for the design and the implementation of an information system of food security and early alert (SISAAT). Roma 2001. Pag. 5.

expert as the right of each country to control and to decide sovereignly on the whole nutritious net, from the production until the consumption, to obtain the alimentary self-sufficiency. This gives priority to the satisfaction of local, regional and national necessities, by means of the control of the productive process, in an autonomous way. With it, the physical and economic access is guaranteed to innocuous and nutritious food.<sup>19</sup>

Soon after the processes of economic opening that Colombia lived during the 90s, where the barriers to the agricultural sector were retired and it was put to compete with developed producing countries without being appropriately prepared, joined to the coffee crisis, take to a considerable reduction of the traditional cultivations, many of which constitute the base of the Colombian feeding and they are developed by the rural sector of the economy. Additionally another factor that impacts in the agricultural production is the competition with the illicit denominated cultivations (coca and "amapola"), which have displaced in some areas the traditional cultivations.

Among the traditional cultivations, there are mainly the transitory ones and some permanent ones as coffee, among the first ones are potatoes, rice, corn, vegetables and others as barley, wheat, sorghum, the bean and the soja. Considered in their group, these products have suffered a decrease in the production ton/year of more than 30% during the years 90s.<sup>20</sup>

According to FAO, Colombia in the decade of 1990, when opened its economy, passed from being a country with little levels of import of food to buy overseas good part of products for its nutrition necessities. FAO noticed that it is necessary that the country has a clear policy about its alimentary security, based on the local production, because it pointed out that "the international dependence of food can generate vulnerability to the country in front any political or economic crisis."

### **Final considerations**

The examples analyzed in this paper of Sen in his theory of capabilities show that are not incidental, and exist enough evidences that they can be applicable for cases like that of the Peruvian and Colombian coffee sector in front of the crisis.

We identified adaptive preferences in the behavior of coffee producers, and this concept permits to carry out a complete analysis of well-being with good basis of information that can serve as reference for the analysis of political, plans and projects.

Starting from the analysis of the theory of the capabilities we arrive to specific indicators of wellbeing, like we appreciate with the effect on the crops depending on different income trajectories, and more specifically we work with the analysis of the function of food security in Colombia. We found that after the crisis of prices, Colombian government made different policies but it was insufficient, especially for avoiding the increase of food insecurity, where women were specially affected.

In Peru, a big challenge exists so that the achievements obtained by the coffee generates more development in rural zones with a precise identification of the foreseen prices that

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<sup>19</sup> [www.ns.rds.org.hn/via/documentos-soberania.htm](http://www.ns.rds.org.hn/via/documentos-soberania.htm)

<sup>20</sup> FAO. ESN, nutritious overview by countries: Colombia. Bogotá 1998. Pag 7

would be obtained, defining a list of variables to prioritize and to reach, so the demands are not only to recover a level of real income but on the base of construction of capabilities to reach the development; Including these themes in the planning process and in the public debate promoting the public participation.

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