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Evolution of urban chicken consumption in Southern countries: a comparison between Haiti and Cameroon

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Abstract—Since the beginning of 2000s, in order to let poor people accede to meat consumption, several developing countries have opened their domestic chicken market to foreign imports, by reducing import tariffs. Thus local chicken meat competes with frozen pieces of chicken imported from the European Union or America, causing the loss of many jobs in the local chicken food chain. In order to highlight the determinants of urban consumer's choice relative to chicken types, and assess the opportunity for local chicken to restore its market share, investigations have been done in 2005 and 2006, in Yaoundé (Cameroon) and at Port-au-Prince (Haiti) applied to 180 urban households in each country. While imported frozen pieces of chicken have almost entirely substituted for the local chicken which has already quite disappeared in Port-au-Prince, Yaoundé consumers still prefer the local flesh chicken to the imported ones, at least for particular uses.

Key words— Chicken, urban consumption, developing countries, globalisation, Cameroon, Haiti.

I. INTRODUCTION

The urbanization speeding-up in developing countries has repercussions on eating patterns and gives the opportunity for agricultural areas to capture new urban food markets. However, [1] underline that, to insure cities food security, that trend is accompanied by the growth of food imports from international markets, which actually competes with local production.

Since the beginning of 2000s, in order to open the market and let poor people to accede to meat consumption, several African and Caribbean countries have reduced tariffs on chicken imports. The resulting competition between frozen pieces of chicken, mainly imported from the European Union or Brazil, and local chicken, has been denounced by several non governmental organisations and associations because it caused the collapse of many poultry husbandry and the loss of jobs in the local chicken food chain. They notably recommend coming back to previous situation by reinstituting high level of border tariff protection against imports of chicken pieces. This position is reinforced by the frequent use of export subsidies on American or European chicken supply, which is then considered as an unfair practice beside local chicken production.

A classical economical approach of a local market competing with imports would naturally lead to build a partial equilibrium model. Under the assumption of product homogeneity, prices competitiveness of local product *versus* imported one constitutes the essential determinants of market shares between origins. In the case where there is a political objective to modify this allocation, for example to limit imports share in total consumption, such a model let assess the effects of border protection on consumers, producers and State budget of importing country.

But considering product homogeneity is problematic, because quality attributes may precisely change with the product origin. Investigations on the field show that, like in developed countries, consumers of developing countries have multiple attempts in terms of eating patterns. For example, [2] show consumers from Ouagadougou take the interest in several sanitary quality aspects and are sensible to norms relative to cereal, meat or soumbala production. [3] assess the consent to pay of young mothers for a credible certification of nutritional quality of child food complements. Hence, in the case where eating habits evolution play in favour of imported products, because of differentiated quality attributes, an only border policy is not adapted to protect domestic production from foreign competition. The definition of political and / or industrial strategy to improve domestic product quality standard needs first a precise knowledge of consumer's attempts in terms of quality, and imposes to take into account the product differentiation.

In the case of chicken, what are the determinants of urban consumer's choice relative to chicken types? Can the local chicken have the opportunity to restore its market despite low costs competing imports?

Taking the cases of Cameroon or Haiti, a rapid observation of food markets shows that there are actually three types of chicken supplied to urban consumers:

- Rustic chicken is produced at family home in precarious shelter. In Cameroon, rustic chicken is most often breed in rural areas, and it is sold directly to the consumer or via peri-urban markets

after being collected at the village. In Haiti, one can find it in urban market places. That chicken is especially used for religious (or voodoo in Haiti) ceremonies.

- Local flesh chicken is produced in semi-industrialized farms. Production chain, feeding, sanitary and veterinary following are rationalized, and animals live in permanent structures. It is sold at traditional urban markets. That type of chicken has been very hard to find in Haiti for few years, whereas it still exists in Cameroon.

Rustic and local flesh chickens are essentially sold entire and alive. Consumers have to slaughter and clean out it themselves or pay a supplement for that. In some rare supermarkets in Yaoundé, one can find whole local flesh chicken sold ready to cook.

- Imported chicken are usually sold frozen and by pieces at traditional urban markets, supermarkets or fish shop (which have freezer). One can sometimes also find entire frozen chicken.

To examine the determinants of food consumption, models of household consumption decisions or Almost Ideal Demand System models are usually used because they are perfectly suited for making projections in terms of changes in household consumption expenditure. But if such studies are well appropriate in countries where consumption budget surveys are done every year, it is not the case in many developing countries.

Recent studies in developing countries have implemented small and ad hoc surveys and use temporal data collected on households, market and restaurant to understand factors influencing urban consumption of, between others, plantain in Cameroon [4] or bush meat in Equatorial Guinea [5]. That last study shows that consumers have a strong preference for fresh meat but most often eat frozen one because of cost grounds. The importance of introducing product differentiation in studies dealing with consumer behaviour is highlighted.

Our study is in the same logic as that of [5]. Similar investigations of eight weeks have been done in Yaoundé (Cameroon) and Port-au-Prince (Haiti). Representative sample urban households and restaurant's consumers have been polled about their chicken consumption, since the entry of frozen imported chicken pieces in the local market. The second section of the paper presents the methodology of investigations. The third section presents their main results. The forth last section concludes, focusing on the perspectives, for local chicken, to restore their

previous urban consumption share, in Cameroon and Haiti.

II. INVESTIGATION FRAMEWORK

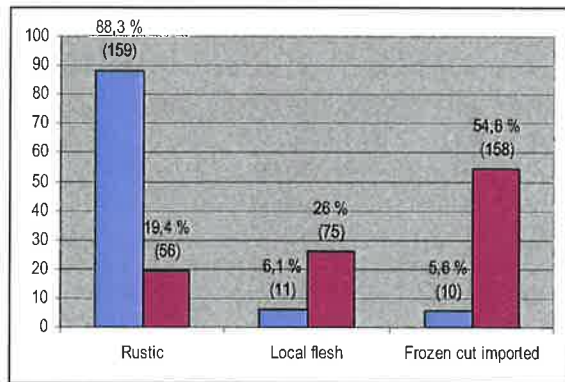
In order to identify the relevant determinants of chicken consumption for consumers, a specific survey was conducted in 2005, May 21st to July 21st in Yaoundé, and in 2006, June 19th to August 19th in Port-au-Prince. After first long interviews conducted to identify different types of chicken and markets, formal questionnaires related to the evolution of urban consumption had been applied. In each country the survey covered a sample of 180 urban households and 180 restaurant consumers. In order to have a representative samples, the quota method was applied, using control variables (or criteria) which are known for the global population. Available statistical data have been taken from [6], [7] and [8]. Criteria chosen for household quotas were following: householder sex, household size, socio-professional categories, and types of housing (equipment and infrastructures available). For restaurant consumers, sex, age, and socio-professional category have been taken. Implementation of *politz* method limited distortion in data collected: localisation of inquiries had been decided in correspondence with the global distribution of the population in respect to demographic weight of the sites of investigations and/or places of consumption. Collected information is of qualitative and quantitative type.

In Cameroon, home-out food consumption mainly concerns lunch in the middle of a working day. In Haiti, lots of poor families don't have enough money to take more than only one meal at home with the entire household. That encourages people to complete their alimentation by buying food dishes outside when they have money for that. This way of home-out food consumption often takes place in the evening and does not present the same characteristics as the lunch home-out food consumption. That is why both have been treated separately in Port-au-Prince survey. Note that Haitian survey has been made in a very difficult context of urban violence and high level of insecurity: the respects of statistic quotas of polled people actually constituted a real challenge.

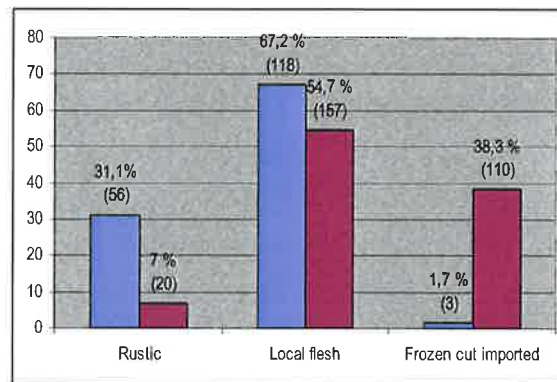
III. RESULTS OF THE SURVEYS

A. Preferences and habits of urban consumers

Graph 1 Preferences *versus* actually chicken bought, at home (% of answers)
Haiti



Cameroon

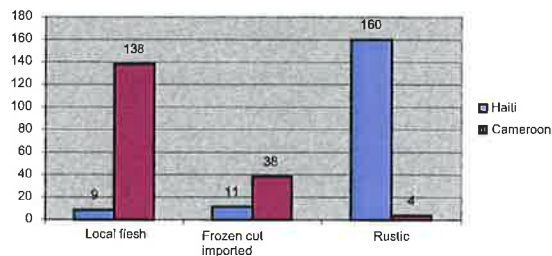


Preferred (only one answer possible)

Usually bought (several answers possible)

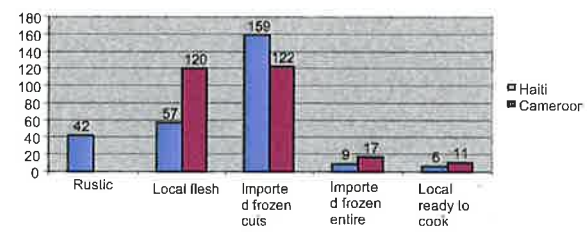
Source: Household survey. In brackets: total number of answers (more than 180)

Graph 2 Preferences, at restaurant (nb. of answers)



Source: At restaurant survey

Graph 3 Type of chicken chosen for festive meal (nb. of answers)

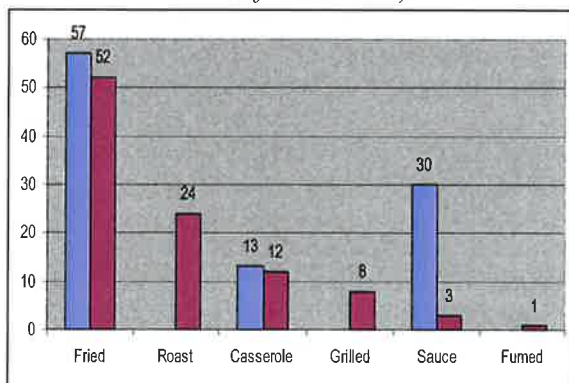


Source: Household survey (multiple answers possible).

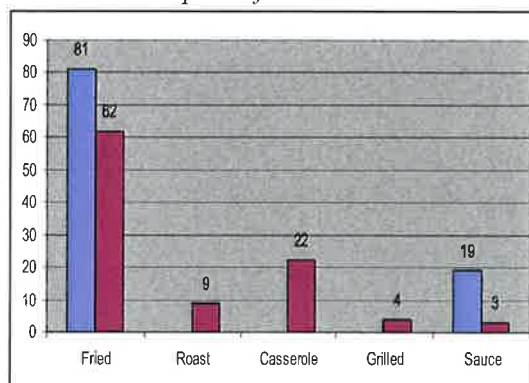
Graphs 1, 2 and 3 show the difference between declared preferences and actual consumption. At home and at restaurant a large majority of consumers declare they prefer rustic chicken (in Haïti) or local flesh chicken (in Cameroon). But frozen cuts are widely consumed at home in both countries, even for festive meals, and about two-thirds of home-out chicken consumers declare they do not know the type of chicken they have been served.

In both countries, fried chicken clearly seems to be the most usual mode of cooking the chicken (Graph 4). Cut chicken is easier to fry than as a whole. Making a chicken sauce for a lot of people requires only a little quantity of chicken; frozen cuts are well adapted. This mode of cooking the chicken is more developed in Haiti than in Cameroon. On the contrary, roasted and fumed chicken, which requires entire chicken, is cooked in Cameroon only.

Graph 4 Most usual mode of cooking local *versus* imported chicken at home, in Haiti and Cameroon (% of answers)
Local (flesh or rustic)



Imported frozen chicken



Haiti

Cameroon

Source: Household survey

B. Willingness to pay for chicken

Price order is quite similar in Cameroon and Haiti. Imported chicken is everywhere cheaper than local one (tab.1).

Table 1 Willingness to pay for each type of chicken as presented on urban markets

Types of chicken	Average willingness to pay the chicken (€)	
	Haiti	Cameroon
Rustic (alive and entire)	6.96	5.38
Local flesh (alive and entire)	5.02	5.12
Imported frozen (entire)	4.82	3.59
Local flesh (entire, ready to cook)	-	4.34
Imported frozen cuts (kg)	1.36	2.09

Source: Average of household survey results. Conversion in euro of each local currency. In coherence with use, willingness to pay for imported frozen cuts are given in kilogram's, and those for rustic and flesh chicken are given for a whole chicken, without having been weighted before.

Table 2 Willingness to pay chicken meals at restaurant

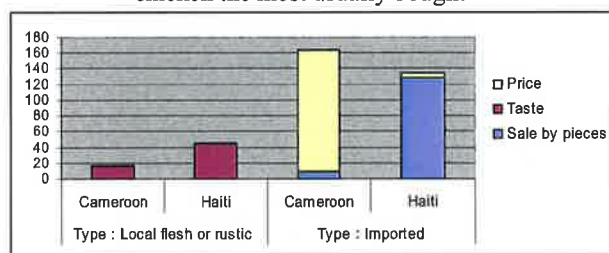
Chicken meals	Average willingness to pay the meal (€)	
	Haiti	Cameroon
Casserole	2.56	3.36
Fried	2.32	2.27
Fumed	-	6.10
Grilled	-	3.81
Roast	2.18	3.85

Source: Average of home out survey results. Conversion in euro of each local currency

Average Haitian willingness to pay a chicken meal is higher than the price of one kilogram of imported cut chicken (tab.2). Fumed chicken, using especially local chicken, is the most expensive meal in Cameroon and reserved to well-off customers; it doesn't exist in Haiti.

C. Criteria of choice

Graph 5 Criteria of choice according to the type of chicken the most usually bought



Source: Household survey

In Port-au-Prince, the choice of imported frozen chicken is justified because it is sold by pieces,

giving low income households the possibility to buy only few pieces instead of at least a whole chicken. Haitian consumers do not present the price as the main determining criteria of buying imported frozen chicken. Imported frozen cut chicken is already considered as a banal commodity available on markets regularly along the year, contrary to other types of chicken presenting price fluctuations [13]. At the time of survey, local flesh chicken was particularly difficult to find. There still remain very few Haitian high income households, which consume local chicken because of its taste.

In Cameroon, people really have the choice but the type of chicken chosen is essentially determined by the price. Imported chicken actually constitutes a substitute to local flesh chicken for usual uses, the local flesh chicken already being, for traditional meals, a substitute to rustic chicken which is less available and more expensive.

In Yaoundé, criteria of "taste" maybe seem to assume a patriotism attribute: a lot of households have declared "I would prefer the local chicken because it is locally produced, anyway it is better".

D. Recent evolution of chicken consumption

In both countries, imported frozen cuts actually give the possibility to poor households to supply meat to the entire family [9], chicken being one of the most appreciated foods for many interviewed consumers. However we don't know if the increasing of chicken consumption affects other meat consumption, or makes global meat consumption growing.

A majority of households has declared they have changed their chicken consumption for the last five years. In Yaoundé, for one third of those households, chicken consumption has increased; only 8 % are in that case in Port-au-Prince. 45 % in Haiti and 25 % in Cameroon declare they just have changed the type of chicken they use to buy. In Haiti, consumers talk about substitution occurred between rustic chicken and imported cuts; they do not mention the eviction of local flesh chicken which apparently belongs to the past. In Cameroon, consumers declare imports cuts have replaced local flesh chicken.

Cameroon households have mentioned a traditional chicken sharing out, which certainly participates to maintain local chicken at family meals. Gizzard, heart, wishbone and foots are given

to the householder; wings are for young ladies (to prepare themselves to getting married); chicken legs are due to young boys; neck and rump are for housewife who has cooked the meal. Imported chicken cuts are inappropriate to that tradition.

Such a tradition has not been met in Haiti. Local flesh chicken supply has been in deficit since 1991 [9]. Many consumers have declared imported chicken cuts give them the possibility to buy only the wanted piece. Common familial meals seem to disappear *via* the development of a new form of individual home outside fast food: hot chicken meal is served in « *boîtes manjé* » (Polystyrene box with lid) to customers who don't want to sit on place. However Haitian rustic chicken is the only chicken appropriate for voodoo ceremonies.

IV. CONCLUSION

In conformity with previous studies [1], [10], surveys confirm that imported low cost chicken has substituted for local chicken in Cameroon and in Haiti; but not in the same way. In Cameroon local flesh chicken supply still remains available, rustic chicken being difficult to find in urban area. In Haiti, local flesh chicken has quite entirely disappeared and choice of consumers only exists between rustic imported chicken; the demand for local flesh has almost extinct in urban areas.

In Haiti, massive imports of chicken pieces have changed food habits. Frozen pieces are not more considered as substitutes for local chicken but have simply replaced it and captured new low income consumers giving the possibility to buy only few pieces instead of a whole chicken. As a consequence, local flesh chicken industry would be very difficult to re-introduce in the market competition without a complete transformation of the supply chain which would allow the sale of chicken by pieces. [9] suggests eggs industry would be more in ad equation with local demand.

In Cameroon, chicken pieces are well adapted to usual chicken consumption. It would be interesting for sellers to purpose not only entire chicken, but also chicken cuts. However local entire chicken still remains necessary for traditional familial meals. For those particular uses, local flesh chicken is a second best choice if rustic chicken is not available, and chicken cuts are not adapted. The origin of chicken constituting a quality attribute for well-off consumers, information about the origin of chicken has to be provided to customers, especially in

restaurants. Is the re-introduction of tariff barriers against imports justified to safeguard local industry? Margins of manoeuvre to negotiate that point with trade partners have to be inspected;

In both countries, rustic chicken is not accessible to poor households, but still preferred for some particular uses. The opportunity and possibility to developed efficient public supports may be interesting to analyse.

Using our empirical results, assessing the value for quality attributes of chicken in each studied country would certainly contribute to clarify orientation of public policy or industrial strategy in Cameroon and Haitian poultry agro-industry chain.

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