

Analyse et Cartographie du marché en situation d'urgence

Emergency Market Mapping and Analysis (EMMA)

The dried fish sector in Western Côte d'Ivoire

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Section 1. Executive summary or brief

The post-elections crisis in Côte d'Ivoire has widely affected the operation of markets and also the means of existence of households. In the west of the country and in particular in the Moyen Cavally and 18 Montagnes regions, the majority of rural households have been affected -- whether they were forced to displace themselves or whether they took in displaced persons, the majority of them whose resources depended on revenue from agriculture find themselves impoverished due to the looting of stocks, difficult access to fields and also the burden which displaced people constitute.

Dried fish is an integral part of the diet of vulnerable households and constitutes the main source of animal protein. The dried fish sector is also a large source of employment through fish farming, fishing, drying, etc. activities. The crisis has affected the operation of this market system and mainly the supply system which has suffered from the worsening of the security situation and from the rise in road taxes. Thus some relationships between the main actors in the chain have been broken off as a result of transportation difficulties. The number of certain actors has also decreased given the lack of security (ref. fishermen from the non-native community who have fled the area).

The main effect on vulnerable households is a decrease in their purchasing power and thus as a result of this of a restructuring of their spending -- the latter indeed now devote more than two-thirds of their income to food. Because the "lean season" (the period between harvests) had begun at the time of the study, the majority of them report that they are no longer able to buy fish given the rise in prices.

It is therefore important to take measures to address the situation in order to prevent an increase of food insecurity in the area -- in which the cumulative rate of severe and moderate food insecurity was 29.1% in 2009 for Moyen Cavally and 23.3% for the 18 Montagnes region. Where the vulnerable households are located, during the lean season, it is recommended that money transfer programs and in particular food voucher programs which would include dried fish be set up.

This system is in particular recommended in areas in which traders for households which have access to banks and to MFIs in order to ensure the security of money transfers for the entity [sic]. For vulnerable households living in remote areas, unconditional money transfers are also a recommendation. The EMMA study also enabled structural problems to be identified within the dried fish sector which actions such as encouragement of fish farming and of repairs to roadways would enable to be corrected over the medium term.

It is notable that any program in this respect in the area must be accompanied by other actions in particular actions to promote social cohesion and the re-establishment of the rule of law.

Section 2. Post-crisis context

After ten years of political instability, the presidential elections in November 2010 again plunged Côte d'Ivoire into an episode of violence which ended with the arrest of the outgoing president Laurent Gbagbo on 11 April 2011. Hundreds of people were killed, more than 500,000 were displaced inside the country and 180,000 people took refuge, mainly in Liberia, a neighboring country. Amnesty International reports that loyal forces on the two sides were responsible for crimes against humanity and war crimes in the west of the country, which also includes gender-based violence and ethnicity-based violence.

Chronic insecurity in the regions of Moyen Cavally and 18 Montagnes will not facilitate the return of people and the revival of economic activities. The many road blocks on the main road routes are slowing down the resumption of commercial exchanges and the free movement of people. Thousands of Ivoirians took refuge in displaced people camps, in particular at Duekoué, a town in which many massacres were committed. Due to the insecurity and trauma, some displaced people even avoid venturing out any farther than the local market. For the same reasons, the majority of them do not want to return to their home villages either, most of which are located on the Duekoué-Toulepleu main road route. These areas are the areas which were the most affected by the conflict and are today faced with an enormous need for physical and economic reconstruction.

The humanitarian organizations in the west support thousands of displaced people in camps and in host families and also the first returnees to their home villages. The conflict occurred right in the middle of the planting season for rice, maize and other cereals and vegetables and disturbed the upkeep of cash crops. Thus, the people displaced from those localities who mainly made a living from agriculture find themselves in the tricky situation of lacking means of existence but also of lacking means of production. The indigenous populations also report that they can no longer go their farmable land as a result of insecurity on the tracks which lead to fields.

The volume of supplies of food, hygiene products and other items from Abidjan to wholesalers in the west has not yet reached its previous level. In Man, some wholesalers who were used to get deliveries from Abidjan now use other more costly supply networks through bordering countries (Guinea, Mali). Thus the prices of food items and other basic products have gone up. Inversely, the purchasing power of households has dropped and vulnerable households are having to use negative survival mechanisms during the lean period. Growing food insecurity and malnutrition necessitate immediate and medium-term interventions for the reconstruction of lives and the means of existence in the west.

Section 3. EMMA methodology

Activity	Dates
Initiation	7-8 June
Pilot	10 June
Collection of data	11, 13, 14, 16 June
Analysis	15, 17 June

EMMA is an abbreviation for Emergency Market Mapping and Analysis. An EMMA report is therefore a quick analysis of a market and is designed to be used in a short timeframe after a sudden crisis. It is assumed that a better understanding of the most critical markets in an emergency environment enables decision-makers (lenders, NGOs, government) to consider a larger range of responses. An EMMA report cannot replace assessments of urgent needs, detailed analysis of households or more in-depth market appraisals, rather its aim is to provide an outline of the structure of and of the operation of critical markets in order that response options are more in line with market realities.

The EMMA carried out in Côte d'Ivoire took place under the lead of the IRC and thanks to funding from the European Commission (ECHO). The EMMA team was made up of 13 people, including a team leader and

his/her assistant. The organizations Save the Children, Oxfam GB/CALP¹ and Action Against Hunger made substantial contributions throughout the process from the selection of critical markets to analysis of response options. Table 2 sets out the types of support received from organizations which made contributions to the study. In addition, the ECHO Regional Food Assistance Expert was also present throughout almost all of the process.

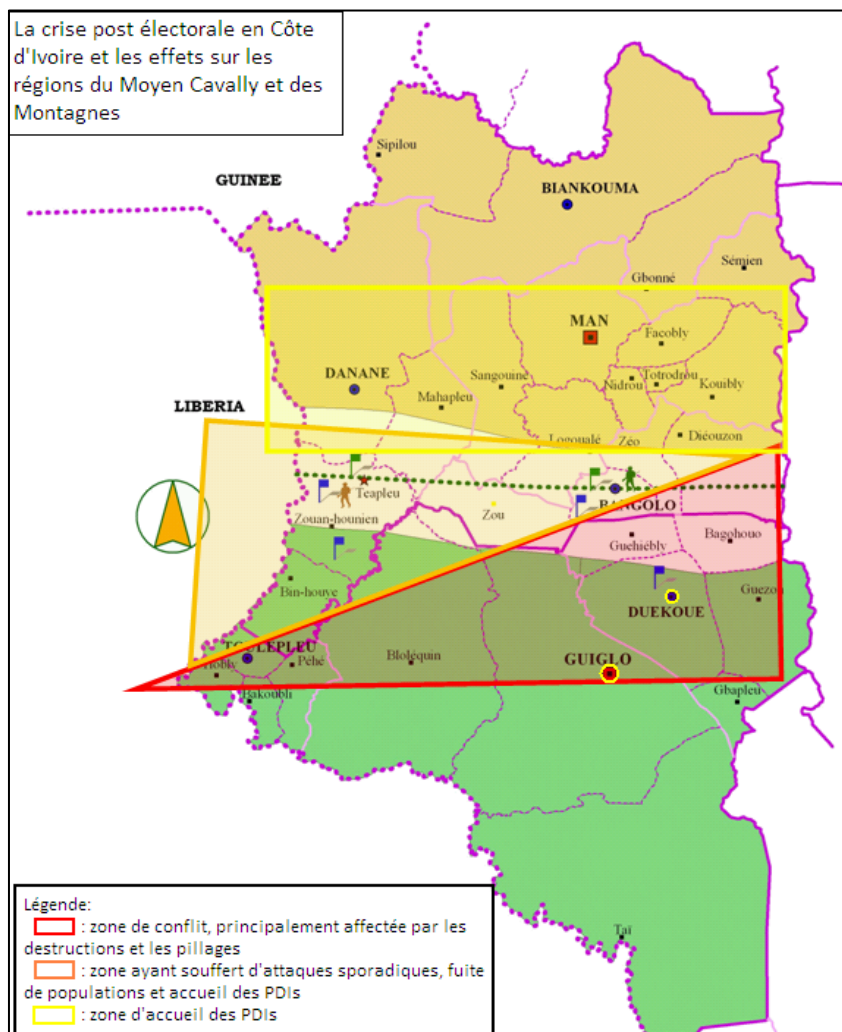
Table 1: Contributions made by each organization to the EMMA in Côte d'Ivoire

Organization	Personnel	Vehicles
IRC (EMMA lead)	7	1
Save the Children	1	1
Oxfam GB	2	1
ACF (Action Against Hunger)	3	1

Section 4. The target population

In determining the target population of the study – in other words the population which should benefit from the recommendations set out at the end of the study, it was a matter of considering first of all the populations which were geographically the most negatively affected by the conflict and these were the regions in the west

(Montagnes and Moyen Cavally). These regions and the people living there were affected differently, with certain areas directly affected by destruction and looting (in red on the map), and other areas which mainly constitute areas to which people are returning.



In addition, it is beneficial to note that already in 2008, the poverty rate in rural areas in the west² was 63.18%³ and the cumulative severe and moderate food insecurity rate was 29.1% in 2009 for Moyen Cavally and 23.3%⁴ for the Montagnes region.

Food insecurity is strongly linked to the level of poverty in Côte d'Ivoire since poverty is measured in relation to the level of consumer spending of households given in FCFA. In

³ Source: *L'Enquête sur le Niveau de Vie des Ménages* ("ENV 2008", survey on the standard of living of households) carried out in 2008 by the Institut National de la Statistique and the Ministère du Plan et du Développement (the Côte d'Ivoire national statistics institute and the Côte d'Ivoire ministry of planning and development)

⁴ Source: *Evaluation Approfondie de la Sécurité Alimentaire des ménages ruraux en Côte d'Ivoire*, 2009 (in-depth assessment of the food security of rural households in Côte d'Ivoire, 2009)

western Côte d'Ivoire any household which spends less than 206,902 FCFA annually is considered to be poor.⁵ The share taken up by food in the consumer spending of poor households is very large, and a drop in the income of households brings with it the risk of them falling into food insecurity.

Thus this study mainly targets poor households in rural areas of the Montagnes and Moyen Cavally regions which are under a risk of suffering or already suffer from food insecurity – and for whom dried fish is a vital part of basic diets of these populations. These households will be identified in the continuation of the report on vulnerable households.

a. The seasonal calendar of vulnerable households

The seasonal calendar below shows the salient events in the life of a poor household during a normal year. It should be noted specifically that the period of the study corresponded to the start of the “lean season” (the period between harvests) (in red in the table below) and that in this period vulnerable households cannot consume dried fish due to insufficient income.

Thus it must be observed that usually:

- The drop in the income of poor households during the lean season is mainly due to a drop in income from occasional (casual) work and also to a latency period in respect of rural activities (a wait for the rice harvest mainly).
- During this period, village solidarity and the system of community assistance are weakened; the better well-off household in the village are also waiting for the coffee and cocoa harvest and can no longer provide – like in other periods – their assistance to the most vulnerable people.
- The number of meals per day drops and falls to one or even less than one as regards certain households for which it is difficult to manage have something to eat every day.

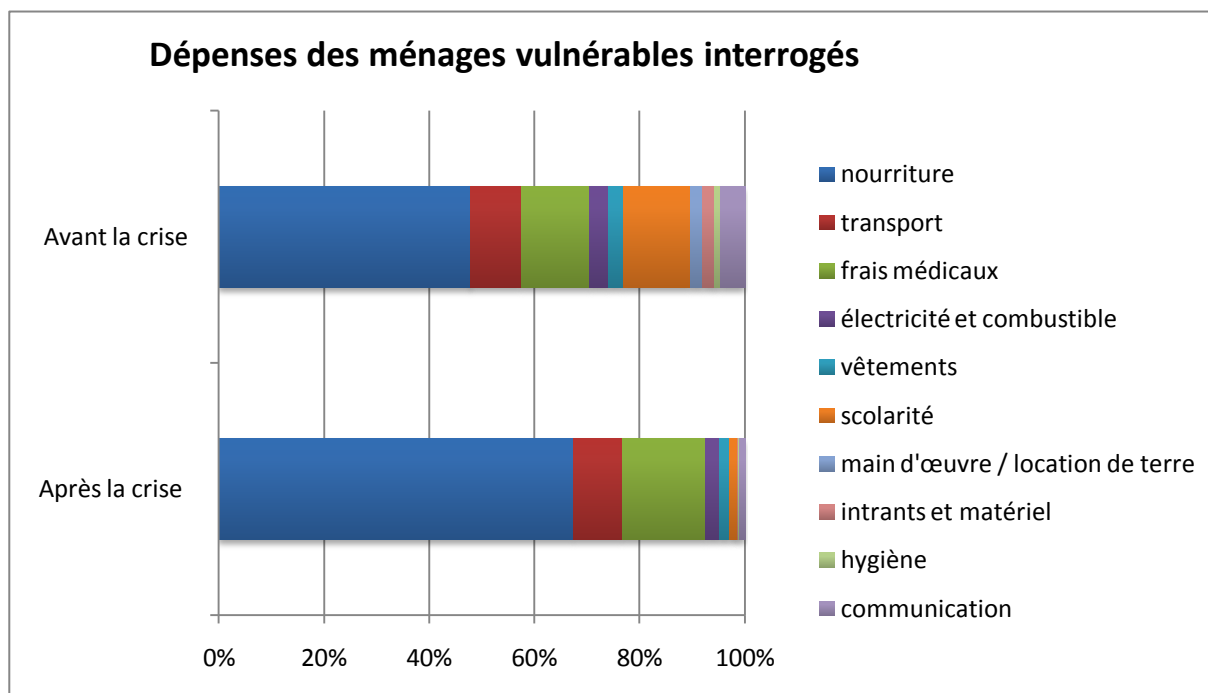
Table 2 : The seasonal calendar of vulnerable households

Travail occasionnel contribuant aux revenus des ménages vulnérables			Défrichage parcelles riz pluvial		Labour bas-fond Semis riz pluvial		Entretien riz pluvial et bas-fond			Moisson riz		
Consommation de riz local principalement issu de la production	¥	¥								¥	¥	¥
Mode de consommation du poisson sec	Entier	Entier + poudre	Poudre	Poudre	Poudre	Poudre	Ø	Ø	Ø	Entier	Entier	Entier
Niveau de consommation par mois	Elevé	Moyen	Faible	Faible	Très faible	Très faible	Ø	Ø	Ø	Elevé	Elevé	Elevé
Nombre moyen de repas par jour	2	2	1	1	1	1	1	<1	<1	2	2	2
Période d'endettement pour...					Semis du riz			Nourriture			Scolarisation	
Evolution des revenus des ménages vulnérables (relativement au cours de l'année)	Augmentation	Stabilisation	Stabilisation	Stabilisation	Stabilisation	Stabilisation	Diminution	Très forte diminution	Très forte diminution voire aucun revenus	Augmentation	Augmentation	Augmentation
Période usuelle de dons / solidarité villageoises	✓									✓	✓	✓
Fêtes	x			x								x

⁵ ENV 2008 (op. cit., see note 3 above) specifies the methodology used in Côte d'Ivoire to measure poverty. In Côte d'Ivoire, the poverty line is constant and is equivalent to the income of the poorest 10% of the population in Abidjan in 1985, to which the rate of inflation is applied up to the period under examination, and also a coefficient (which the majority of the time is deflationary) for the other regions of the country. En 2008, the poverty line was 241,145 FCFA in Abidjan and the deflationary coefficient for the western area (the Montagnes and Moyen Cavally regions which are the regions covered by this study, as the regions which were the most affected by the post-elections crisis) was 0.858 for rural areas. The poverty line can therefore be estimated at 206,902 FCFA for the western area in 2008. This means that individuals living in the west who spend less than this sum are considered to be poor.

Profile of the expenditure of vulnerable households questioned before and after the crisis

The results of interviews with households questioned during the study enabled a change to be discovered in the structure of their expenditure, as shown by the following graphic:



The main observations are:

- Faced with a drop in the average income of vulnerable households, the expenditure items were juggled by households, mainly to cater to the food needs of members of vulnerable households after the crisis (food = 67.3% of total expenditure).
- The “medical expenses” item is relatively higher and constitutes the second item of expenditure after the crisis (medical expenses = 13.1% of total expenditure). Despite some households stating that they received medical assistance from humanitarian actors, it nevertheless remains that for those who do not have access to it, medicine and treatment remain rare and costly.
- In respect of the “schooling” spending item, it is almost nil after the crisis due to the closure of the majority of schools.

It should also be noted that donations and humanitarian assistance were not taken into account in the graphic.

Section 5. The dried fish market system

a. The market system selection process

The critical dried fish market was selected after a gradual selection process which initially focused on 32 different potential markets (see the detailed list attached as a schedule).

A first stage consisted of identifying in a participative manner the markets on which vulnerable households depend for their survival but also which protect or provide them with their means of existence. By the end of the first stage, it had been possible to identify 12 potential markets.

The second stage consisted of eliminating similar markets -- as regards which assessing one would provide details for assessing the other (the aubergine market and the gumbo (a.k.a. okra) market for instance). The markets already covered by another assessment were also removed in order to avoid work being done twice.

The third stage in selection concentrated on the six remaining markets. By giving marks to the five criteria identified above which are singular to the EMMA methodology, the dried fish and the rice seed markets were in the end selected.

Indeed, dried fish, which is the subject of this report, is a basic food of the vulnerable population and constitutes the main source of protein intake. A study of this critical market will therefore produce recommendations which will contribute to the survival of vulnerable people.

Potential critical market	Concerns a great or urgent need	Market system affected by the emergency	Seasonal factors, calendar and timing are ok	Coherency in relation to the government's and the lenders' plans	Feasible and realistic response options	TOTAL
Cassava (manioc)	2	2	1	1	1	7
Dried fish	3	3	2	2	3	13
Rice seed	3	3	2	3	3	14
Aubergines (eggplants)	2	2	2	3	3	12
Coal	1	2	2	1	1	7

b. The seasonal calendar

The complexity of studying this market system resides mainly in the diversity of species of fish on the market and also in the diversity of food habits of the vulnerable populations. To address the market in its entirety, we focused the calendar of the market system on the items below:

	J	F	M	A	M	J	J	A	S	O	N	D
Volume of fishing (Guiglo et Duekoué)						Drop		Rise				
Seasonality			Rainy season			Rainy season						
Road infrastructures						Very damaged or impassible						
Available volume of dried fish on the local markets					Drop							
Price of dried fish on the local markets					+ 25 %							
Demand for dried fish on the local markets	Rise			Rise							Rise	Rise

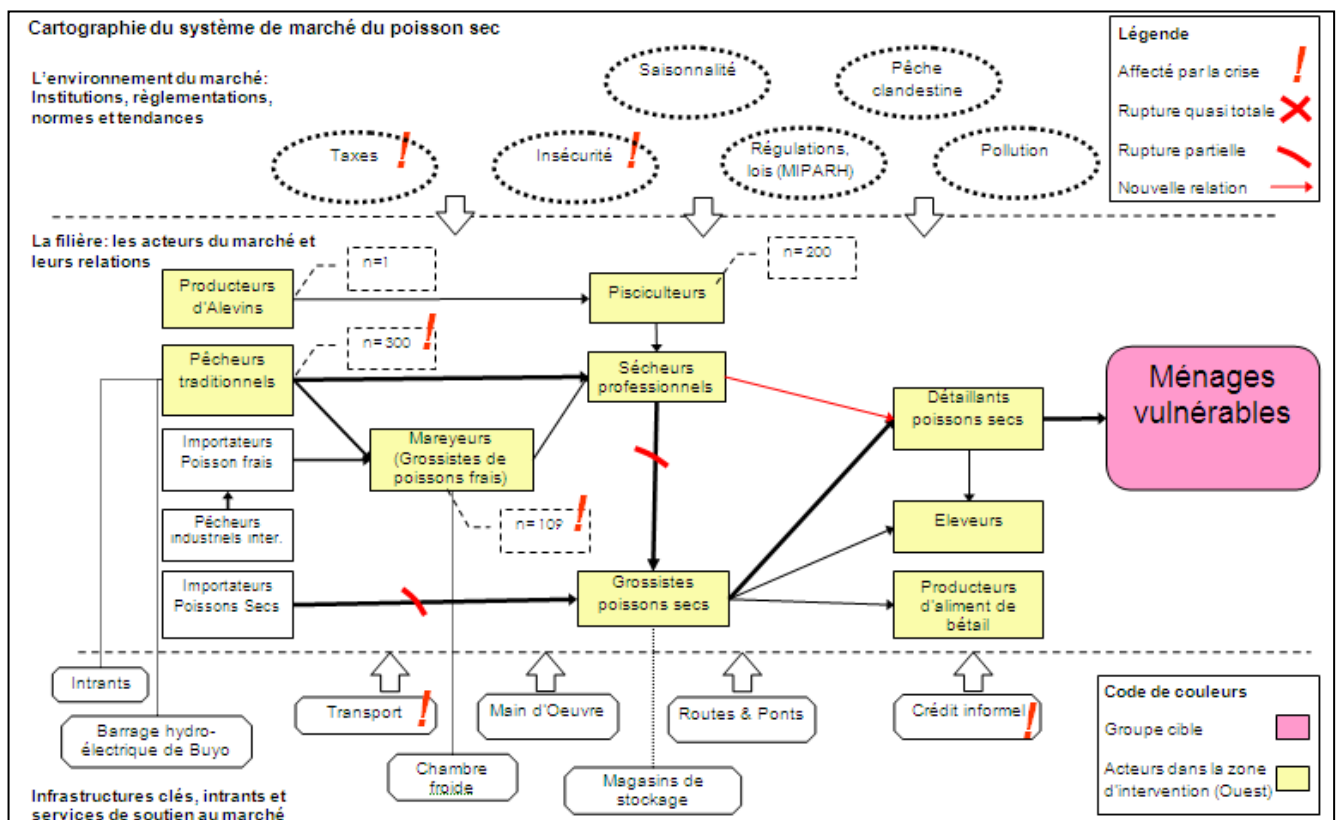
c. Key questions

To guide analysis of the dried fish market system, the following questions were identified:

- How has the post-elections crisis affected the ability of vulnerable households to consume dried fish?
- How has the post-elections crisis affected the availability of dried fish on local markets?
- Is the limited access of vulnerable households to dried fish due to a drop in their purchasing power or instead due to transportation and availability (supply) or to a combination of reasons?
- Do problems exist which have been engendered by the crisis in the dried fish market system which could be resolved in the next three months to facilitate better access to dried fish by vulnerable households? If so, what actions could be taken to achieve this? If not, do products exist which could replace dried fish as a source of protein intake?
- How could actors outside the dried fish market system (humanitarian actors, state entities) support it without harming it, in order to facilitate the access of vulnerable households?

Section 6. Analysis of the market system and of the effects of the crisis

a. Overview of the main components of the dried fish market



i. Actors in the sector

The EMMA study has enabled the main actors in the dried fish value chain to be identified. The descriptions below focus principally on actors who play a predominant role in the areas covered by the study and to whom solutions and recommendations could be put.

- The producers of young fish (fry) and fish farmers, the majority of whom have banded themselves together by means of the La Paysanne des Montagnes cooperative, were hit hard by the effects of the 2002 political crisis. Indeed, the BAD-Ouest project which they benefitted from ended at time the first fish farming operations began. Since the Dompleu young fish (fry) stocking station is not operating, the majority of fish farmers can no longer today obtain young fish (fry) or feed for fish farming but some of them are trying to keep operating all the same. As regards the regions covered by the EMMA study (i.e. Moyen Cavally and 18 Montagnes), approximately 200 fish farmers are registered with MIPARH⁶ and are members of the La Paysanne des Montagnes cooperative. The majority of them are indigenous people.
- Traditional fishermen are currently playing a major role since it is them who are enabling the fish to be taken out of the water. However fishing is greatly affected by seasonality but also by activities in relation to the Buyo hydroelectric dam. Fishermen are mainly non-indigenous and 300 of them are registered with MIPARH.
- Professional dryers are mainly the wives of traditional fishermen. They are mainly concentrated in the Duekoué Department along a Duekoué-Grand Gbapleu line and in the Guiglo Department in surrounding camps. The majority of women smoke the fish for preservation reasons since they live in villages which do not have electricity. They buy the fish with their husbands in order to resell it, processed, to dried fish wholesalers.
- Fish merchants are wholesalers of fresh fish. They buy fresh fish from traditional fishermen but also from importers at Abidjan and then resell it, mainly fresh, to retailers of fresh fish but also the professional dryers who smoke it before reselling it to dried fish wholesalers. 109 fish merchants are registered with MIPARH.
- Dried fish wholesalers get supplies from importers of dried fish in Abidjan and/or from countries in the sub-region such as Senegal as regards saltwater varieties (e.g. sardines, "mangne") but also from professional dryers as regards freshwater varieties (e.g. carp, catfish, "mimilago") and/or from bordering countries such as Mali and Guinea. In the majority of cases, they bear the expense of travel in fishing areas which are also, as explained above, fish smoking areas. Dried fish wholesalers mainly sell dried fish in bulk to retailers but it is not rare either to see some wholesalers also selling on a retail basis directly to households in regional markets where they live.
- Retailers of dried fish buy dried fish from wholesalers and resell it exclusively on a retail basis. They are the people in contact with the study's target population. Fish farmers also buy from them or from dried fish wholesalers in order to produce feed for their fish stock.

ii. The market environment

The environment of a market concerns all of the factors which can have an influence on the efficiency, the fairness and the capacities of the market. As regards dried fish, several large factors were identified:

- Seasonality has a direct effect on the volume of fishing and therefore on the volume of dried fish available on regional and local markets. Indeed, over and above the reproduction cycle of the various fish species, the water level of inland waters (in this case particularly the Sassandra River in Duekoué Department and the Nzo River in Guiglo Department) have a large influence on the amount of fish

⁶ *Ministère de la Production Animale et des Ressources Halieutiques* (the ministry of animal production and of fishery resources).

available. In Côte d'Ivoire, the level of water does not only depend on precipitation but also on the operations of hydroelectric dams which carry out electricity production for all of the country.

- Illegal fishing concerns the operations of fishermen who do not have a fishing permit. It is estimated to be equivalent to 10% of legal fishing carried out. Unfortunately it has a gnawing effect on the availability of fish over the medium term and even over the long term in the waters of the Sassandra and Nzo Rivers. Indeed, catches from illegal fishing are not monitored which works in favor of the fishing of small fish and even of young fish (fry) and contributes to the disappearance of certain species.
- Pollution is a sizeable factor since it is a question here mainly of harmful fishing techniques used by fishermen, which, due to their chemical nature, pollute waters and destroy river fauna and flora.
- Regulation and laws principally originate from MIPARH in respect to this market. The MIPARH, through its two fishing offices in Duekoué and in Guiglo, in the area covered by this study, inspect unloading docks, catches and also fishing equipment. It also issues fishing permits and carries out monitoring of the quantities fished by area.
- Taxes is a factor which greatly affects the dried fish market with respect to supply in areas removed from the two fishing areas (i.e. road taxes) but also with respect to the capacity of fishermen and of all of the actors in the chain to make a decent and sustainable living from their respective businesses (due to high taxes). The emergency situation arising from the post-elections crisis bore witness to an increase in informal taxes mainly on main road routes which put a brake on commercial activity in general and on the trade in dried fish in particular.
- Insecurity was reported as a large negative factor which prevented some retailers from getting to certain areas, some wholesalers from getting supplies in fishing locations and above all and mainly households from getting access to dried fish, creating bottlenecks on the level of professional dryers. The security of people and property was shattered during the post-elections crisis and mistrust between populations of diverse backgrounds accentuated this state of affairs.

iii. Key infrastructure, inputs and market support services

Here we address infrastructure, inputs and also other services which support the overall operation of the market system.

- Infrastructure which relates to the dried fish market system is principally the Buyo hydroelectric dam and also bridges and roads.
- Inputs concern all of the actors but they are particularly critical for traditional fishermen who need to replace their fishing equipment every six months (fishing nets in particular).
- Other support services concern in respect of this system dried fish storage warehouses, cold-rooms for preserving fresh fish, labor and informal credit. The latter is the very foundation of exchanges throughout the chain. Indeed, the different actors in the market all use an informal credit system to pay for their goods. It also comes to pass sometimes that vulnerable households buy their dried fish on credit.

b. The effects of the post-elections crisis on the dried fish market system

The post-elections crisis which affected Côte d'Ivoire from November 2011 onwards had effects on the country's economy but also in relation to this report on the dried fish market system as outlined above in the mapping of it (lower part of page 8). Principally the following effects result from it:

i. Fall in the number of actors

Insecurity, which increased considerably during the post-elections crisis and which manifested itself through many instances of ethnicity-based looting and destruction, brought back a feeling of mistrust between the different communities (indigenous, foreign-born, non-indigenous). The effects on the market system are not minor since many displacements of fishermen at the beginnings of the crisis (50%) who in respect of the majority of them are from the non-indigenous community. The same situation was noted as regards dried fish wholesalers in the town of Duekoué and in the other main towns in the department. Wholesalers who remained in place, as for them, no longer took the risk of travelling to go and get dried fish from dryers in villages and camps distant from towns.

ii. Fall in the volume of dried fish on the local markets

The availability of dried fish was significantly affected by the post-elections crisis due mainly to insecurity and hassle on the roads. The period of the study corresponded to the fishing off-season. Thus, in general, during this period the majority of dried fish available on local markets and required by households is either dried fish from Abidjan (principally the species referred to as "mangne") or from countries in the sub-region such as Mali, Senegal and Guinea (mainly with respect to the species referred to as "Gôtôguinée" and code). Also found on local markets during this period is a species fished and dried locally which is generally referred to as "mimilago". Generally speaking usually the dried fish available and required by vulnerable households are very small-sized fish that households generally buy in lots or more rarely by the kilo which they reduce to a powder or into small pieces before eating it (in a sauce).

It is principally the dried fish supply channel which has suffered the most from the crisis due to the increase in costs relating to the transportation of goods (including road taxes) and from the deterioration of roads and bridges due to their run-down state and the rainy season. Dried fish wholesalers who used to personally travel in coaches to go and pick up their goods in Abidjan (wholesalers selling sea fish) no longer do so simply because transportation by coach had stopped up to the time of the study. Thus, the sum total of ways to obtain supplies of dried fish from Abidjan amounted to getting delivered by ten-metric-tonne lorries. For instance, for dried fish wholesalers in Man who get supplies from Abidjan, the transportation cost of a 100 kg box by those means came to 10,500 FCFA, as against 1,500 FCFA per 60 kg box when the transportation was carried out by coach, an increase of 420% of the per kg transportation price. The same story applies as regards wholesalers who get supplies locally (Duekoué or Guiglo). Transportation costs are so high that they no longer have enough money to buy the quantities of dried fish that they used to buy. Thus, the wholesalers who covered a large area when they had larger quantities of fish content themselves today with only a few markets.

This has facilitated certain developments in respect of the supply chain -- now it is the retailers in localities which in the past were covered by wholesalers who themselves go by motorbike to fishing areas to buy dried fish from smokers. These retailers are not registered with the MIPARH as are the wholesalers and are therefore not liable for taxes. The wholesalers are being hit hard by the rise in the cost of transportation which favors informal actors, all the more so because the latter buy their goods for cash unlike the wholesalers who buy on credit.

iii. Relative increase in sales prices

The main effect of supply difficulties which engendered a drop in the availability of dried fish was a relative rise in sales prices. The increase is referred to as "relative" because selling takes place on a lot basis. The price of the lot does not change while the quantity of fish in each lot drops.

iv. Fall in the purchasing power of vulnerable households

The main effect of the crisis on vulnerable households which principally make a living from agriculture was a drastic drop in their incomes, since the majority no longer had access to their fields or had lost the stock from their previous harvest. An increase in relative sales prices coupled with a drop in the income of vulnerable households had the effect of causing households' purchasing power to decrease. In the "lean season" (the period between harvests) and also after the crisis and during this EMMA study, vulnerable households also usually make a living from income from occasional (casual) work (see the seasonal calendar as regards normal periods). Subsequent to the crisis, occasional (casual) work is now very scarce since the most well-off people, for whom these households were in the habit of working, have been displaced or are mistrustful and/or are themselves suffering from a drop in their income.

Section 7. Main recommendations

a. Response options

Apart from the difficulties outlined above, the market system is operating relatively well and in a relatively integrated way, which works in favor of response recommendations based on supporting the market system but also of direct response options, because of the "lean season" (the period between harvests), of the level of households' incomes and the level of food insecurity in the area.

Table 3: Framework of the response options			
<i>The response activities and combinations</i>	<i>Main advantages</i>	<i>Major drawbacks</i>	<i>Feasibility/Calendar</i>
Food vouchers including dried fish for vulnerable households	<ul style="list-style-type: none"> - Helps to quickly improve the food security of vulnerable households - Indirect support to other actors in the sector (retailers and wholesalers) 	<ul style="list-style-type: none"> - Ability of local vendors is adapt to coupon mechanisms and to meet demand 	<ul style="list-style-type: none"> - High
Unconditional monetary transfers (cash) to vulnerable households	<ul style="list-style-type: none"> - Quick to implement - Quick access to dried fish and to other fresh products in general by vulnerable households (and also to other non-food products) 	<ul style="list-style-type: none"> - Requires the presence of a bank or of an MFI which can serve as an intermediary for the transfer of money given the security aspect in the area - It would not be possible to cover the populations living in remote areas easily 	<ul style="list-style-type: none"> - High
Support to fish farming (coupons for feed as well as facilitation of access to young fish (fry) for fish farmers and also training)	<ul style="list-style-type: none"> - Improves the availability of fish in the areas, even during off-seasons - Strengthens/diversifies means of existence - Suitable in relation to the method fish farmers use to get supplies 	<ul style="list-style-type: none"> - Only has an effect on vulnerable households in the medium term 	<ul style="list-style-type: none"> - High

Promotion of social cohesion in the localities people are returning to	- Contributes to the durable return of displaced people and also the access to fields of all categories of people regardless of their background, giving them an increase in purchasing power and access to means of existence	- Has an effect over the medium and long term	- High
Repairs to the Pinhou – Keïtadougou route (38 km); to the Pinhou – Gbapleu route	- Enables a large fish production area to be opened up - Facilitates the movement of goods and people in respect of a large population which will benefit from it	- Work which requires large resources - Work which necessitates the redeployment of public authorities for proper monitoring	- Medium - Work which must be carried out in the dry season
Put the case to the competent authorities for the free movement of goods and people as well as for main road routes being made secure	- Does not necessitate many financial resources - Facilitates a decrease of the cost of transportation and a drop in racketeering	- Difficulty of targeting the key actors involved in racketeering - A long process	- Medium - An activity which can be carried out at any time
Increasing awareness and strengthening the ability of traditional fishermen regarding the use of conventional fishing nets	- Protection from destruction of young fish (fry) and makes fishing activity sustainable	- Length of time in the process required to change behavior - Effect not immediate	- Medium
Put the case to the competent authorities and to fishermen for stocking river waters with fish	- Will work in favor of the availability and the diversity of fish species	- Problem of the sustainability of the action due to poor fishing practices	- Low

b. Recommendations

The recommendations concern the response options which constitute a high priority in relation to the calendar.

Table 4: Framework of the response recommendations				
<i>The response activities and combinations</i>	<i>Key risks and assumptions</i>	<i>Scheduling issues</i>	<i>Probable effect on the market system and on target groups</i>	<i>Indicators</i>
Food vouchers including dried fish for vulnerable households	- The level of security ensures the return of displaced populations and physical access to markets - The markets have the ability to meet an increase in demand	- Urgency of taking action in the “lean season” (the period between harvests) (July-September) N.B.: Drop in the production of fish until August then a big increase of availability on local markets	- Sale of all dried fish available on the market in August and in September - Increase in access to and thus of the consumption of dried fish by vulnerable households - Retailers sure to have customers and more demand for the dried fish supplied by wholesalers (exponential effects on the market)	Number of meals per week featuring fish

<p>Unconditional monetary transfers (cash) to vulnerable households</p>	<ul style="list-style-type: none"> - The level of security ensures the return of displaced populations and physical access to markets - The markets have the ability to meet an increase in demand (c.f. inflationary risk) - Populations preferably have access to an MFI or a bank with regard to the transfers of money - The purchases made may not be of fish 	<ul style="list-style-type: none"> - Urgency in “lean season” (the period between harvests) 	<ul style="list-style-type: none"> - Flexibility of purchases depending on the needs of recipients 	<p>Number of meals per week featuring fish</p>
<p>Support to fish farming (coupons for feed as well as facilitation of access to young fish (fry) for fish farmers and also training)</p>	<ul style="list-style-type: none"> - The level of security enables fish farmers to start working again 	<p>Feasible at any time</p>	<ul style="list-style-type: none"> - A supply of local fish available throughout the year - Increase of and diversification of income of the local and mainly indigenous populations -- people working in the fishing sector, by contrast with the fish farming sector, are almost exclusively from non-indigenous populations - Decentralization of the production of fish and creation of a fish processing sector at local level - Drop in the price of dried fish 	<p>Number of fish farming farms in operation</p>
<p>Promotion of social cohesion in the localities people are returning to</p>	<ul style="list-style-type: none"> - The community leaders of the different communities are accessible 	<p>Continuous and feasible at any time</p>	<ul style="list-style-type: none"> - The different communities can access fields and revenue 	<ul style="list-style-type: none"> - Number of conflicts managed by local reconciliation entities

Annex 1. Selection of critical markets, first stage

Potential critical market	Ensures the survival of vulnerable populations	Protects the means of subsistence of vulnerable populations
Rice	X	X
Maize	X	
Cassava (manioc)	X	X
Fresh fish		X
Dried fish	X	X
Palm oil		X
Chickens		
Beef meat		
Coffee/cocoa		X
Labor		X
Manure/fertilizer		
Phyto products		
Agricultural equipment	X	X
Cement		
Rice seed	X	X
Maize seed		
Gumbo (a.k.a. okra)	X	X
Aubergines (eggplants)	X	X
Hot peppers (capsicum)		X
Tomatoes		
Gas		
Coal	X	X
Bundles of firewood	X	X
Sheet metal		
Chaining iron		
Wood	X	
Sand		
Transportation	X	X

Fuel	X	X
Salt	X	
Soap	X	
Credit	X	X
Clothes		

Annex 2. Selection of critical markets, second stage

Potential critical market	Observations/Comments
Rice	Already covered by a WFP study
Cassava (manioc)	
Dried fish	
Agricultural equipment	Category not specific enough for the study -- many different types of equipment
Rice seed	
Gumbo (a.k.a. okra)	The aubergine (eggplant) market should provide information on the gumbo (a.k.a. okra) market.
Aubergines (eggplants)	
Coal	
Bundles of firewood	The coal market should provide information on the bundles of firewood market.
Transportation	Support service, could be studied for a [any] given market
Fuel	Support service, could be studied for a [any] given market
Credit	Support service, could be studied for a [any] given market

Annex 3: Summary of interviews carried out

Localities	Type of actor	Estimate of the number of actors	Buys from...	Sells to/in...	Effects of the crisis
Man	Fish wholesaler	200	Wholesalers in Abidjan, Guinea, Mali, Guessabo	Households in Man, retailers in Man-Facobly, Kouibly, Biankouma, Danané	Drop in stock available due to the high cost of getting supplies from Abidjan. Certain localities not supplied. Certain customers now come and get supplies in Man.
Danané	Fish wholesaler	3	Wholesalers in Gbapleu, Guessabo, Mali, Senegal	Toulepleu, Teapleu, Zouan-Hounien, Danané, Bin Houye	Drop in sales. Disappearance of Liberian customers. High cost of getting supplies (transportation, racketeering and taxes). Appearance of NGO vouchers, which facilitates the sale of all of his/her goods.
	Dried fish retailer	15 retailers in the large market	Retailers to small markets	Danané town in the large market	Increase of number of customers due to the support of the NGO with the vouchers project. Increase in orders for the actors in question.
Duekoué	Wholesaler	100	Dryers in Keitadougou; wholesalers in Abidjan (sardines); in Guessabo, rarely	On a retail basis to households in Duekoué. On a wholesale basis to retailers in neighborhoods of Duekoué and to villages (non-indigenous, indigenous)	Drop in sales to retailers. (10 kg/week/retailer → 3 kg/week/retailer)
	Household in Pinhou (2)	-	Retailer in Pinhou	-	The quantity has dropped but the price had stayed the same (= price increase). One meal a day instead of three.
	Household in Niambly (2)	-	-	-	Survives on food assistance (WFP, MSF (Doctors Without Borders), etc.)
Keitadougou	Fisherman	40 before → 20 now	-	To dryers (the wives of fishermen)	Drop in the number of fishermen Sales are only made on market day (before made sales every day). Sells by the lot, and no longer by the kilo (as a result of the absence of Eaux et Forêts (an Ivoirian government waters and forests agency) agents)
	Dryer	All the women in	Fishermen	Households; wholesalers in	Drop in sales due to a decrease

		the village		Duekoué and Daloa and Guessabo	in wholesalers in Duekoué
	Retailer / dryer	+/- 30	Fishermen	Surrounding camps (non-indigenous) and also women and men in situ	Drop in the custom from regular customers (some had fled); drop in quantities sold (200 kg before → 50 kg now); unpaid customer credit due to the crisis; hassle on the roads (racketeering/taxes)
Zouan-Hounien	Retailer	+/- 50	Wholesalers in Danané	Households	Reduction in the quantities of supplies. 300 kg → 100 kg / week. High cost of transportation (5,600 → 10,700 [FCFA]). The quantities of fish were lower but the price was the same. No longer sells only fish, sells other products.
Guessabo	Fisherman	+/- 50	-	Dryers, wholesalers of fresh fish in Daloa, Duekoué, Abidjan, Guessabo, Zoukougbeu	The policy of the government putting young fish (fry) into the water does not exist any more.
	Retailer (dryer)	30 to 40	Fishermen	Households, travellers	Quantity of fish in the lot is lower with the same price (= price increase)
Bolequin	Retailer	+/- 20	Wholesalers in Guiglo	Households (in Guéré -- indigenous)	Selling fish is an adaptation strategy; the price has doubled; the cost of transportation has doubled
	Indigenous household in Béoué (1)	-	After the crisis -- retailers in Kaadé. Before -- retailers in Guiglo and in Kaadé and in Zeaglo	-	The price of transportation has gone up. The price of fish has doubled. The price of a meal has gone up -- before we ate two meals a day for 500 CFA. After we eat one meal a day for 1,500 CFA.
	Non-indigenous household in Béoué (2)	-	To a retailer in Béoué, to CIB [unknown abbreviation]. Before: also retailers in Kaade, Guiglo and Zéaglo.	-	Change of the place supplies are obtained from/in. Use of flavourings (spices) instead of fish.
Guiglo	Fisherman	120	-	Dryers (in the same non-indigenous community)	The absence of state departments → non-deduction of taxes Loss of the production of fish farmers

	Wholesaler	+/- 6	Fishermen	Households; retailers in Blolequin. Before: also sold to retailers in Zagné and in Tai.	Two new actors: the wives of fishermen (dryers), resellers buying [for] cash. Cost of transportation has gone up. Drop in the availability of fish. Customers now get supplies in Guiglo.
Dieouzon	Retailer (Baïbly)	3	Wholesalers in Guessabo, Bangolo and Dibobly. Before: also Abidjan	Households	Drop of the price of fish due to liquidation. Drop in working capital from 300,000 f [FCFA] → 100,000 f [FCFA].
	Household	-	Retailers	Now consumes the fish in powder form.	Replaces the fish with mushrooms or gumbo (a.k.a. okra). Eats fish twice a week instead of every day and buys fish on credit. Now eats fish in powder form.
Duekoué	Household	-	Retailers in the local market.	-	Change of dietary habits (quantity, variety) Brown bullhead (a.k.a. catfish) - > carp -> powder -> crab -> Maggi-brand cube [a stock cube] Ate fish every day but now twice a week
Blolequin	Household (Douandrou)	-	Retailers on the local market or Guiglo	-	Change of dietary habits Eats gumbo (a.k.a okra) instead of fish (carp, catfish) and uses a white [sic] Maggi-brand cube [a stock cube] instead of powdered fish Increase in the price of fish: Five fish for 500 F [FCFA] instead of five fish for 200 F [FCFA]