

Colloque Approche Systémique des Pêches  
- IFREMER -

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**Freshness and sanitary  
quality in fisheries :  
the Anisakis case**

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# Partners

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**STAM - IFREMER (Département of seafood Sciences and techniques)**

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# Anisakis : a specific risk

- **A risk considered as a hazard** (Luhman, 1993) :
  - It can affect all wild fish species
  - It remains relatively unpredictable
- **Preventive measures exist :**
  - Freezing (24 h / - 20°C)
  - Cooking ( Fully / 70°C)
- **But control more difficult in the “fresh” sector**

# Anisakidosis : a low risk

- **Disease :**

- Greater part of acute cases (48 hours post-meal)
- Surgery in chronic cases

- **Prevalence :**

- About 60 cases during the last 20 years in France
- 1992-2005 : Number of Anisakidosis divided into 4 through preventive measures

# Context of research

- **Increase of raw mix preparation :**
  - Sushi
  - Marinade
- **Increase of returns in supermarkets :**
  - Presence of larva in fillets
  - Presence of larva in guts
- **Very few informations for consumers about :**
  - Risk
  - Preventive measures when cooking

# Main question of research

- **By referring to an historic case : Germany (1987)**
  - High impact of medias
  - Low impact of “scientific” information about risk
  
- **How can we improve management and communication about parasitical risk to prevent crisis ?**

# Risk approaches

Scientific approach of risks is based on assessment of two dimensions :

$$\begin{array}{c} \textbf{Severity} \text{ (for health)} \\ \times \\ \textbf{Probability} \text{ (by regions and by fish species)} \end{array}$$



Risk perception deals with various dimensions :

**Psychological** (Tversky & Kahneman, 1974)

**Sociological** (Luhman, 1993)

**Cultural** (Douglas & Wildavsky, 1982)

# Theoretical framework

- **Go beyond the opposition between objectively calculated risks and subjectively biased individual perceptions**

- **By referring to the cultural approach of risks :**

(Douglas & Wildavsky, 1982)

Desirable / Undesirable risks are the matter of judgment based on practices ,beliefs, representations and values

- **Lay people, professional actors and even Scientifics !**



# Methodological implications

- **Qualitative research methods**
- **Interpretative techniques**
- **Semi-structured and individual interviews**
- **Focus-groups**

# Research objectives

## **Task 1 : Professional actors**

Perception of  
parasitical risk

Management of  
parasitical risk

“Reception” of the  
preventive  
measures and  
control techniques

## **Task 2 : Consumers**

Perception of  
parasitical risk

Food habits

Cooking practices

## **Task 3 : Recommendations**

Risk management  
in “fresh” sector

Communication to  
prevent crisis

# Task 1 : Professional actors

- 10 individuals interviews :
  - Managers of professional ' organizations
  - Fishmongers in "fresh" sector
  - French littoral west and north

# “Resistances” against rationalization of quality controls

- **Candle fillets require times and have limits (For instance, thick fillets)**
- **Parasitical risk is far in risks’ hierarchy :**  
Freshness = no smell
- **Quality assessment remains widely “sensitive” :**

*“ There are people who know and people who were born inside. I, I am able to see, smell and touch fish and tell if it’s fresh or not. And it depends on species and where they have been fished. [...] I don’t rely upon measurement techniques only ”*

*“ I am proud to have smell of fish ”*

# Social and cultural dimensions of perception

- **Uncertainty on parasitological risk reinforces “social and professional” identity :**

*“Candling tables are not very efficient...[...] We know what are the species the most contaminated and according to where they are coming from and what they have eaten. Then, we make a selection of lots”*

- **Guts removing can upset cultural habits :**

*“We remove guts but never on bass... A bass, that’s not gutted, it’s alive !”*

*“Guts are disgusting, dirty. Species fished near river’ mouth and sewers are fully parasited”*



## The relation Fishmonger-Distributor : stakes for risk prevention

- **Flank cutting :**
  - A real risk reduction measure when large indentation
  - Lost of 10-20 % of stuff
- **Observance depends on the type of relation F-D** (Debril, 2000)
  - “Loser-loser” relation : high risk
  - “Winner-winner” relation : low risk
- **The Winner-Winner relation relies on practical knowledge**

*“For flank cutting, we adjust ourselves to species, and contamination levels to prevent deep cuts. [...] Otherwise, consumers would look away from mutilated fishes”*

# Conclusion

- **With the lack of communication on parasitical risk, responsibility belongs to fishmongers and distributors**
- **For a part of fishmongers, normalization of quality management (including parasitical risk) would lead to the lost of their know-how**
- **For the others, risk prevention relies on both scientific approach and pragmatic approach**
- ▶ **Further interviews will precise :**
  - the forms of the compromise
  - the perception consumers have from preventive measures

Thank you for your attention

