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# **AQUACULTURE SUBSECTOR: KEY RECOMMENDATIONS FOR PROJECT INTERVENTIONS AT THE RETAIL LEVEL**

**TASK ORDER NO. 04**

**JULY 2009**

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# CAMBODIA MSME 2/BEE PROJECT

**AQUACULTURE SUBSECTOR: KEY RECOMMENDATIONS FOR  
PROJECT INTERVENTIONS AT THE RETIAL LEVEL**

**TASK ORDER NO. 04**

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<b>Author:</b>	<b>Marian E. Boquiren</b>

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## I. COMPETITIVENESS OF LOCAL FARMED/CULTURED FISH AT THE LOCAL MARKET

1. In Cambodia, consumers can buy many kinds of fish in two types, fresh fish and processed fish. The average household consumption of freshwater fish is 1.3 kilograms/week. The average size of households is five, giving an annual per capita consumption of approximately 29.1 kg/person/year, similar to the estimation of 32.3 kg/person/yr by Hortle (2007). Cambodians have traditionally eaten fresh fish and current generations continue to prefer it to other foods. In the past Cambodia had an abundance of natural resources so fish has been a staple. Currently there is still only limited consumption of imported processed fish products because of tastes as well as considerations of cost.
2. Majority of the consumers buy fish from the traditional market/wet market. Sales of fish via supermarkets and restaurants are very minimal.

<b>Main market sources of fish in Cambodia</b>	
<b>Retail Outlet</b>	<b>% of Sales</b>
Traditional Markets/Wet Market	63.1%
Supermarket	0.5%
Direct from fishers	14.0%
Caught	22.4%

Source: The Sustainable Mekong Resource Network, Value chains for Sustainable Mekong Fisheries: The case of *Pangasius hypophthalmus* and *Henicorhynchus/Labiobarbus* spp. in Vietnam and Cambodia, February 2009

3. In Cambodia, the average expenditure for fish species for a family was estimated at US\$ 10 per week. Fish represents 28% of total household expenditure, compared to 35% of other food items and 38% on non-food items.
4. Choice of species consumed is strongly dependent on price. Study conducted by the Sustainable Mekong Resource Network in 2008 indicated that the main driver of higher consumption fish was lower prices or rises in prices of other meat products such as beef or pork. The majority of consumers interviewed by abovementioned study also indicated that if their livestock had diseases and were unable to be consumed then fish is the most immediate substitute.
5. Main market of cultured fish is the low to low-medium end consumers.
6. Demand for fish continues to grow and is attracting an increasing quantity of imports. Price of imported farmed pangasius is lower than the local produce. This is primarily due to lower cost of production at country of origin.
7. Price of local farmed fish: about 30% to 40% lower than wild fish but slightly higher or the same than imported farmed fish
8. Wild fish is perceived to be of higher and better quality as well as tastier than farmed fish. Imported farmed fish is perceived of lower quality and less tasty than local farmed fish. Imported fish have softer bodies, light white eyes, black skin, and other features that indicate

that they are not fresh, and taste is inferior to local fish, which have white bodies and black eyes.

9. The farmed pangasius is usually displayed “live” in a basin. This in a way helps in giving consumers the assurance of “freshness”. In one way or another, “live” fish display provides local farmed fish a “freshness” advantage over imported farmed fish. However, current merchandising and post-harvest practices accelerate product deterioration and offer little assurance of food safety. Unsold inventories in the afternoon are sold at discounted prices.
10. Medium and high end consumers, however, are still wary about eating farmed fish in general. Many consumers still retain the image of the unsanitary production of farmed pangasius --- human and animal waste directly into ponds, etc.

## **II. INTERVENTION DIRECTIONS/STRATEGIC FRAMEWORK**

Growth of the domestic retail for locally raised fish is affected by the following key issues: a) public perception of safety and quality of aquaculture products; and b) increasing competition from lower priced imported farmed fish. For locally farmed fish such as pangasius to capture the interest of wider segment of Cambodian consumers and to improve its perceived value and price competitiveness vis-à-vis imported farmed products, there is a need to improve its image and positioning in the fish retail market through a holistic communication campaign. To build consumer’s confidence in both the quality traits that can be sensed by looking at the product and the more technical attributes such as nutrition, wholesomeness, and safety, the following intervention directions are proposed:

### **a) Upgrading of Retail Marketing and Post-harvest Practices**

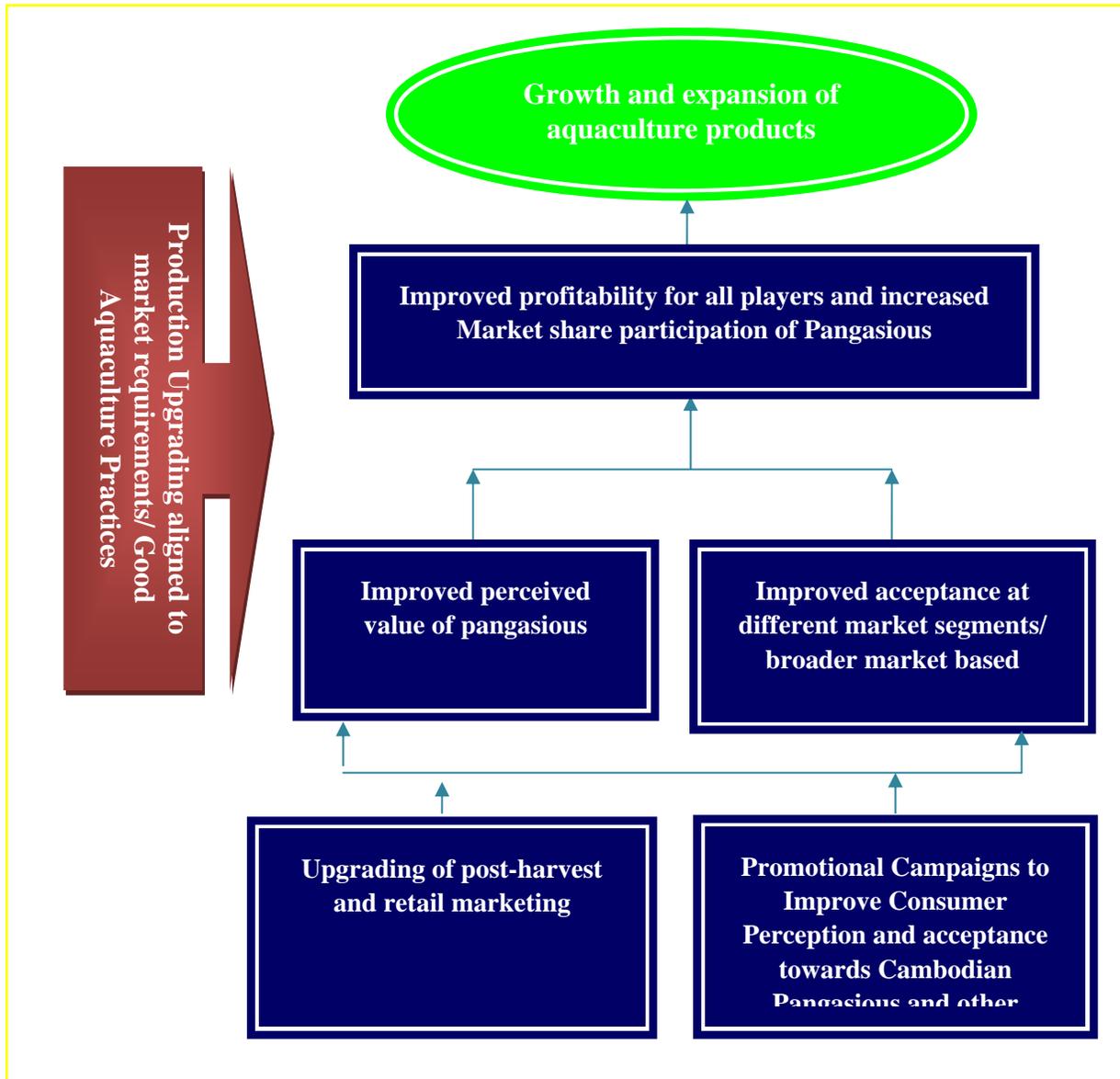
The consumer places a high level of trust in the retailer. He/she has the tendency to transfer the responsibility of some of his/her consumption decisions to the retailers, what leaves these later as unmistakable partners in any communication action. Fish is generally considered as a healthy product by Cambodian consumers. Any type of communication on fishery and aquaculture products should capitalize on this image of “healthy” product, and put “health” at the centre of the message conveyed. Communication on fishery and aquaculture products should project the efforts made to guarantee their “healthiness” to the consumers. Clean, attractive, and sanitary stalls can give consumers another means of inferring experience and credence characteristics of aquaculture products. Likewise, a more attractive presentation can boost perceived value of fish in general.

### **b) Promotional Campaign to improve general image of aquaculture**

One disadvantage of farmed fish for the retailers has to do with the somewhat negative image associated with the aquaculture sector. Farmed fish is generally perceived as an inferior product which has forced down the unit price. Through aggressive marketing efforts, the market for local aquaculture products could be expanded to other consumer segments, which would increase product output forcing up the unit price.

There is a need for general information and consumer education on the benefits of the consumption of fishery and aquaculture products. Consumers know very little about the evolving technologies involved in aquaculture production and need to be informed in order to develop their sensitivity to

the benefits of their consumption. There is a need to improve the acceptance of farmed products, with messages related to the quality of production in Cambodia.



### III. UPGRADING OF POST-HARVEST/FISH RETAIL MARKETING

The role wet market as a major avenue for the general populace to buy fresh provisions has not been replaced by the many modern supermarkets or retail chain stores. Under the free market principle, markets, shops and supermarkets with different positioning operate on a competitive basis and play different roles in catering for the different shopping needs of the public. As only small stocks are kept in market stalls and the turnover is fast, the public prefers to buy live and fresh fish in markets.

Many of the fish vendors differentiate local farmed fish products by displaying these “live”. As per vendors, consumers consider product “freshness” and quality as the most important factor that

determines purchasing decision. To overcome the negative perceptions of aquaculture products and to be able to sell locally farmed products at a higher price than imported fish products, many of the fish vendors differentiate locally farmed pangasius by displaying these “live”. To a significant extent, retailers have been instrumental in introducing consumers to attributes of aquaculture products. The simplest mechanism to raise consumer awareness is to work through retailers and food service operators. These are the industry sectors with the greatest potential for direct consumer interaction. To further harness the potentials of vendors to promote wider acceptability of the local aquaculture products, there is a need to further improve their capacities and capabilities to demonstrate “quality” and “freshness” of aquaculture products through improved merchandising display and practices. There is a need to assist vendors to better highlight the positive attributes of aquaculture as desirable alternative to products from wild sources.

Specific objectives of this component are:

- a. To facilitate the development of differentiation factors and Fish Retail Quality System encompassing basic quality and food safety standards that would establish a special/distinct statement that the fish retailers can introduce and sustain as a marketing proposal to improve perceived value and salability of locally raised pangasius and other aquaculture products.
- b. To develop providers and services/products that would facilitate the upgrading of retailers particularly the acquisition of capacities and capabilities to meet basic food safety and quality standards parallel to development of systems to ensure sustained and equitable access to these services
- c. To support the strengthening of fish retail supply chain governance and the promotion of public-private alliances as bases for the upgrading initiatives with social responsibility and sustainable business growth as framework for collaboration

## **Proposed Intervention and Implementation Strategies**

### **1. Selection of Pilots to Initiate the Change/Upgrading Process**

It is recommended for the program to focus on two to three wet markets. The selection process can be similar to subsector selection consisting of the following steps:

*Participatory Definition of Selection Criteria:* Criteria for selection may include the following: a) scope for increasing volume of locally farmed fish traded in the market; b) significant number of retailers committed to increasing percentage of aquaculture products in their stalls; c) Existence of partners to collaborate with and readiness for change; d) Progressive area/With good % of low-medium to medium end consumers; e) Active Health Promotion Units/Village Health Promotion Units; and f) With some basic market infrastructure, conducive framework conditions, and clear presence of some incentives for players to invest in upgrading.

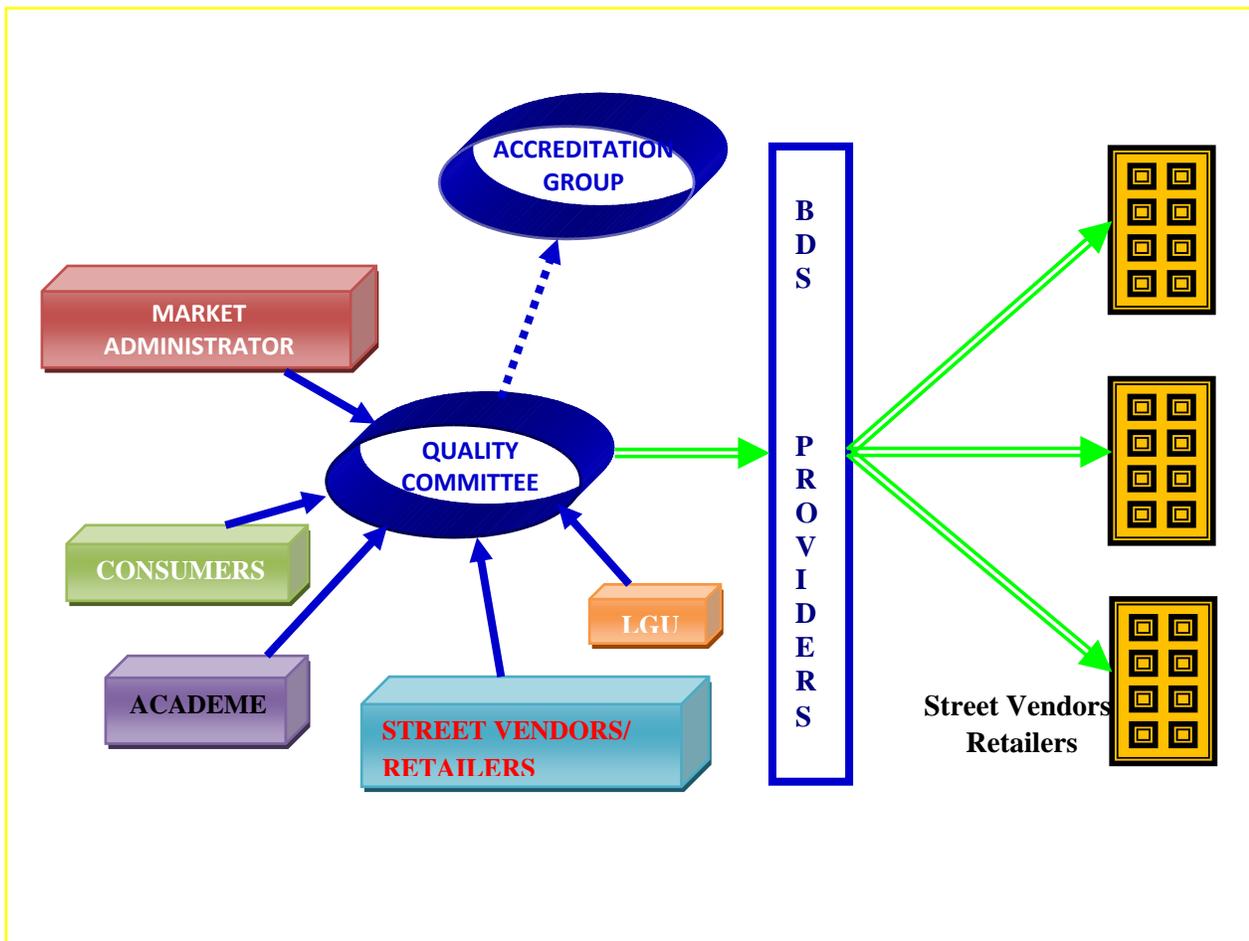
*Profiling of Shortlisted Markets based on Selection Criteria:* This will involve the collection of information and analysis of shortlisted markets based on selection criteria. The preliminary assessment will then lead to the next step of taking the decision to select market/s to implement the pilots.

*Prioritization and Selection of Pilot Markets:* Ranking and prioritization of wet markets are best conducted through workshops with the various stakeholders to ensure objectiveness and promote ownership of results.

## 2. Promotion of Supply Chain Governance

a) Facilitate formation of public-private sector alliance or multi-sectoral working group

In small markets, the fish vendors are usually located outside of the main building but still under the jurisdiction of the market operator/administrator. A fish trader/wholesaler usually supplies 5 to 10 fish retailers daily.



Institutional set-up per pilot market would consist of the following:

*Fish Retail Quality System Working Group/Task Force:* Central body for planning, implementing and monitoring the project. It is proposed that the Working Group should include the following: a) governor/representative of governor; b) market administrator or manager; c) representatives of fish retailers and traders; d) consumer group representative; e) Camcontrol/MAFF; f) Media; g) Academe; and h) Health Promotion Center

*Accreditation and Monitoring Committee:* In-charge of accreditation or of formally recognizing retailers that have met agreed food safety, quality, merchandising display standards. The group is also in-charge of regularly monitoring continued compliance to standards by accredited vendors.

*Providers Pool:* Providers of a range of services and resources to facilitate upgrading of vendors. This would also include providers of tents/umbrellas for the stalls.

#### Program Support

- *Sensitization of the different players/Orientation on Benefits (Economic, Social, and Health) of Upgrading*
- *Initiate the formation of the Fish Retail Quality System working group*
- *Initiate the formation of clusters among fish vendors*
- *Organizational/Institutional Development Support*
- *Capability Building – Food Safety and Quality Standards in fish Retailing*

#### b) Promotion of Common Understanding of Standards and Norms and Accountability

This will involve the following: i) Development of Wet Market/Fish Vending Working Vision; ii) Elaboration of Standards (as per Anukret 47 and food safety guidelines for fish vendors) and Range of Low-Cost Implementation Measures; iii) Formulation of Implementation Plan; and iv) Dissemination of standards and implementation plan to all stakeholders.

*Who will do it: Fish Retail Quality System Working Group, core group of fish vendors with the participation of government, industry players, and other stakeholder groups*

#### *Program Support:*

- *Workshop facilitation/Guidance in the development of implementation plan*
- *Technical assistance in the elaboration of standards and parameters*
- *Support to dissemination of standards and implementation*

### 3. Upgrading of Tents/Stalls

Vendors rent tents/umbrellas either from the market operator or through a supplier accredited by the operator. The vendors bring their own stalls. In the markets visited particularly in the rural areas, the stalls and tents are almost dilapidated and do not provide adequate protection to products, vendors, and the customers.

#### a) Facilitating Access of Vendors to Appropriate Tents



The program can explore the following options:

- Assist existing tent rental company in the design and development of tents that are compliant with Article 45 of Anukret 47 (Food products are to be protected from heat, sunlight, dirt, changes of weather ...)
- Promote partnerships between companies that use umbrellas/tents for their advertisements (SMART, Beeline, Tiger, etc.) and market operators

**POSSIBLE SCHEMES IN FACILITATING ACCESS TO RESOURCES/FACILITIES**

**UPGRADING OF TENTS/FACILITIES FOR STREET VENDORS ...  
PROMOTION OF PARTNERSHIPS BETWEEN PRIVATE COMPANIES (SMART, BEELINE, TIGER, ETC. ) AND MARKET OPERATORS**

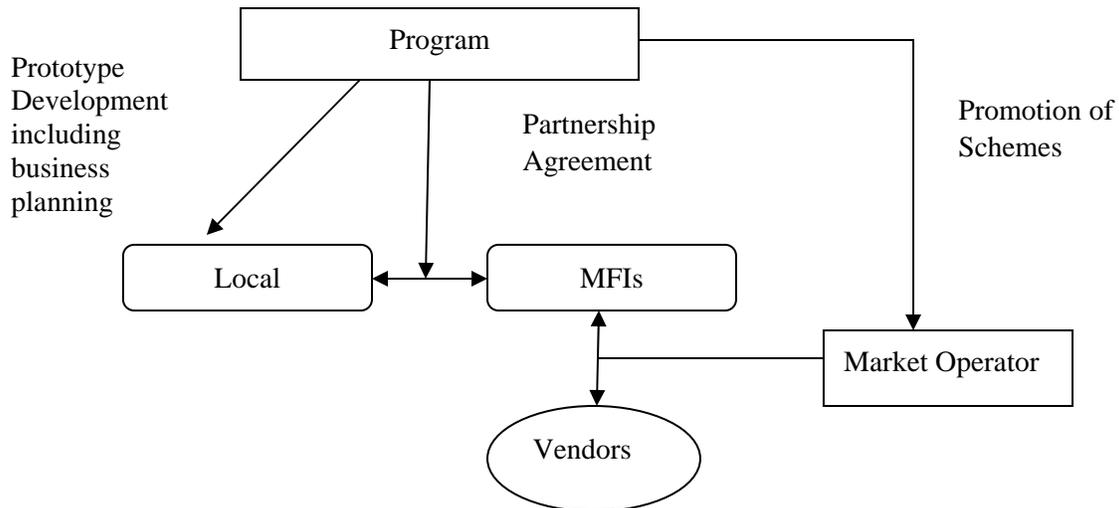
**Project Support: Technical assistance in development of business model and prototype development; partnership design and development**

*Program Support:*

- *Initial discussions/negotiations with companies and possible schemes*
- *Assistance in the development of partnership agreements and rental schemes*
- *Assistance in prototype development and promotion to vendors*

b) Development of better stall designs

Program can possibly explore working with local fabricators in the development of low-cost stalls that can be sold to vendors at affordable schemes via collaboration with micro finance institutions.



#### 4. Business Development Services for Fish Vendors

##### a) Establishment of a pool of providers

It is ideal that a pool of providers be established for each of the market. Providers may be: progressive vendors/traders, market administrator and collection agents, health center personnel, and village health volunteers. Camcontrol and extension officers from MAFF can potentially handle the more technical aspects of the training or provide support during the conduct of the training.

##### b) Development of Services

Training may cover the following topics: i) food safety and quality; b) visual merchandising; iii) enterprise/ financial management; and iv) semi-processing of fish to prolong shelf-life. Training should be aligned to the low-cost implementation measures identified in collaboration with the players themselves. The training sessions should start with easy low cost changes. It is also recommended that all services follow the “Learning/ Training – Application/ Mentoring – Income/Sales – Feedback/Coaching” cycle. The objective is to allow vendors to immediately apply new skills and experience tangible benefits of training.

To facilitate identification of low-cost solutions and, at the same time, promote experimental learning and innovation among retailers, competitions can be conducted on food safety and quality standards compliance. The viable low-cost solutions can then be integrated in the training modules. The competitions would also provide retailers the incentives to immediately adopt good practices as well as facilitate assessment of vendors’ understanding of the different standards and to make corrective actions whenever necessary.

##### c) Financial Viability Schemes

Based on interviews conducted, it is unlikely that retailers would be willing to pay upfront fees for training. As such, services have to be provided as part of business transactions. The following are the possible financial viability schemes:

**EXAMPLES OF ENTRY POINT FOR UPGRADING: LOW COST CHANGES**

**Improper handling (no piling, mixing of cut up fish and whole fish). A bruised, bloodied fish will spoil faster**

**Low cost solution:**

- Proper piling
- Put divisions to separate semi-processed and whole fish

**Placing fish stock on the ground - Dirt, soil — very high microbial load and may contaminate foods sold**

**Direct exposure to sunlight - Fish stored at room temp (27°C) will spoil 30x faster than chilled fish (4°C)**

**Low cost solutions: Cover with easy to clean clear plastic to limit dehydration and oxidation; raise display 50 cm above the ground**

**EXAMPLES OF ENTRY POINT FOR UPGRADING: LOW COST CHANGES**

**Dust, dirt, soil – sources of contamination**

**Exposure to high temperature/sunlight promotes production of histamine which is hazardous to consumer health; deterioration of texture**

**Low cost solutions: clean, washable plastics and basins for postharvest containers; keep under shade and clean area**

**Garbage – source of contamination; unsightly sight**

**Low cost solutions: garbage bags for easy collection throughout the day; garbage receptacles with cover in strategic areas (government/market operator responsibility)**

- i) Cost of training bundled in stall payment
- ii) Minimal upfront fee + cost of training covered from mark-ups --- sale of packaging materials, apron, hair net, signage, point-of-purchase materials indicating origin and product attributes, etc.

## 5. Stimulation of Demand for Services

### a) Advocacy Campaign on the Benefits of Upgrading and Food Safety and Quality Compliance

The campaign should be oriented to the objectives and needs of people who are directly involved and whose actions and behavior will determine the success of the upgrading initiative. Activities may include: i) orientation of industry players on the benefits of upgrading and food safety compliance with a focus on income generation, customer relations, and health benefits; and ii) Safe Fish campaign directed to consumers.

#### *Program Support:*

- *Support to MAFF, Camcontrol, Ministry of Health in the development and implementation of the campaign*
- *Packaging and dissemination of information to media/Integration of campaign in ongoing weekly program*

### b) Regular conduct of consumer feedback survey

The consumer feedback survey can serve a two-fold purpose: i) as basis for iterative planning; and ii) provide motivation for fish retailers to pursue and sustain upgrading. This may be done via a Dot Survey. It is simple but effective data collection method in which a limited number of questions are posted on an easel or board and consumers indicate their responses using colorful labels/dots. Results should be analyzed together with the retailers and other stakeholders. Positive results may be disseminated to the media to encourage other industry players to enroll in the upgrading initiative.

#### *Program Support:*

- *Support to development and conduct of consumer feedback survey including analysis*
- *Dissemination of positive results to media*

### c) Recognition and Accreditation

Recognition from the program, government or individuals respected by the actors can help maintain momentum and spread interest among the “resistant” group. Interest from the media may also help keep activities from stalling. Activities may include: i) Search for Model Retailers voted by consumers and peers; ii) tri-media dissemination of success stories; iii) simple accreditation system which can be conducted until end of program.

*Program Support:*

- *Support to conduct of competitions*
- *Technical assistance in the development of the accreditation system*
- *Preparation and dissemination of success stories*

#### **IV. MARKETING CAMPAIGN TO IMPROVE CONSUMER ATTITUDE AND PERCEPTION TOWARDS AQUACULTURE**

##### **A. Rationale**

In Cambodia, the “healthy” image of fish products is strong but varies according to the type of product, and more generally in disfavour of farmed fish products. Consequently, two communication orientations are recommended:

1. The need for strengthened communication on aquaculture products particularly on the following issues:
  - Improve the level of information of consumers on new aquaculture technology and the sanitary conditions under which fishes are raised. Consumers in Cambodia know very little about aquaculture, and need to be informed in order to develop their sensitivity to the benefits of their consumption.
  - Provide information and vaporize the health and nutritional benefits of farmed fish product consumption. Communication should thus essentially demonstrate the good quality-health benefits/price ratio of fish products
  - Promote through communication campaigns a revitalized image of pangasius and the wide range of recipes/uses of the fish. The example of pangasius which has undergone a major breakthrough in many countries during the last 2 to 3 years shows how an unknown and exotic product may be successful commercially if it is adapted to the consumer (in terms of presentation and taste).
2. To further reinforce the role of fish product consumption within a balanced diet

##### **B. Description**

Storyline	Possible Theme:  <u>Aquaculture</u> - The New Era of Aquaculture: Safe, Healthy, and Affordable Fish  <u>Cambodian Pangasius</u> - A lean fish that fits the modern food choice of the health and conscious consumer. Easy to cook, suitable for all forms of cooking such as frying, grilling, stew and others.
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	<ul style="list-style-type: none"> <li>- Locally farmed pangasius raised and farmed to ensure fresh and delicious taste ... juicy and bone free meat... a real value for your money!!!</li> <li>- Key message should be on health benefits and meat attributes rather than just on price competitiveness</li> </ul> <p>To be supplemented with messages on food safety and fish requirements for a well balanced diet</p>
Communication Strategy	<p>Video to show production process and worldwide acceptability of pangasius --- in food service outlets (e.g., bars, restaurants, etc), TV food shows, etc. Invite journalists to visit aquaculture farms for first hand credible insights</p> <p>Point-of-purchase materials (in retail stalls) showing the physical characteristics of Cambodian pangasius and key messages.</p> <p>Enlist support of medium and high end restaurants to highlight/feature pangasius dishes (e.g., inclusion in buffet during special occasions and should be highlighted --- video, free taste, etc.).</p> <p>Enlist support of culinary writers/gurus to attest on superior taste of Cambodian Pangasius</p> <p>Pangasius Recipe/Culinary competitions that would showcase versatility of pangasius and allow sampling. Target Participants: restaurants/food service outlets</p> <p>Enlist newspapers/radio/tv to feature recipes using local pangasius</p>
Who will do it	<p>MAFF</p> <p>Feed suppliers</p> <p>Export companies with an interest in expanding domestic market share</p> <p>Aquaculture traders/growers</p> <p>Hotels/Restaurants --- can also be aligned to corporate social responsibility/environment advocacy</p>
Program Support	<p>TA in the development of promotional campaign</p> <p>Capacity building on how to manage and run promotional campaign --- key stakeholder groups that will eventually continue the campaign</p> <p>Support to pilot run of campaign</p> <p>Facilitation of linkages with potential sponsors</p> <p>Monitoring of results of promotional campaign</p>











