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Report on consumer testing of products: CSIR-FRI/EU  
SECUREFISH, Solar dried fish Project

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## DELIVERABLE D5.4

### REPORT ON CONSUMER TESTING OF PRODUCTS

#### **Introduction**

Ghana abounds with both marine and fresh water fish (Ministry of Fisheries, 2008). Fish represents about 40-60% of the protein in Ghanaian diets, with each person consuming about 30kg per capita (Gordon et al., 2011). Like many fishing communities in the developing world issues of final product quality are key. Locally both pelagic and demersal fishes are processed on the ground in a large open space giving room to all types of loss factors to be at play. The texture fish i.e. firmness is a key factor of quality of the fish (Ando et. al., 1999). Since facts from experimental findings must match up with expected responses from the subject matter in this case the consumers, this deliverable was carried out to investigate the acceptability of the solar dried fish product, which was dried using the solar tunnel dryer and to find out the need for any modifications.

#### **Selection of the most relevant variables**

The key variable factors that affected this study was chiefly seasonal variation and variation in drying regimes. Abbey (1998) has already reported on how variation in upwelling of anchovy affects some quality and keeping characteristics of anchovy.

#### **Sensory evaluation methodological presentation**

Two solar dried fish treatments were served to a panel. One was raw processed and dried fish, the other was processed and dried fish cooked in tomato sauce. The formulation for the sauce was maintained for both the experimental and the reference fish samples. Reference fish samples were fish obtained from the traditional open air drying method.

A five point hedonic rank test was used to assess the acceptability of the solar dried fish for a panel of 50 made up of male and female mostly students from different departments of the University of Ghana Legon. Means and standard deviations of data were recorded and a Freidman's test used to establish significance of the overall acceptability.

Products obtained from solar drying.



Fig. 1. De-scaled, gutted and fins removed from solar dried anchovies



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Fig. 2. Solar dried anchovies in tomato sauce



Fig. 3. Solar dried anchovies in tomato sauce

### **References**

Abbey Lawrence. (1998). Seasonal and quality changes of the Ghanaian anchovy (*Engraulis encrasicolus*) during storage in ice. Report and Proceedings of the Sixth FAO Expert Consultation on Fish Technology in Africa: Kisumu, Kenya, 27-30 August 1996, Pp 61-66. FAO.

Ando M., Nishiyabu, A., Tsukamasa Y., Makinodan Y. (1999). Post-Mortem Softening of Fish Muscle during Chilled Storage as Affected by Bleeding. *Journal of Food Science*. Vol. 64. No. 3

Gordon A, Pulis A and Owusu-Adjei E. (2011). Smoked marine fish from Western Region, Ghana: a value chain assessment. WorldFish Center. USAID Integrated Coastal and Fisheries Government