

these traders are receptive to aquaculture products provided quality and price expectations are met (Figure 7).

A problem identified in most cities is the quality and suitability of available water for fish farming. In the case of Dar es Salaam some water bodies may be contaminated with heavy metals such as lead and cadmium and therefore all sites may not be suitable. In addition, in most of these zones city bylaws are not conducive for both aquaculture and agriculture. Efforts will have to be focused on local institutions to create an enabling environment to encourage ordered expansion of aquafarming to meet the rising demands from cities.

Conclusion

The above case studies of urban and periurban aquaculture show that it is already playing an important role within the markets of SSA. Evidence suggests that there is quite diverse recognition and interest in the potential contribution of aquaculture to local food supplies, especially targeting market segments with comparatively few alternative competitors. Whilst the wider availability of imported frozen low unit-value pelagic species is likely to remain a serious constraint to expansion of high volume, low cost-focussed production systems, their very presence may well provide the financial incentive and stimulus for future expansion of current activities.

For more information on this project, a detailed list of references from this article or to discuss general issues of aquaculture development around cities in Africa please contact the authors via this e-mail address: afgrp@stir.ac.uk.

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Thesis List

MSc Aquatic Pathobiology

Pearce, M. W. Comparison of an ELISA kit and PCR for the detection of koi herpes virus

Tautenhahn J. Antibiotic resistance in *Flavobacterium psychrophilum*, causative agent of rainbow trout fry syndrome (RTFS)

MSc Aquatic Veterinary Studies

Cervellione, F. Detection of aquatic *Mycobacterium* spp using single and duplex polymerase chain reaction. (PCR)

Colina, A. O. Effects of iron availability on growth and phagocytosis of *Renibacterium salmoninarum*

De La Cuesta, S. Transmission dynamics of *Gyrodactylus gasterostei* (Glaser, 1974) and *Gyrodactylus bychowsky* (Monogenea, Gyrodactylidae)

Ingles, A. G. Morphological aspects of red mark syndrome in rainbow trout, *Onchorynchus mykiss* (Walbaum) in Scotland

Montuliu, B. G. Identification of common epitopes on fish IGM using monoclonal antibodies

Del Pozo, J. Studies on monoclonal antibodies characterization and immunohistochemical detection of *Lactococcus garvieae*

Rizgalla, G. An investigation of the involvement of *Flavobacterium psychrophilum* in the pathogenesis of gravel rash syndrome

MSc Aquaculture

Alvarez, V. M. P. Design and evaluation of a field training manual for aquaculture technology transfer in Michoacan, Mexico

Blanco, A. I. The influence of dietary arachidonic acid on egg and milt quality in Atlantic cod (*Gadus morhua*) brood stock

Fenjul, C. L. Preliminary analysis on growth and feed conversion indices for Atlantic cod (*Gadus morhua* L.)

Fletcher, R. C. Larval rearing protocols for the Atlantic cod, *Gadus morhua*; towards the reduction or replacement of the live feed artemia with commercially available micro particulate diet

Garcia, A. A. Development of an aquaculture plan for pescado blanco *Chirostoma estor estor* and other species based on the Convention on Biodiversity

Gatward, I. C. M. Ecological impacts of fisheries in central Scotland on receiving water bodies

Goulden, M. Production of a variety of plant species in a gravel bed aquaponic test system with Murray cod (*Maccullochella peelii peelii*)

Han, S. Y. Evaluation of eco-aqualizer as ionizing system for small recirculation aquaculture system

Handisyde, N. T. Mapping and managing biodiversity with respect to the genus *Chirostoma* using Geographic Information Systems

Holguin, L. A. The status of freshwater fish in the province of Los Rios, Ecuador

John, S. Characterization of microsatellite loci in the rohu, *Labeo rohita* and their cross-species application in other South Asian cyprinids

Leung, Y. F. J. Implication of the water framework directive (200/60/EC) on marine aquaculture in Scotland

Malme, M. The effect of net changes on the copper content of sediments underlying an Atlantic salmon (*Salmo salar*) cage farm

Orriols, J. M. Development of new technology for counting rotifers (*Brachinus plicarius*) using image analysis

Murray, J. The effects of spectral composition and light intensity on Atlantic cod, *Gadus morhua*, egg and larval performances and quality traits

Smith, R. G. Development of a GIS-based wave climate model for the Western Isles

PhD

Zuleica de Garcia e Costa, J. B-cell epitopes in fish nodavirus

Davie, A. Effects of photoperiod manipulation on growth and reproduction in Atlantic cod (*Gadus morhua* L.)

Williams, P. M. Feeding behavior of *Lumbriculus variegatus* as an ecological indicator of in situ sediment contamination