

COMMERCIAL INTEGRATED FARMING OF AQUACULTURE AND HORTICULTURE



Andrew S de Dezery MSc

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**ISS Institute**

Suite 101
685 Burke Road
Camberwell Vic
AUSTRALIA 3124

Telephone

03 9882 0055

Facsimile

03 9882 9866

Email

officemanager@issinstitute.org.au

Web

www.issinstitute.org.au

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ISS Institute
101/685 Burke Road
Camberwell 3124
AUSTRALIA

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Executive Summary

The Fellow visited aquaponic commercial farms and related research facilities in the United States and Canada to examine the latest advances in production methodologies.

There is growing interest worldwide in commercial aquaponic farming as the integration of aquaculture and horticulture allows greater productivity and more efficient resource use. The speed and extent of its growth is limited, however, by deficiencies in technical know-how in dealing with the myriad of biological, physiochemical and hydrodynamic interactions in aquaponic systems.

Inland aquaculture development and town planning regulations are still in conflict in many regions across Australia. The establishment of management zones, designations of marine park areas and stringent licensing for mariculture activities is impacting on the capacity of the industry to grow. Peri-urbanisation is encroaching on fringe rural communities and general farming is being pushed further out. One solution would be to allow farms that use highly productive integrated farming practices (IFP) to operate on a small footprint in urban and semi-urban regions with minimal environmental impact.

If integrated inland aquaponic farming is to survive and prosper, existing and prospective industry participants will need to have access to appropriate training and professional development support. Although formal training in Recirculating Aquaculture Systems (RAS) has been available for well over a decade, current training is insufficient to cover the increasingly complex technical and scientific requirements needed to operate successful IFP operations. Only a handful of professional, commercially trained and specialised industry educators are available to perform this task.

Notwithstanding these challenges, Australia's status as an environmentally friendly producer of aquatic food provides the domestic aquaculture sector with a significant comparative advantage in export markets. Quality assurance accreditation policies and international standards have been developed by the industry. Industry training is also well underway to ensure accreditation standards for aquaculture exports are maintained. Growth of the Australian aquaculture industry has been assisted by organisations such as the Cooperative Research Centres (CRC) and Fisheries Research and Development Corporation (FRDC) who have funded numerous collaborative research and development projects.

The Fellow has been active in sharing the findings flowing from the Fellowship experience. He has been invited to make a presentation at a forthcoming major international conference on urban aquaponics development to be held in Australia. The Fellow has already conducted presentations to the South Australian Murray-Darling Basin Natural Resources Management Board. Further presentations are being considered for the Riviera region of South Australia and Victoria.

This report concludes with a number of practical recommendations for government, industry associations, and the education and training sector, that will help grow and consolidate a vibrant and sustainable sector of the food industry in Australia.