

# A CONVERSATION WITH RANDALL BRUMMETT

RODRIGUE YOSSA

**R**andall Brummett is a fish biologist. After obtaining a Ph.D. in fisheries at Auburn University, he spent 30 years in the Near East and Africa building fish farms, teaching aquaculture and fisheries biology, and undertaking a wide range of research and extension projects focusing on aquaculture, fish biodiversity and community-based fisheries management systems. He joined the World Bank as a Senior Specialist in 2010 where his job is to develop a portfolio of investments in sustainable aquaculture and fisheries. Below is the quintessence of our conversation, which was held on November 15, 2016.



In Indonesia, for instance, a lot of farms are still using wild fish with generic feed that are used for several fish species. In the medium term, there is no reason that aquafeed contains fishmeal anymore; we have to figure out what is in the fishmeal that we can get from more sustainable sources and then provide that to aquatic animals. In the long term, improving the growth of domesticated species through genetics will be a challenge. For example, the technology that has been

used to develop genetically improved farmed tilapia (GIFT) could be explored and adapted to other fish species to at least double the current growth potential of some fish species.

**Rodrigue Yossa:** Why have you chosen to work in aquaculture?

**Randall Brummett:** I was initially interested in fish and fisheries. Then I realized that making a difference in fisheries is a slow process, which involves a lot of politics, money and power. Because I am an impatient person, I went into aquaculture because it is practical and I can see the impact of my work in the relatively short term.

**Rodrigue Yossa:** How would you describe the ideal aquaculture scientist?

**Randall Brummett:** Aquaculture is evolving fast, with hundreds of production systems and species. Thus an ideal aquaculture scientist needs to have a firm, grounded background in the principles of aquaculture, to understand the basic biology, chemistry, and physics governing aquaculture operations, and to be able to adapt these principles to local aquaculture systems. In my opinion, an aquaculturist who knows how to raise only one fish species is actually a technician. A good aquaculturist can apply the principles of aquaculture to any situation and grow fish anywhere in the world.

**Rodrigue Yossa:** How would you describe the ideal aquaculture producer?

**Randall Brummett:** The ideal aquaculture producer needs to understand where he is in the current transition from fishing to farming, to collaborate with consumers, regulators and other producers to make sure that they do not make the same mistakes that were made in agriculture (such as trying to produce as many fish species as possible) and to adapt sustainability to their farming practices.

**Rodrigue Yossa:** What do you think are the main challenges of aquaculture in the short, medium and long run?

**Randall Brummett:** In the short term, at the farm level, the biggest constraints will be quality technology, getting the right feed formulations and using domesticated fish with a high growth potential.

**Rodrigue Yossa:** What does the future of aquaculture look like in your region?

**Randall Brummett:** In the eastern USA, the future of aquaculture looks bad. The value of coastal land and prime locations for aquaculture in eastern USA is extremely expensive, and these places are mostly used for recreation (hotels and holiday homes). So, although aquaculture could be good for some coastal communities, rich people will prevent it from even starting. Only marginal lands far away from the ocean are available, but most consumers in the US want to eat fish that is coming from the ocean, and aquaculture can not currently provide such products on the East Coast of the US.

**Rodrigue Yossa:** What does the future of aquaculture look like in the world?

**Randall Brummett:** Great! Global aquaculture is definitely going to continue to grow, as prices are good, more jobs are generated, and governments are putting an emphasis on aquaculture. Previously, governments in developing countries for instance, saw aquaculture just as an initiative from development agencies that were pushing aquaculture as small-scale, food-security sector. These governments have realized that, if aquaculture is not considered as a commercial venture in developing countries, the farmers will still get involved, grow some fish and eat all the harvest during a party once a year, and then restart the year after. However, commercial aquaculture ventures, when well managed, have a significant impact on the local and national aquaculture production and economy.

**Rodrigue Yossa:** What do you think about professional certification of aquaculturists?

**Randall Brummett:** It is a great idea. Years ago, Auburn University initiated a Certification of Aquaculture Professionals program, which in fact was a short training on aquaculture. Also, the Global Aquaculture Advocate launched an online training focussing mainly on food safety. Thus, there are some professional programs that exist out there to help some aquaculturists. However, these

program are too short to provide all the knowledge and experiences that are need to work as an aquaculturist. Also, it is one thing to ensure quality to potential buyers through farm certification, but it is also extremely important to make sure that there are certified professionals who understand what aquaculture is really about. There is a need to establish the basic criteria that have to be met before someone calls him/herself an aquaculturists. Certified aquaculturists would be people who understand the basic principles governing aquaculture, so that they can apply these principles to different situations (species, locations, climate etc.). The professional certification of aquaculturist is therefore crucial for the aquaculture profession. From the World Bank's prospective, we would like to have some assurance that the people we are talking to know what they are talking about, because aquaculture is a very risky business and it could be worse if people who are working in it do not know exactly what they are doing. I have seen a number of times where people are not just incompetent as aquaculturists, but they are charlatans who make people and banks lose a lot of money and discredit aquaculture as a profession. Again, I think it is a great idea because there has not been any consistent long term international push towards the professionalization of aquaculturists.

**Rodrigue Yossa:** What would be the steps towards the professionalization of aquaculturists?

**Randall Brummett:** There are already a lot of training

materials out there, so I would not suggest to reinvent the wheel. The next step would be to establish an organization that will engage with aquaculturists, aquaculture producers, environmentalists and universities to spread professionalism and sustainability in aquaculture through the Certification of Aquaculture Professionals. With this organization in place, environmentalists will save a lot of time and investors/bankers will save lot of money.

**Rodrigue Yossa:** What would you have done differently if you had to restart your career in aquaculture?

**Randall Brummett:** I did not plan my career. I got great advice from people. I read a lot, published as many ideas as I could, and was very lucky to be at the right place at the right time. I would probably go fishing more if I had to restart my career from the beginning.

**Rodrigue Yossa:** What advice would you give to young aquaculturists?

**Randall Brummett:** Stay in the profession even if it is for free; don't give up aquaculture if it is what you really like to do. Engage with other people working in aquaculture. There is no easy path, no short cuts, but if you read, read, write, write, write, save money to go to meetings, talk with people, you will probably succeed. Be flexible, do not hesitate to take any kind of aquaculture job when you are building your career.

*Editor's Note – Dr. Yossa, WorldFish, Penang, Malaysia, can be reached at ryossa@cgiar.org*



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- **CONTACT: Dr. Eric Peatman** • **PHONE: 334-844-9319** • **EMAIL: [peatmer@auburn.edu](mailto:peatmer@auburn.edu)**