How the marine ingredients industry is perceived and what it needs to do to secure its future

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Human societies face the enormous challenge of having to provide food and livelihoods to a population well in excess of 9 billion people by the middle of the twenty-first century, while addressing the disproportionate impacts of climate change and environmental degradation on the resource base.

The State of World Fisheries and Aquaculture 2018 highlights the critical importance of fisheries and aquaculture for the food, nutrition and employment of millions of people, many of whom struggle to maintain reasonable livelihoods.

Since 1961 the annual global growth in fish consumption has been twice as high as population growth, demonstrating that the fisheries sector is crucial in meeting FAO’s goal of a world without hunger and malnutrition.
Eradicate hunger, food insecurity and nutrition

Eliminate poverty through economic and social progress for all

Sustainable management and utilization of natural resources

**FAO’s Global mandate**

With current global trends in diets and population, 60% MORE FOOD will be needed in 2050.

Alexandratos N, Bruinsma J. 2012. FAO
The number of hungry people is on the rise. 821 million people do not get enough food to eat.
The number of undernourished people in the world has been on the rise since 2014, reaching an estimated 821 million in 2017.
Pathways from inadequate food access to multiple forms of malnutrition

**FOOD INSECURITY**
Uncertain ACCESS TO FOOD at the household or individual level

**FOOD CONSUMPTION**
- Inadequate infant and child feeding
  - Insufficient intake of calories, protein, vitamins and minerals
- Quantity Quality Continuity
  - Inexpensive, high-calorie, low-nutrition foods
  - Metabolic adaptations to food deprivation
- Anxiety, stress, depression
- Disordered patterns of eating

**MULTIPLE FORMS OF MALNUTRITION**
- CHILD STUNTING AND WASTING
- MICRONUTRIENT DEFICIENCIES
- OVERWEIGHT AND OBESITY

Source: Created by FAO Statistic Division for this report
Proteins
Excellent quality, better bioavailability and good sources of essential amino acids.
In 2015, fish accounted for about 17% of animal protein consumed by the global population*

Fats
Unique source of essential fatty acids (DHA, EPA);

Minerals and vitamins
Unique and complete source of micronutrients;
• High bioavailability
• Most minerals: calcium, iodine, zinc, iron, selenium, etc
• Vitamins: vitamin D, vitamin A, vitamin B group

* SOFIA 2018
Where will it come from?
Reality versus perception!

1. Tell your story honestly.
2. Be sustainable and responsible.
3. Help meet the Global Food and Nutrition Challenges.
4. Be innovative!
Use of fishmeal

Source: IFFO
Aquaculture feed from all sources

Fishmeal and oil used as aquaculture feed

14 MMT (2000)

29 MMT (2008)

65 MMT (projected 2020)

Food and agricultural systems are facing an unprecedented confluence of challenges

Natural resources are over-exploited, degraded, and their productivity declines

- water scarcity and pollution
- land degradation
- deforestation
- biodiversity and ecosystem services losses
- overfishing and IUU fishing
Things are changing………..

- There is **pressure on the resources** from both land and oceans → less resources for fish feeds – both fishmeal/oil based and plant based
- And there is more pressure on use of plants and fish for **direct human consumption**
- So perfect storm of:
  - less resources
  - preferred use of those resources away from feeds
  - need for more feed to supply the demand on aquaculture products

…..so where is the feed for aquaculture growth coming from?
AgriProtein has announced plans to build up to 200 factories globally to scale up production of insect protein for animal feeds. Each factory will produce 5,000 tonnes of MagMeal, as well as and 2,000 tonnes of MagOil per year...

- Ingredients from the ocean in primary production, rather than reliance on secondary/tertiary production
  - Phyto and zoo plankton production
  - Macro algae species
  - Bacteria
How the marine ingredients meets the challenge will determine its real and perceived image in the future.

Be true to your name.