Active Bio-Culture Pty Ltd
ABN 36 138 088 365
aeration towards sustainability

Integrate instead of Segregate: re-Regulation of Australian Agriculture

Any amendments to Agriculture Regulations can only offer a parsimonious linear productivity increase but also at the huge expense to land, water, energy, fertilisers and agrochemicals inputs. The sustainable route to quantum increase in food production is voluntary "guided self-regulations." It is not easy but possible. Globally, three major Food-Revolutions; the British Agricultural, the Green, the Blue; and even the UNFAO had failed to feed the world. Millions of hectares of arable land all over the world have become chemically polluted, salinized or eroded deserts as a result.

The root-cause of agriculture problems is attributed to the 1845 legacy of the 1st (RAC) Royal Agricultural College, Cirencester, England. Nearly every English language Agri-University in the world had followed this "English Agriculture Curriculum," which was completely devoid of Aquaculture.

Agriculturists were taught to drain and irrigate wet-lands to acquire arable land for agriculture; deforest virgin rain-forest for plantation crops; cleared land for ruminant fodder; followed by massive irrigations projects as the corner-stone of these unsustainable agriculture practices.

Large Commercial Agricultures are monocultures; using broad-acre irrigation and agrochemicals intensively that salinized and pollute land, waste water and change the regional micro-climate.

Amazingly! Even after 170 years, modern Agriculture and land-based Aquaculture policy makers have not realised that such Regulations are leading towards unsustainable "Sunset Industries". The Commission's Draft Report even warned that Aquaculture will be investigated separately. In our submission Aquaculture has to be put out for this open consultation.

The proposal is aimed at "Guided Self-Regulation" based on Circular Economy of integrated Agri-Aquaculture (IAA) systems. Instead of compliance legislations, the Commission can help develop codes of practices, conducts or protocols to show farmers various aspects of safe-food production.

Integrated Agri-Aquaculture systems come in many configurations but basically,

- Encompass bio-synergy, biodiversity and biosecurity practices to extend ecological longevity,
- Increase productivity by massive costs, wastes & risks reduction for economic viability,
- Develop safer/humane conditions for workers and live-stock to be socially responsible.

As an example: Integrating duck-farming with aquaponics (Duquaponics/PUMORES (DP)):-

- Remove odour, noise, dust, gases, effluent & composts by replacing duck-litter with water,
- Zero wastes discharge; by converting wastes into life-cycles, supply-chain farmed resources,
- Pests and diseases prevention by deployable, protected, closed-loop farming infrastructures,
- Cost reduction with lower usage of water, land, energy & resources; and zero agrochemicals.

Only ducks are fed to co-produce abundance of fish, vegetables, grains, pulses, fruits and fodder:

- Crops mainly grown in Duquaponics raceways and generously aerated by PUMORES,
- Non-arable land is rehabilitated for year-round production of meat, veggies and fodder,
- DP Is bio-control: No digging, watering, weeding, fertilising & agrochemicals input.

Potential benefits of "Guided self-regulation" with introduction of Duquaponics/ PUMORES offers:

- Quantum increases of production and profit to compensate the higher CAPEX investments,
- Use less materials to produce more to reduce commercial risks,
- Voluntary compliance cuts enforcement costs,
- Produce safer-food, generates more and better jobs.

Agricultural runoffs are destroying our Great Barrier Reef. Spending AUD8.2 billion to save the GBR may happen faster and cheaper if Agriculture and Aquaculture integrate instead of segregate.

Man Heng Soo BSc (Natural Sciences), BSC Hons (Zoology and Entomology), Diploma in Fisheries. (18/8/16).

Active Bio-Culture Pty Ltd
5 Dog Trap Road
OURIMBAH NSW 2258
AUSTRALIA