Shaping the future of sustainable food production in WA - an example for the nation?

AIH Conference 2019

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21st September 2019
Items to be covered today:

1. A fly over of Agriculture.
2. Supply, Demand … > Food Waste?
3. The paradox of over supply of food …
5. Strategy Overview.
6. PNRM’s Lead projects.

Food Future WA
is an initiative of
Perth Natural Resource Management
www.perthnrm.com
www.foodfuturewa.com.au
Agriculture – the cultivation of food through farming, provides the world’s food supply.

- Practiced sporadically for 13,000 years (Montgomery D 2008).
- Widely established for 7000 years.
- A flash in the pan compared to 200,000 years as hunter gatherers.
- In its brief history, agriculture has transformed societies and fuelled a global population expanding from 4 million to 7 billion since 10,000 BC (Kremer M 2001).
Agriculture – shaped our Social Fabric ......

- Provided 10 - 100 times more calories per acre than the hunter gatherer model.
- More abundant food supplies supported greater population densities, tied people to land, settlements became towns, then cities.
- Enough food became available that allowed not all to be farmers, with societal roles developing. *(Montgomery D 2008).*
Weaknesses evolve ...

- Like today, early farmers often worked land in ways that depleted fertility.
- Innovations like Irrigation (6,000 BC) & the Plow (3,000 BC), saw enormous gains in productivity, but when used irresponsibly, degraded the soil (*Hillel D 1991*).
- By the beginning of the Common Era (AD), the Romans had so depleted their soils, they had to import food from Egypt.
- The fall of the Roman empire is one of the cautionary tales of the importance of Sustainable agriculture (*Montgomery D 2008*).
Supply and Demand ..... > Waste

- In 1798, English economist Thomas Malthus warned unchecked population growth would outstrip food supply, termed the Malthusian Trap. *(Malthus TR 1798).*
- Periodic famines were the experience throughout Europe from 1300-1850.
- From 1900-2011, global population grew from 1.6 billion to 7 billion.
- In meeting that growth, farmers produced enough calories to feed that population by 2012, plus an additional 1.6 billion people > Waste.
The Paradox of food over supply ...

• In the over supply scenario we now consistently face however, is the paradox of Hunger, from not being able to distribute these calories evenly across our population. (UN FAO FAOSTAT 2013).

• Equally, global retailers and food marketers push food producers to continually provide new “attractive” food varieties / options for them to have competitive points of difference in the market.

• Plant breeding and Technology are allowing us to lengthen the food supply chain (varietals all year round).

• Producers try to keep up to stay in the game, with a plethora of food choices way beyond actual need, leading to poor food choices, over-consumption, poor health outcomes and Waste.
Perth NRM’s Food Future Initiative

We, like the broader community, are concerned how current infrastructure and food systems can meet future food challenges:

- with changing climate,
- population growth,
- soil degradation,
- ensuring the natural resource base has the capacity to provide for future generations,
- that planning is collaborative enough to equitably meet needs.

Our Food Future WA initiative is engaging partners through government, academia, industry and community to expose issues & inform policy.
WA Food Future: Strategic planning for food security 2050.

**REGENERATING WA FARMLANDS AND REGIONAL COMMUNITIES**

1. **REGENERATIVE FARMING NETWORK:** A facilitated peer-to-peer support, learning and sharing network of regenerative farmers, and land managers transitioning towards regenerative land management.

2. **TRAINEESHIP, PLACEMENT & MENTORING:** This program compliments the RFN through a program that builds regenerative farming and business management skills for newentrants to the farming sectors. This includes Aboriginal communities.

3. **FARM OWNERSHIP & SUCCESSION PLANNING:** Provide opportunity for farmers to transition out of the industry, with pathways for new entrants to the farming sectors (traineeship, placement & mentoring program), underpinned by innovative multi-generational financing. This program also aims to increase the population in regional communities through supporting alternative business models and enterprise diversification.

4. **RESEARCH & EVALUATION:** Work with farmers applying regenerative practices to conduct independent evaluations and case studies of the regenerative practices. To include ROI estimates, risk management strategies and applicability to similar enterprises.

5. **BENCHMARKING:** Gain a better understanding of the capacity of our land & water resources to feed a growing population with current (conventional) management, to determine investment priorities in alternative land management practices. Benchmarking to identify the broader Natural Capital Assets & Biodiversity values.

6. **PERI URBAN:** Identify and support activities that maintain or improve the productive capacity of agricultural land near our major population centres to ensure there is opportunity for future generations to grow and have access to local, fresh food.

**FARMER - CONSUMER INTERFACE**

7. **SUSTAINABILITY INDICATOR:** Develop a shared use information platform that allows farmers to demonstrate adoption of leading sustainability practices and consumers to make more informed purchasing decisions (harnessing the purchasing power of consumers to reward farmers). Investigate digital assurance technologies like Blockchain.

8. **FOOD SAFETY AND HEALTHINESS:** Complimentary to the sustainability indicator; Gain an evidence-based understanding of the comparative health and food safety benefits of food produced through the different types of agricultural practice e.g. regenerative, organic, conventional, biodynamic, etc.

9. **WASTE/RESOURCE MANAGEMENT:** Identify and action activities that minimise food waste throughout our food supply chains and enable the resources to re-enter the food supply chain.

10. **AGRI-TOURISM:** Support agri-tourism initiatives that improve producerconsumer connectivity & economic returns in rural communities.

11. **BRINGING FARMERS TO THE CONSUMER:** Identify and support activities that improve the broader communities understanding of farming and farmers through targeted information extension activities like; school curriculums, social media, or via virtual & augmented reality platforms.

12. **URBAN FARMING:** Plays an important role in supplementing our food supply chains while improving the Urban Farmers social, mental & physical well-being, and understanding of our food systems. Develop and support activities that help urban gardeners to better manage water use, herbicide /pesticide applications and biosecurity, to minimise risk to health and environment. Support high-tech commercial food production enterprises.

Perth NRM
WA Food Security Plan

In WA, we don’t have a food security plan or an understanding of how farmers will manage the productivity constraints faced, to feed twice as many West Australians in the next 3 - 4 decades. PNRM’s 4 year food security project (2019-23) will be conducted in three stages:

• Stage 1 - develop a good understanding of on-farm productivity constraints;

• Stage 2 – from stage 1, facilitate collaboration & informed discussion with community, govts & industry to develop a strategic food security plan;

• Stage 3 - facilitate on-going collaboration to prioritise policy & investment decisions towards sustainable food systems.
PNRM’s Sustainability Indicator Program (7)

- We are currently developing a **Sustainability Indicator Program** (2018-23), with food producers, their supply chain partners and consumers, which focuses on **provenance** and the metrics of leading practice:
  - sound agricultural management,
  - environmental management,
  - ethical / social accountability,
  - fiscal functionality,
  - certification using existing systems.

- It’s aim is **more sustainable production and market pull through** from an educated, loyal consumer base – using smart phone identification at point of sale.
REGEN WA – Regenerative Farmers Network (1)

• Perth NRM facilitated the development of RegenWA in 2018 in response to a growing number of farmers developing regenerative practices expressing the need for collaboration.

• RegenWA is a network of committed West Australian farmers & industry stakeholders who are identifying, implementing & sharing leading sustainability practices that all farmers can adopt.

• The network is focusing on peer to peer support for farmers, supporting research evaluating practices, cross sector collaboration & consumer engagement.

• Our inaugural Regenerative Agriculture Conference just held at Optus Stadium on Sept 11th.
Perth NRM and its partners, continue to pursue reform in our food supply chain.

We encourage all of you in Horticulture to think laterally, look at long term strategic opportunities to meet our natural resource and food security challenges.

We also suggest that you keep an eye on advancing technology and startups accelerating in this space.

Thank you for the opportunity to address you today.