Contested Landscapes: Planning for Resources

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Planning with Altitude – Regions, Revolution and Resources
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Planning for Resources
- Food
- Fibre
- Ornamental Plants
- Minerals
- Extractive Sands
- Hard Rock
- Water
- Land
- Biodiversity
- Energy
- Things we take for granted
- Things we expect to be there
- Things that are depleting
- Things that are conflicting
- Things we NEED to plan for...
- Things that we have not planned for

The Two Words that describe Planning apply to this issue ...

It
Depends

The Food Security Big Picture
- By 2050 world population will be 9.3 billion, 34% higher than today
- Nearly all of increase will be in developing countries
- About 70% of population will be urban (49% today)
- UN FAO estimate we will need to increase food production by 50 – 100% by 2050

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Global Food Crisis

- Food prices peaked in mid 2008 and January 2011 and still higher than in 1990s
  The Economist Magazine Commodity Price Index for Food is 33.8% higher than 1 year ago
- Projected to continue for next 10 years
- United Nations estimate one sixth of world, or over one billion people in developing countries, have inadequate access to food.
- Increased by 150 million in 4 years
- Developed world will not run out of food but people in developing world will

Global Food Crisis

- Caused by failure of global food production to keep up with demand
  - Population growth, per capita income growth and changing diets, climatic variability, limitations on arable land and water, distorted global food trade, biofuel feedstock demand and falling investment in agriculture in developing countries—especially in agricultural research
  - High food and fuel prices plus global financial crisis has had dramatic impact on the developing world
  - Today 82% of the population is in less developed regions and will rise to 86% in 2050
  - Urbanisation of the population: today 52% and in 2050 it will be 69%

Energy

- We are demanding more energy
- Renewables or non-renewables?
- Oil, Coal, coal seam gas, etc
- Solar, wind, hydro, geothermal, etc
- One of the significant drivers of the economy

Drivers of Food Security

- Population Growth - 9.3 billion 2050
- 1.2% p.a.
- 100 million p.a.
- Consumer Demand - More protein
  - Mostly China, India & SE Asia
  - 10% more calories than 1960

Supply

- Water Crisis
- Land Scarcity / Peak Land
- Climate Change
- Oceans
- Energy Dilemma

Economics, Policy & Trade

Source: Adapted from Julian Cribb, The Coming Famine – the global food crisis and what we can do to avoid it
World Peak Land

% Change 1990 - 2005

- Total Food Demand (billion calories/day)
- Consumption (calories/person/day)
- World Population
- Arable Land
- World Farmed Area

0% 5% 10% 15% 20% 25% 30%

By 2050 need to increase total farm output by 2% p.a. Currently increasing it by 1%

Peak Land Issues
- Lack of growth in farmland
- Land Degradation
- Desertification
- Toxic Soils
- City Sprawl
- Competition from other uses including mining and gas
- Setting land aside

Food Systems & Location
- Organic & non-organic
- Intensive
  - Perishable vegetables,
  - Lot fed animals (chicken, pork, beef & lamb)
  - Aquaculture
- Extensive
  - Cereal crops & fodder crops,
  - Grazing animals
  - Sea caught fish
- Different land, water & nutrient needs
- A lot of intensive agriculture is grown on fringe metro and high growth areas

Australia’s Food Production
- Inland areas – Murray Darling Basin, South Australia & Western Australia
  - Grain, Fibre, Vegetables, Vineyards, Orchards, etc
  - Sheep, Cattle, Pigs & some Poultry
- Metropolitan Fringe
  - Perishable Vegetables, Vineyards, Poultry, specialised niche agriculture
- Different food is grown in different locations
- The metro fringe and coastal areas are significant producers of food
- The inland areas are a significant producer of certain types of food which cannot be grown elsewhere
- There is a need to ensure that we plan for the protection of the land that grows our food and fibre

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Food is grown on the Fringe
State Production Grown on Fringe

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Sydney</td>
<td>63.6%</td>
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<tr>
<td>Melbourne</td>
<td>71.5%</td>
</tr>
<tr>
<td>Brisbane &amp; Coastal Qld</td>
<td>72.1%</td>
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<tr>
<td>Adelaide</td>
<td>71.9%</td>
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<tr>
<td>Perth</td>
<td>53.1%</td>
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<td>Hobart, Southern &amp; Northern</td>
<td>47.8%</td>
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<tr>
<td>Australia</td>
<td>68.6%</td>
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</tbody>
</table>
Agriculture on the Fringe

- Intensive Plants Market - Gardening
- Hydroponics
- Nurseries
- Flowers
- Turf
- Vineyards
- Intensive Animals - Poultry
- Aquaculture
- Niche animals
- Extensive Agriculture - Part time grazing

Queensland, NSW & Victoria have 78.7% of Australia's Population and growing at 1.6% p.a.

Source: ABS Agricultural Census 2006.
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NSW Perishable Vegetables 2006

- Asian Vegetables (91%)
- Capsicums & Chilies (76.3%)
- Cabbages (61.5%)
- Celery (97.3%)
- Cucumbers (70.9%)
- Eggplant (80.5%)
- Fennel Bulb (100%)
- Globe Artichoke (83.3%)

Source: ABS Agriculture Census 2006 Based on State Total Production Kg

- Leeks (76%)
- Lettuces (64.7%)
- Mushrooms (82.3%)
- Other Melons (80%)
- Parsley (90.8%)
- Radish (96.2%)
- Silverbeet & Spinach (97.1%)
- Spring Onions (93%)
- Tomatoes – Fresh Market 67.5%

Sydney Region Vegetable Production

- Asian Vegetables (91%)
- Basil, Coriander, etc (63%)
- Capsicums & Chilies (76.3%)
- Cabbages (61.5%)
- Celery (97.3%)
- Cucumbers (70.9%)
- Eggplant (80.5%)
- Fennel Bulb (100%)
- Globe Artichoke (83.3%)

Melbourne Vegetables

- Asian Vegetables (88.3%)
- Asparagus (88.2%)
- Basil, Coriander, etc (78.7%)
- Broccoli (69.8%)
- Brussels Sprouts (99.1%)
- Cauliflower (92.5%)
- Celery (99.8%)
- Cucumbers (72.0%)
- Fennel Bulb (98.0%)

- Leeks (98.0%)
- Lettuces (73.1%)
- Mushrooms (90.1%)
- Parsley (99.9%)
- Parsnips 93.6%
- Radish (97.4%)
- Silverbeet & Spinach (82.0%)
- Spring Onions & Shallots (96.8%)

Brisbane Fringe Vegetables

- Asian Vegetables (79.4%)
- Broccoli (70.3%)
- Cabbages (62.4%)
- Carrots (94.7%)
- Celery (100%)
- Cauliflower (56%)
- Cucumbers (75.6%)
- Leeks (100%)
- Lettuce (64.8%)

- Mushrooms (90.7%)
- Radishes (60.7%)
- Silverbeet & Spinach (100%)
- Spring Onions & Shallots (100%)
- Zucchinis & Squash (65.3%)

Queensland is the Winter Vegetable Supplier to South East Australia

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Rural Land Use Conflict

- Noise
- Odour
- Farm Chemicals
- Night Time Activities
- Visual Amenity
- Urban Uses

Natural Environment
Stock Damage
Weed Infestation
Lack of Understanding
Communication
Community Concern

- **CAVE People**
  Citizens Against Virtually Everything
- **DUDES**
  Developers Under Delusionary Expectations
- When CAVE People meet the DUDES you get a **LULU**
  Locally Unwanted Land Use
- **Political Response is NIMTOO**
  Not In My Term Of Office

Food is Important!

- **Necessity of life**
  Traditionally we have grown food on the fringe of our cities and towns
- **Provide more food for the growing population but good land is being paved over**
- **Planning for food security has not been high on the agenda of planners or governments**
- **Priority has been given to water, housing, environmental awareness and social issues**
- **Planning for the land that grows the food has been mostly ignored**
- **Starting to be addressed but slow progress**
**Food**

- **Necessity of Life**
- Needs land and water to grow
- **Locational Factors**

**Locational Factors for Food**

- Food Production Risk Factors
- Certainty
- Minimal Risks
- Infrastructure
- Labour Force
- Economic Development
- Soils and Nutrients
- Climate
- Water
- Land
- Markets

**Risk Factors**

- Natural Hazards
- Drought
- Cyclones
- Floods
- Climate Change
- Competition & Rural Land Use Conflict

**Sustainability**

- Primary industry production - food, fibre, nursery, flowers, turf, etc
- A place to live and work – urban, rural residential, commercial, industrial uses, etc
- An environmental resource - biodiversity and habitat, water quality, etc

**Productive Components of Rural Land**

- Sustainable

**Economy**

- Social

- Environment
Food, Fibre, Minerals & Extractive

- The interactions between these are becoming a planning issue
- Economic, Social and Environmental aspects
- National, State and Local implications
- Darling Downs & Namoi Valley are similar

The Issues

- What is the real issue here?
- Mines, gas, agriculture, impacts on urban areas and existing social and economic systems ...
- Politics, legislation, competing interests, infrastructure employment, economic development ...

The Issues ...

- Mining & Gas vs. food or mining and food?
- Mining and Gas vs. local areas
- Mining vs. secure food supply
- Value of coal exports vs. value of agriculture
- Highly productive agricultural land that is reusable vs. coal extraction which is not
- Future of Irrigated agriculture, water use and drought
- Many values of the land
Value of Coal vs.. Value of Ag
- Coal is a valuable $ income earner
- Gas is a supply of energy for electricity generation
- We are the world’s top coal exporter
- Flow on / multiplier is bigger for coal & gas than agriculture
  - Infrastructure – coal terminal & rail upgrades
- Coal & gas bring in Royalties to the NSW Government
- Agriculture brings food and fibre

Mining vs. Food Security
- Coal is a valuable $ commodity
- Coal is used for electricity generation, steel making and can be used for plastics
- Gas is a less polluting electricity generator
- Agriculture is not as valuable but the land grows some of our staple crops
- Irrigated agriculture is not as large in the southern end of the Liverpool Plains and most is dryland

Reusable land resource
- Agriculture is a reusable land resource
  - some of the best ag land in Australia
  - Depth of top soil
  - Structure of soil means it can be continually cropped
- Coal & gas take out the resource
  - Underground & subsidence
  - Open cut
  - Gas extraction and the pipe infrastructure impacting on cropping land

Why is it a Planning Issue?
- Potential for economic gain to the local area
- Impact on agriculture
- Impact on biodiversity and offsets using already cleared agricultural land
- Local urban and rural residential development and demand
- Growth of Industrial and Commercial uses
- Infrastructure and Economic Development impact
**Mines, Irrigated and Dryland Agriculture – Food Security**
- This is all a microcosm of the food security debate
- Liverpool Plains, Darling Downs, Hunter Valley, etc.
- We are reaching peak land not only in Australia but also around the world
- We need to ensure that the land is kept so that it can grow food

**Future of Agriculture**
- Climate Change
- Agriculture will adapt and has been adapting for years
- Coal and Gas Strategy
- Agricultural Offsets
  - can only work whilst the good land is to be used as an offset

**How to minimise land use conflict?**
- is the traditional response of separating the land uses and zoning appropriate?
- Very complex issues
- Process is complex
- Consents already issued for mines and timeframe for conditions
- Transparency of the process
- Community concern

**Those two words again ...**

**It Depends**

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Strategic Planning is needed

- Carry out investigations and do some strategic planning
  - Agricultural Lands Mapping / Strategic Cropping Lands
  - Strategic Regional Land Use Plans
- Recognise the contributions made by both industries
  - Identify land that is suited for mining, gas and food and fibre production
  - Perhaps this needs to be separated?
- Recognise that it is a complex issue & has short and long term implications
- Make some hard decisions

Food vs. Coal & Gas

- Can we grow food & make wine and also mine the coal and extract the Gas?
- Perhaps
  - Need to know the basic facts
  - Communicate with community
- Work is being done by Government
- Political solution or a real one?
- Don’t want to kill the goose that laid the golden egg!
- Food or biodiversity ...
- We all have to eat!

Planning Response

- Perhaps we need to isolate the good land from further mining and gas extraction
  - Cropping land is different from grazing land
- It is not the Planning system that is the answer
- Mining Act and others need to be considered
- Complex and political issue!

Conclusion

- Resource extraction has economic benefits in addition to the agricultural benefits
- Agriculture is long term but mining is short term – it takes out the resource once whereas agriculture uses the soil many times
- The solution of whether they can both co-exist is very complex and political
- The good land should be kept for growing food
- We need to draw some circles around this land and protect it for the future and not mine it for a one off payment
- Agriculture is a reusable resource and coal and gas extraction is a one off use
Source: Simon Letch, Sydney Morning Herald 14 September 2011