Review of National ‘Blueprints’ for Agriculture

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Foreword

The National Farmers’ Federation is developing its first Blueprint for Australian Agriculture. The Australian government is also concurrently developing a National Food plan. In response to these developments, the Centre for International Economics (CIE) was commissioned by RIRDC to review national blueprints developed for other countries to inform the farming sector and government in developing blueprints for Australian agriculture. This report is intended to inform the development of these plans through comparing and contrasting existing blueprints in order to identify what factors are expected to characterise a successful blueprint.

Our research incorporates approximately 20 blueprints that were identified through desk top analysis and consultation with stakeholders. The blueprints span a range of developed and developing country contexts including from less developed economies with different cost structures and attributes (such as India, China, South Africa and Brazil) that represent current or potential competitors of Australia. The plans also include those from developed economies and major competitors such as New Zealand (NZ), the European Union (EU), Canada and the United States (US). Importantly, all of the national plans identified were produced by Government entities as opposed to industry organisations or other groups.

This review highlighted that Australia’s competitors are all providing extensive services to their agricultural sector. The nature of these services ranges from prescriptive to broad, from state centric to market orientated and from proactive to responsive. More extensive services to the Australian industry in some areas such as data collection services may be consistent with the objectives and approach to governance in Australia.

Both developed and developing countries consider the requirement to meet consumer and customer requirements as a challenge (risk) to market access, as well as an opportunity to gain advantage in markets. Consumer and customer requirements incorporate expectations around food quality, food safety, traceability, animal welfare and environmental standards. Such requirements are usually taken for granted by the consumer or customer and producers are forced to absorb the associated costs. Without obtaining productivity or price improvements, such cost pressures are expected to cause further vertical integration in domestic and foreign markets.

This report is an addition to RIRDC’s diverse range of over 2000 research publications and it forms part of our Global Challenges R&D program, which aims to collectively address challenges, whether impediments or opportunities, to improve the profitability and sustainability of Australian agriculture.

Most of RIRDC’s publications are available for viewing, free downloading or purchasing online at www.rirdc.gov.au. Purchases can also be made by phoning 1300 634 313.

Craig Burns
Managing Director
Rural Industries Research and Development Corporation

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1 A national blueprint is any national plan developed by a country to underpin the future development of that country’s agricultural or food industries.
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Executive Summary

What the report is about

To inform the National Farmers’ Federation (NFF) and the Australian government about developing national blueprints, the Centre for International Economics (CIE) reviewed national blueprints developed for other countries’ agricultural sectors. The review analysed approximately 20 national blueprints. The plans were compared and contrasted to identify the factors expected to characterise a successful blueprint and, therefore, to inform the development of the Australian blueprints.

Aims/objectives

The review focuses on examining two main areas of existing blueprints:

- the content of the plans in terms of the objectives, economic drivers and data themes (interventions) underpinning the plans. This includes an appraisal of what each country plans to achieve and why, and the way in which they plan to achieve the desired outcomes.

- the analytical and implementation features, including how (well) the plans communicate their purpose and agenda, analyse and integrate their agenda and set out a framework for implementation including through monitoring activities. This incorporates an appraisal of the framework utilised to assess objectives and develop interventions, prioritise resources and organise stakeholders to implement the plan.

Methods used

Our research incorporates approximately 20 blueprints that were identified through desk top analysis and consultation with stakeholders.

Results/key findings

The plans vary significantly in terms of the extent of consultation utilised, the extent of critical analysis undertaken, the prescriptiveness of interventions, the degree of flexibility for adaptation to suit regional development priorities, the extent of the government’s hand in the market, the aggressiveness of government in facilitation roles, the extent of cross-industry and cross-government collaboration and so on.

None of these factors on their own characterise the success of a blueprint. Identifying the potential strengths and weaknesses of a blueprint requires a sound understanding of the original rationale for which determines the requirements for consultation, critical analysis and stakeholder involvement in implementation tasks, as well as the logic of the interventions and the appropriate level of detail around its implementation. That is, the first step is to understand what the proposition for the plan is.

A plan may be created with the intent to create value in a number of ways, including through:

- assessing the core areas of deficiency and drivers of future performance to underpin effective decision making;

- promoting synergies within and across stakeholders and their core functions;

- weighing up priorities of stakeholders in light of potential payoffs, objectives, financial commitments and so on;

- aligning priorities across stakeholders (getting everyone on the same page);
• leveraging funding sources to meet the priorities of key stakeholders;

• promote cooperation, collaboration and cost sharing arrangements to generate the scale required to invest in common infrastructure, develop effective marketing strategies and supply the volume of produce required by customers;

• sequencing strategies to address timing issues; and

• documenting and monitoring progress against objectives.

The attributes of the plan including the content of the plan, the way the plan is formulated and integrated, and proposed to be executed should reflect the initial value proposition of the plan.

Implications for relevant stakeholders

The National Food Plan is expected to create value through setting priorities and taking advantage of synergies, in priorities and functions, across government and industry. The success of such a plan would be influenced by the extent of involvement of key stakeholders, the perceived mandate for the plan, the consensus attained and the commitment of stakeholders to the implementation of the plan. In the past, in Australia, successfully implemented industry strategies have enjoyed the support of key stakeholders, particularly the chains which are the principal customers of many agricultural products. Thus, the ability to align incentives across the supply chain and government to work for a common objective could impact the success of the Australian blueprints under development.

Another key driver of blueprints is to generate new funding commitments to accelerate industry improvement. To achieve this aim, detailed consideration of the target audience would shape the steps required to develop the plan. Whether the industry takes a political approach to this engagement or seeks to make a business case on economic grounds would shape the overall approach. In particular, the needs of the target audience will determine the importance of various forms of critical analysis, including consultation with experts and officials and review of relevant material, compared to generating political momentum for change (such as through consultation with industry).

The perceived role of government also shapes a plan’s development, particularly in terms of the interventions it puts forward. Perceptions around the role of government impact the degree of government intervention in the market and the extensiveness or aggressiveness of the government in facilitation roles.

Recommendations

This review highlighted that Australia’s competitors are all providing extensive services to their agricultural sector. The nature of these services ranges from prescriptive to broad, from state centric to market orientated and from proactive to responsive. More extensive services to the Australian industry in some areas such as data collection services may be consistent with the objectives and approach to governance in Australia.

Both developed and developing countries consider the requirement to meet consumer and customer requirements as a challenge (risk) to market access, as well as an opportunity to gain advantage in markets. Consumer and customer requirements incorporate expectations around food quality, food safety, traceability, animal welfare and environmental standards. Such requirements are usually taken for granted by the consumer or customer and producers are forced to absorb the associated costs. Without obtaining productivity or price improvements, such cost pressures are expected to cause further vertical integration in domestic and foreign markets.

Compliance costs are exacerbated because producers have multiple customers with different requirements (even though these may aim to achieve similar objectives or outcomes), thereby
requiring increasingly sophisticated and costly systems and processes which need to be integrated across the supply chain. The requirements also necessitate overarching credible regulatory frameworks including risk management, monitoring and surveillance systems, and enforcement regimes.

- Government and industry strategies to create synergies in production and environmental compliance systems are likely to be beneficial.

- There is a strong rationale to look at strategies to address key areas of deficiency in capability. This may include, for example, deficiencies in regulatory capacity at the operational level (such as government inspectors), scientific and extension capabilities in certain areas and the access of industry to reliable and timely data and information.

Many countries are seeking to use their environmental strategies and credentials as a potential point of differentiation in export market strategies. The requirement to demonstrate equivalence is also used to put pressure on imported products. Ecological services provided by landholders are also widely seen as a potential source of income diversification for farmers. Some developed countries are actively working to increase their capacity to validate benefits from ecological services and their environmental credentials. In other countries, particularly Europe, environmental payments are being used as a more acceptable form of income support to achieve social objectives. Income support which is not well linked with environmental outcomes represents a new and less transparent form of subsidies.

Finally, although blueprints may vary in purpose and attributes, the CIE’s research suggests that the quality of a blueprint may be strengthened or weakened by the characteristics shown in Table 1.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a strong value proposition</td>
<td>Excessive detail or description without clear critical analysis of the baseline</td>
</tr>
<tr>
<td>Critical stakeholders are considered and/or involved in the development of the plan</td>
<td>Setting too many different priorities and sub-priorities</td>
</tr>
<tr>
<td>Drivers and constraints are well articulated and demonstrate detailed knowledge of the baseline trajectory</td>
<td>Lack of prioritisation of issues and resources</td>
</tr>
<tr>
<td>A clear relationship between objectives and interventions</td>
<td>Unresolved tension between interventions and priorities or between objectives</td>
</tr>
<tr>
<td>Contains responsibilities of, and agreed by, stakeholders</td>
<td>Lack of detail on how the plan is intended to be implemented</td>
</tr>
<tr>
<td>Effective, logical and engaging structure</td>
<td></td>
</tr>
<tr>
<td>Incorporates specific, measurable, achievable, relevant and time-bound targets</td>
<td></td>
</tr>
</tbody>
</table>

*Source: CIE.*
1. Overview

The National Farmers’ Federation is developing its first Blueprint for Australian Agriculture. The Australian government is also concurrently developing a National Food plan. In response to these developments, the Centre for International Economics (CIE) has been commissioned by RIRDC to review national blueprints developed for other countries to inform the farming sector and government in developing blueprints for Australian agriculture. This report is intended to inform the development of these plans through comparing and contrasting existing blueprints in order to identify what factors are expected to characterise a successful blueprint.

The review focuses on examining two main areas:

- **the content of the plans in terms of the objectives, economic drivers and data themes (interventions) underpinning the plans.** This includes an appraisal of what each country plans to achieve and why, and the way in which they plan to achieve the desired outcomes.

- **the analytical and implementation features, including how (well) the plans communicate their purpose and agenda, analyse and integrate their agenda and set out a framework for implementation including through monitoring activities.** This incorporates an appraisal of the framework utilised to assess objectives and develop interventions, prioritise resources and organise stakeholders to implement the plan.

Our research incorporates approximately 20 blueprints that were identified through desk top analysis and consultation with stakeholders (see Table 2). The blueprints span a range of developed and developing country contexts including from less developed economies with different cost structures and attributes (such as India, China, South Africa and Brazil) that represent current or potential competitors of Australia. The plans also include those from developed economies and major competitors such as New Zealand (NZ), the European Union (EU), Canada and the United States (US). Importantly, all of the national plans identified were produced by Government entities as opposed to industry organisations or other groups.

The analysis of these plans is undertaken in the subsequent three chapters. Chapters two and three cover the content and features of the plan, whilst the fourth chapter draws conclusions around the characteristics of a successful plan and messages to take away from the analysis of current or recent national blueprints.

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2 A national blueprint is any national plan developed by a country to underpin the future development of that country’s agricultural or food industries.
### Table 2  National Blueprints identified

<table>
<thead>
<tr>
<th>Blueprint</th>
<th>Year</th>
<th>Country</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Plan FY 2010-2015</td>
<td>2010</td>
<td>US</td>
<td>SP-USDA-2010</td>
</tr>
<tr>
<td>Smart Food, Cool Beverage: NZ’s Future in the Food and Beverage Sector</td>
<td>2006</td>
<td>NZ</td>
<td>NZ-2006</td>
</tr>
<tr>
<td>The Way Forward: Summary of Agriculture and Agri-food</td>
<td>2010</td>
<td>Canada</td>
<td>SP-Canada-2010</td>
</tr>
<tr>
<td>Interim Report for the Revitalization of Japan’s Food, Agriculture, Forestry, and Fisheries</td>
<td>2011</td>
<td>Japan</td>
<td>IR-Japan-2011</td>
</tr>
<tr>
<td>Strategic Plan for the Department of Agriculture, Forestry and Fisheries - 2012/13 - 2016-17</td>
<td>2012</td>
<td>South Africa</td>
<td>SP-SA-2012</td>
</tr>
<tr>
<td>Directorate General for Agriculture and Rural Development</td>
<td>2011</td>
<td>EU</td>
<td>DG-EU-2011</td>
</tr>
<tr>
<td>Food 2030</td>
<td>2010</td>
<td>UK</td>
<td>SP-UK-2010</td>
</tr>
<tr>
<td>Food Harvest 2020: A Vision for Irish Agri-food and Fisheries</td>
<td>2010</td>
<td>Ireland</td>
<td>SP-Ireland-2010</td>
</tr>
<tr>
<td>Agriculture and Livestock Plan 2009/2010</td>
<td>2009</td>
<td>Brazil</td>
<td>SP-Brazil-2009</td>
</tr>
<tr>
<td>Strategic Plan – Ministry of Food Processing Industries (2006-2011)</td>
<td>2006</td>
<td>India</td>
<td>SP-India-2006</td>
</tr>
<tr>
<td>A Forward Strategy for Scottish Agriculture</td>
<td>2006</td>
<td>Scotland</td>
<td>SP-Scotland-2006</td>
</tr>
<tr>
<td>Agricultural sector development strategy 2010-202</td>
<td>2010</td>
<td>Kenya</td>
<td>SP-Kenya-2010</td>
</tr>
<tr>
<td>China - 5 Year Plan</td>
<td>2011</td>
<td>China</td>
<td>SP-China-2011</td>
</tr>
</tbody>
</table>

Note: We have not detailed the Kenyan and Ugandan plans in our analysis. These plans did not provide any additional lessons that were deemed necessary to incorporate. Specific interventions for the Canadian Discussion Paper, Charting the Way Forward to 2020: Discussion Paper: Growing Forward 2, have not yet been identified and therefore are not incorporated in to the review.

Source: CIE.
2. Objectives, economic drivers and interventions

In this chapter we present an overview of the content of the national plans. Our discussion incorporates an analysis of objectives, interventions, and the rationale underpinning and integrating the agenda (see Figure 1). Analysis of the data themes across the blueprints reveals the issues that are being prioritised, for example, quality assurance and consumer attributes. The rationale for the issues prioritised in each plan is influenced by:

- the perceived synergies in the area of governance and perceived benefits from cooperation across government and stakeholders;
- Areas of synergy may include the factors underpinning the target areas for interventions, such as the importance of meeting consumer/customer preferences and meeting market access (compliance) requirements;
- the relative weighting of social, environmental and economic objectives; and
- the perceived role of government.

The nature and extent of the assistance and services provided to the agricultural sectors varies considerably as a result. In this chapter we are interested in identifying each of the elements presented in Figure 1. In the following chapter we will analyse how and how well the agenda is integrated.

Figure 1 Objectives and interventions

Table 3 distinguishes the key areas earmarked for improvement for each plan. Brazil was the only country which did not outline any objectives or targets. The underlying objectives of the plans are usually made relatively clear throughout the plan, even if the specific objectives themselves are pretty vague. For instance, many plans propose to create ‘resilient’, ‘profitable’ and ‘competitive’ food systems. But the targets or strategies frequently provide more information around the objectives intended to drive economic, social and environmental improvement.
Table 3  Strategic Plan Objectives

<table>
<thead>
<tr>
<th>Strategic Plan</th>
<th>Economic</th>
<th>Social</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bio-technology – new markets</td>
<td>Enabling environment</td>
<td>Climate change</td>
</tr>
<tr>
<td></td>
<td>Productivity</td>
<td>Rural development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structural change</td>
<td>Nutrition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New markets</td>
<td>Social equity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Market access</td>
<td>Food security</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>1 SP-USDA-2010</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 SP-ARS-2006</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>3 BioPlan-US-2012</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 NZ-2006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 SP-Canada-2010</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>6 DP-Canada-2011</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>7 TF-Canada-2008</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 IR-Japan-2011</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 DG-EU-2011</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>10 SP-UK-2010</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 SP-Ireland-2010</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 RDP-Ireland-2009</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 SP-Scotland-2006</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 SP-SA-2012</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 SP-Brazil-2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 SP-India-2006</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 SP-Uganda-2010</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 SP-Kenya-2010</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 SP-China-2011</td>
<td>√</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* CIE interpretation of objectives based on the interventions.
* Source: CIE.

As shown in Table 3, the plans almost always incorporate some objectives associated with economic performance and more than half of plans incorporate measures to improve the productivity or competitiveness of their sector. Not surprisingly, half of all plans incorporate objectives related to seeking out new markets or gaining or maintaining access to markets. There is consensus that market share and market access is a reflection of the capacity to respond to consumer or customer preferences, including foreign governments. The plans all concede that market preferences include, most importantly, assurance of food quality and safety, but also other consumer values: traceability, sustainable production systems and animal welfare.

Approximately one in four plans also feature social equity and rural development objectives. In the plan by the EU Directorate General for Agriculture and Rural Development, payments for environmental services are seen as a more acceptable payment to landholders than traditional subsidies to achieve social objectives. Consequently, all countries in the European Union will tend to have rural development objectives and access to funding for social development objectives. This is reflected in both the Irish and UK plans. Food security is a common driver of government policy in developing countries and was identified in the plans for China, South Africa and Uganda as well as Japan.

In approximately half of the plans, the CIE identified objectives related to the environment. In many cases, environmental objectives are integrated in to economic performance or social development...
objectives. In some countries such as Ireland and Canada, environmental sustainability is perceived as a critical aspect of the sector’s marketing strategy.

## Factors behind these objective (the rationale)

There are a range of factors which motivate the objectives and strategies proposed in each plan. The main factors underpinning the focus of each plan are summarised in Table 4. The list provided is not exhaustive but represents some of the key factors.

### Table 4 Summary of factors identified as drivers in each plan

<table>
<thead>
<tr>
<th>The obstacles to desired improvement</th>
<th>The factors expected to support the attainment of desired improvement</th>
<th>The synergies that require cross-government, cross-industry cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job creation in rural areas</td>
<td>Partnering with food insecure countries through biotechnology</td>
<td>QA and confidence building: new products/markets</td>
</tr>
<tr>
<td>Research and development (R&amp;D) gaps</td>
<td>Diversification of income in rural areas: renewable energy generation, recreation, environmental payments</td>
<td>Enforcing existing global commitments on trade/products derived through biotechnology</td>
</tr>
<tr>
<td>Poor diet, health and access to healthy food</td>
<td>Integrity of food safety and assurance programs</td>
<td>Delivering regional approach to economic constraints</td>
</tr>
<tr>
<td>Food insecurity as a threat to stability</td>
<td>Revenue generation through environmental markets – via a science-based underpinning</td>
<td>Connecting landowners with emerging markets such as ecosystem service markets</td>
</tr>
<tr>
<td>Technological hurdles in bio-based industries including conversion processes and feedstock consolidation</td>
<td>New, high-quality, high consistency, value-adding markets plus effective marketing</td>
<td>Lobbying for market access via provision of scientific evidence on product safety</td>
</tr>
<tr>
<td>Disconnect between industry and entrepreneurs, lack of experienced business management, high cost of product development</td>
<td>Technologies/products to be commercialised and adopted: genetic manipulation technologies; and fuel production and biotechnology advancements with breeding techniques</td>
<td>Provision of robust risk management framework to assess emerging technologies that provides clear delegation of responsibilities/processes</td>
</tr>
<tr>
<td>Timeliness and predictability of regulatory processes for new technologies</td>
<td>Better understanding of risks and benefits of bioproducts</td>
<td>Aligning skills development in academic institutions with future workforce needs</td>
</tr>
<tr>
<td>Outdated safety regulations on innovation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited in-market presence in high-growth markets</td>
<td>Increasing the number of exporting businesses, scaling up small to medium sized businesses</td>
<td>Aligning scientific effort with productive potential and industry adoption potential</td>
</tr>
<tr>
<td>Stringent/costly compliance regimes for market access</td>
<td>Expansion of product base in premium markets through safe and traceable food, nutritional value and slick marketing, biosecurity regimes</td>
<td>Promoting private sector R&amp;D</td>
</tr>
<tr>
<td>Few mid-sized firms hungry for export-led growth (therefore lack of scale), reluctance of producers to grow business offshore due to lifestyle factors</td>
<td>Science-based superior foods</td>
<td>Information to producers on tastes in export markets</td>
</tr>
<tr>
<td>Unattractiveness of sector – skills shortages</td>
<td>Gourmet food-tourism link</td>
<td>National brand based on NZ marketable attributes</td>
</tr>
</tbody>
</table>

(Continued next page)
<table>
<thead>
<tr>
<th>Plan</th>
<th>The obstacles to desired improvement</th>
<th>The factors expected to support the attainment of desired improvement</th>
<th>The synergies that require cross-government, cross-industry cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP-Canada-2010</td>
<td>India, Brazil and China as competitors&lt;br&gt;Continuous, evolving threats from new plant diseases, bioterrorism</td>
<td>Capturing the potential of bioeconomy&lt;br&gt;Reputable science and database to accelerate market entry and assist in regulating new products</td>
<td>Engaging industry around regulatory processes&lt;br&gt;Providing protocols and standards&lt;br&gt;Managing food hazards</td>
</tr>
<tr>
<td>DP-Canada-2011</td>
<td>Global retailers and processors having new or existing private standards – compliance requirements&lt;br&gt;Meeting consumer/government expectations of the integrated food system – prevalence of non-tariff barriers&lt;br&gt;Complexity of business risk – deters entry of young people</td>
<td>Continual reinvestment in productive base – regulations, information, communication, other market infrastructure especially in emerging markets&lt;br&gt;Product differentiation and business models able to respond to consumer tastes&lt;br&gt;Demand-led innovation</td>
<td>Strategies to take up/develop technological breakthroughs such as attribute standards&lt;br&gt;Providing market intelligence to decision markers&lt;br&gt;Aligning/promoting regulations to competitive context around biosecurity, food safety and quality</td>
</tr>
<tr>
<td>TF-Canada-2008</td>
<td>(Difficult to assess as legislative document rather than policy analysis)</td>
<td>Sectoral renewal and succession planning&lt;br&gt;Development of under-utilised agricultural resources&lt;br&gt;Streamlined and harmonised regulation to facilitate innovation and growth</td>
<td>Increased research capacity, information flow between stakeholders, shared investment in infrastructure</td>
</tr>
<tr>
<td>IR-Japan-2011</td>
<td>Low confidence in agricultural, forest and seafood products after nuclear incident – Japanese brand damaged, more stringent restrictions imposed by other countries&lt;br&gt;Ageing workforce</td>
<td>Retiring farmers – opportunity to consolidate enterprises and intensify agricultural production&lt;br&gt;Utilising biomass – assist in decentralising energy supply&lt;br&gt;Preventing land abandonment – use of marginal land</td>
<td>Setting evaluation framework for desired qualities: environment-friendliness and Hazard Analysis and Critical Control Points (HACCP)&lt;br&gt;Monitoring safety of food, informing consumers, advising landholders&lt;br&gt;Rebuilding export markets</td>
</tr>
<tr>
<td>DG-EU-2011</td>
<td>Rising food prices and access to healthy food&lt;br&gt;Barriers to nutritional and sustainable diets – consumer uncertainty around food attributes including health, carbon footprint, animal welfare&lt;br&gt;Potential conflict between food for energy and food security</td>
<td>Food chain integration and risk management&lt;br&gt;Knowledge transfer and innovation&lt;br&gt;Enhancing competitiveness at the regional level</td>
<td>Information exchange to enhance policy development&lt;br&gt;Trade and marketing standards developed as a trading bloc&lt;br&gt;Reducing agricultural emissions</td>
</tr>
<tr>
<td>SP-UK-2010</td>
<td>Regulatory reform to support a responsive market/sector&lt;br&gt;Public assurance of food safety, and products that meet consumer values&lt;br&gt;Placing a financial value on natural resources&lt;br&gt;Clearer information on climate impacts of food and incentives for retailers to supply ‘climate friendly’ products</td>
<td>Reducing risks associated with the environment, food safety, external shocks, the concentration of infrastructure, skills shortages&lt;br&gt;Ensuring profit and risk are ‘spread more fairly across the supply chain’</td>
<td></td>
</tr>
</tbody>
</table>

(Continued next page)
Table 4  Summary of factors identified as drivers in each plan (Continued)

<table>
<thead>
<tr>
<th>Obstacles to desired improvement</th>
<th>Factors expected to support attainment of desired improvement</th>
<th>Synergies that require cross-government, cross-industry cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing cost of production driven by energy, transport, waste and regulatory burden</td>
<td>Umbrella branding with sustainability as point of differentiation (extensive, low-input, rain-fed, grass-based production systems, welfare-friendly)</td>
<td>Aligning sustainability across the supply chain</td>
</tr>
<tr>
<td>Lack of scale at processor and manufacturing levels</td>
<td>Improve biodiversity conservation (in line with marketing objectives)</td>
<td>Enhancing capabilities in monitoring and appraising policy, trade and commercial developments for existing and emerging technologies</td>
</tr>
<tr>
<td>Limited fiscal resources, dependence on direction of EU policy development</td>
<td>Orientation of food industry with environmentally conscious consumers</td>
<td>Increasing scale via competition and collaboration</td>
</tr>
<tr>
<td>Liquidity and access to credit as a short term issue</td>
<td>Reduced production costs through carbon trading (agricultural offsets)</td>
<td>Collaboration to establish Brand Ireland</td>
</tr>
<tr>
<td></td>
<td>Integrated agri-food tourism</td>
<td></td>
</tr>
<tr>
<td>Funding to increase competitiveness, sustainability and social equity</td>
<td>Promotion of attributes - tradition, quality, environment and animal welfare</td>
<td>Working with Competition Authority to enable industry cooperative arrangements to form (without violating competition laws)</td>
</tr>
<tr>
<td>Small scale of production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productivity decline, increasing production costs, low investment in infrastructure in rural areas</td>
<td>Increasing agro-processing to create employment and substitute imports with domestic products</td>
<td>Linking smallholders to markets through the government becoming principle customer</td>
</tr>
<tr>
<td>Loss of wage jobs on commercial farms</td>
<td>Expanding the small holder sector to create jobs</td>
<td></td>
</tr>
<tr>
<td>Access to markets (phytosanitary (SPS) barriers due to pest and disease status, traceability requirements, corporate social responsibility, carbon footprint)</td>
<td>Integrate conservation methods in to farming</td>
<td></td>
</tr>
<tr>
<td>Access of farmers to credit</td>
<td>Maintaining liquidity, strengthened support for producers and credit for production and marketing</td>
<td>Reducing private risk through price support</td>
</tr>
<tr>
<td></td>
<td>Regenerating degraded land</td>
<td>Assisting mid-sized rural producers and cooperatives</td>
</tr>
</tbody>
</table>
### Interventions/strategies

Each country has a set of tools which it determines is appropriate to utilise to address the factors listed above. The interventions can be characterised on the basis of:

- the value proposition upon which the intervention is founded:
  - mitigating a constraint, weakness or risk;
  - building on strengths, drivers and opportunities; and/or
  - taking advantage of synergies within government and between government and industry;

- whether the intervention targets developing or mature industries, and the extent of government intervention. The approach to the intervention can range from passive to active – for example, the latter defines the US approach;
  - The level of government intervention is high if it distorts the allocation of resources, for example, to achieve social objectives. For instance, subsidies and tax incentives directed at mature markets may artificially increase or maintain resources in an industry;
  - The level of government intervention is modest if strategies aim to increase the efficiency of markets by removing policy and institutional constraints, provide industry infrastructure or target the pre-commercial stage of investment;

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**Table 4** Summary of factors identified as drivers in each plan (Continued)

<table>
<thead>
<tr>
<th>The obstacles to desired improvement</th>
<th>The factors expected to support the attainment of desired improvement</th>
<th>The synergies that require cross-government, cross-industry cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SP-India-2006</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unorganised suppliers, fragmented markets, high cost of transportation</td>
<td>Increase food processing sector to support demand/prices for fresh produce</td>
<td>Address skills and infrastructure gaps to establish a processing sector</td>
</tr>
<tr>
<td>Non-adherence to quality/SPS standards</td>
<td>Strengthen institutions to provide food safety and quality assurance</td>
<td>Encourage interaction between industry and researchers</td>
</tr>
<tr>
<td>Low productivity, pest and disease susceptibility, short storage life, old varieties</td>
<td>Private sector investment to enhance supply chains and expand retail sector</td>
<td>Policies to be developed and implemented in each state</td>
</tr>
<tr>
<td>Lack of infrastructure for handling, (cool) storage, transport, skilled labour</td>
<td>Utilise unexploited capacity in fisheries</td>
<td></td>
</tr>
<tr>
<td>Laws discourage direct marketing, scaling up and inter-regional trade</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SP-China-2011</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality assurance systems</td>
<td>Large, modern seed industry</td>
<td>Optimising the layout of the industry (27 zones and three areas) and forming industry clusters</td>
</tr>
<tr>
<td>Desertification and climate change</td>
<td>Targeted consolidation and expansion of regions, with regional autonomy</td>
<td>Protecting land nominated for agricultural production and conservation purposes</td>
</tr>
<tr>
<td>Food security</td>
<td>Increase the supply of healthy aquatic farming, deep sea fishing, grain, staples, modern large scale processing and packing facilities</td>
<td>Advancing anti-pests systems</td>
</tr>
<tr>
<td>Protectionism in ‘various forms’</td>
<td>Subsidising grain production</td>
<td>Supporting advantageous areas to focus on staples: grain, cotton, oilseeds, sugar etc</td>
</tr>
</tbody>
</table>

*Source: CIE.*
the extent of the detail provided around the mechanisms to be implemented, ranging from simply offering overarching principles (as in the case of China) to extensive detail around the funding sources and requirements (as in Europe and Canada where available resources for interventions are legislated); and

whether the intervention is supported by a tangible increase in resources or a redirection of resources in a manner deemed more effective (as is the case in many European countries facing financial limitations).

Table 5 summarises the interventions corresponding to economic objectives. They include:

- further research to accelerate innovation and assist regulators in their capacity to foster innovation whilst protecting consumers;
- market intelligence to industry and facilitation to develop new markets;
- fostering structural changes to consolidate industry;
- capital grants and subsidies to invest in modernisation;
- support for brand creation; and
- funding and reform to upgrade quality assurance systems.
### Table 5  Economic objectives and interventions

<table>
<thead>
<tr>
<th>Plan</th>
<th>Intervention type – and details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biotechnology</strong></td>
<td></td>
</tr>
<tr>
<td>SP-ARS-2006</td>
<td>- Research to increase viability of bioenergy and genetic/genomics, support the expansion of markets and increase production efficiencies.</td>
</tr>
<tr>
<td>BioPlan-US-2012</td>
<td>- Public-private-partnerships for research with shared risk, more effective funding mechanisms, investment in regional based energy markets, to better predict the safety of bioeconomy-related products and align institutional incentives with workforce needs.</td>
</tr>
<tr>
<td></td>
<td>- Reform to improve the application review processes for new and emerging technologies and drive innovation in international standards.</td>
</tr>
<tr>
<td></td>
<td>- Capitalise on synergies through increasing collaboration between agencies and inter-disciplinary research, to help academic discoveries become commercial realities.</td>
</tr>
<tr>
<td>SP-ARS-2006</td>
<td>- Research to integrate knowledge, technologies and decision support tools, reduce production costs and risks, support an improved focus on consumer needs and tastes, on precision resource management, automation and crop productivity.</td>
</tr>
<tr>
<td><strong>Productivity</strong></td>
<td></td>
</tr>
<tr>
<td>BioPlan-US-2012</td>
<td>- Provide resources to benefit rural areas - to improve rural access to capital, connect mentors and entrepreneurs, reduce regulatory barriers, and provide tax relief and other economic incentives to drive small business investment.</td>
</tr>
<tr>
<td>NZ-2006</td>
<td>- Increase expertise in Federal Agencies, promote community college partnerships, and target under-represented minority groups to up-skill for high skill jobs.</td>
</tr>
<tr>
<td><strong>TF-Canada-2008</strong></td>
<td>- Extension to encourage wider uptake of available knowledge (to increase yields).</td>
</tr>
<tr>
<td></td>
<td>- Increase capability to diagnose skills gaps and forecast skills requirements, address gaps in research capabilities, more strategic investment in training, and find ways to improve the attractiveness of the industry.</td>
</tr>
<tr>
<td><strong>IR-Japan-2011</strong></td>
<td>- Strengthen business capacity to evaluate investment opportunities and risk, and promote an understanding of payoffs from investments including in food safety systems and environmental plans.</td>
</tr>
<tr>
<td></td>
<td>- Coordinate and collaborate in science, policy and marketing action plans (via workshops), fund ‘science clusters’ to coordinate research efforts, provide funding for innovation commercialisation centres for pre-market research, intellectual property portfolio management, products and market analysis and commercialisation assistance, and demonstration and scale-up funding.</td>
</tr>
<tr>
<td><strong>DG-EU-2011</strong></td>
<td>- Review policy frameworks applicable to farmers, farmlands and production to find ways to support the consolidation of farmers at a time when many farmers are approaching retirement.</td>
</tr>
<tr>
<td></td>
<td>- Equip farmers through education schemes targeting their level and encourage women and newcomers.</td>
</tr>
<tr>
<td></td>
<td>- Diversify regional value base through green tourism, markets for local produce, registering Japanese cuisine as World Heritage, using biomass for renewable energy generation etc.</td>
</tr>
<tr>
<td><strong>SP-Ireland-2010</strong></td>
<td>- Income diversification to provide payments linked to compliance with good agricultural and environmental conditions to meet consumer expectations (‘greening of direct payments’), introduces the potential to impose comparable conditions on competitors.</td>
</tr>
<tr>
<td></td>
<td>- European Innovation Partnership to implement a resource-efficient, productive and low-emission agricultural sector such as through better linking agricultural research and farming to enable the sector to produce more with less.</td>
</tr>
<tr>
<td></td>
<td>- Regional Development funding 2014-20: fostering knowledge transfer and innovation, enhancing competitiveness, promoting food chain organisation and risk management.</td>
</tr>
<tr>
<td></td>
<td>- Support for consolidation including targeted roll-over relief for land sales and removing impediments to land mobility.</td>
</tr>
<tr>
<td></td>
<td>- Advisory programs on low cost production methods and sectoral-specific requirements, for example orchard modernisation.</td>
</tr>
<tr>
<td></td>
<td>- Government facilitation to increase collaboration and consolidate industry.</td>
</tr>
<tr>
<td>Plan</td>
<td>Intervention type – and details</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>RDP-Ireland-2009</td>
<td>● Promote structural change including through: installation aid for young farmers (to offset setup costs, promote transfer of land and assistance); support for early retirement and the enlargement of established farmers (through providing the pension); and funding for modernisation, diversification, tourism, animal welfare and occupational, health and safety improvements.</td>
</tr>
<tr>
<td>SP-Brazil-2009</td>
<td>● Make finance available for mid-sized rural producers, expand the coverage of rural insurance via government pool of funds for insurers to use in event of catastrophe, and provide minimum price guarantees (through the use of options contracts).                                                                                       ● Resources for cooperatives to modernise production and marketing systems including for hail nets, irrigation systems, storage facilities, processing and storage units, and variety transition/orchard modernisation.                                                                                                           ● Investment in infrastructure to reduce transportation costs, waiving taxes on freight/shipping, certification of storage units to increase quality and reliability.</td>
</tr>
<tr>
<td>SP-India-2006</td>
<td>● Capital grants for Mega Food Parks, cold chains and slaughterhouses (up to a maximum of 50 to 75 per cent of the cost of investment), significant tax relief for new agro-processing industries, legislative reform to reduce barriers to supply chain development, and seed capital for food processing training centres to address skills challenges.</td>
</tr>
<tr>
<td>SP-Scotland-2006</td>
<td>● Encourage industry restructuring and coordination including through: processing and marketing grants to foster industry clusters; government data to encourage the capture of business and marketing opportunities; the promotion of linkages across the supply chain such as through public procurement; and developing marketing messages for consumers around Scottish food and consumer’s labelling preferences.</td>
</tr>
<tr>
<td>SP-China-2011</td>
<td>● Land planning arrangements that optimise resources and consolidating population centres through a ‘scientific’ approach to land use planning arrangements, and investment in regional infrastructure, energy and environmental assets.</td>
</tr>
<tr>
<td>SP-SA-2012</td>
<td>● Funding (subsidies) to: promote industrial upgrading, facilitate large-scale development of the western region (new regional economic engine); encourage and support advantageous areas of development for agricultural produce (specialised, standardized, scaled and incentive zones for agriculture); support the modernisation of agriculture, mechanisation of labour and information management systems and use of high-quality seeds.</td>
</tr>
<tr>
<td></td>
<td>● Increase government services including through supervising quality of produce and manufacturing, systems for disease prevention and control; promoting specialised cooperatives, rural financial institutions, farmers’ agents and leading enterprises to provide mgmt services; and active support for the development of distribution and marketing networks.</td>
</tr>
<tr>
<td></td>
<td>● Examine ways to expand the smallholder sector such as through promoting land rental markets, the redistribution of land, funding facilities for smallholders and subsistence farmers, and government procurement of smallholder produce.</td>
</tr>
<tr>
<td>SP-USDA-2010</td>
<td>● Partner with developing countries to provide food security and extend products/biotechnologies such as new varieties to enhance nutrient content value and productivity.</td>
</tr>
<tr>
<td>NZ-2006</td>
<td>● Facilitate entry to markets through dissemination of information on the benefits of biotechnology products and product assurance through scientific evidence.</td>
</tr>
<tr>
<td></td>
<td>● Research around the health effects of food and diet modification (science-based superior foods).</td>
</tr>
<tr>
<td></td>
<td>● Build capacity by: establishing mechanisms to respond to market trends; improving the access of small and medium sized enterprises (SMEs) to research and innovation; updating NZ Trade and Enterprise database on export markets and making accessible; evaluating the potential to support export market entry and development such as through funding to establish industry-owned companies or investment funds; seeking out platforms for promoting the NZ brand; providing government funding for 5+ years to support food and beverage alliances; and promoting gourmet-tourism link.</td>
</tr>
</tbody>
</table>

(Continued next page)
<table>
<thead>
<tr>
<th>Plan</th>
<th>Intervention type – and details</th>
</tr>
</thead>
<tbody>
<tr>
<td>New markets</td>
<td></td>
</tr>
<tr>
<td>SP-Canada-2010</td>
<td>Innovate new bioresources and bioproducts and research to understand the linkages between food attributes and health conditions.</td>
</tr>
<tr>
<td>SP-Ireland-2010</td>
<td>Develop an implementation plan for Brand Ireland with environmental sustainability platform through collaborating with multiple stakeholders, increasing the commitment to biodiversity and afforestation, establishing verifiable, internationally-recognised standards and a sustainability audit mechanism (Agri Environment Options scheme) to provide a system of accrediting farmers and establishing a food standard based on standardised carbon life cycle analysis.</td>
</tr>
<tr>
<td>SP-India-2010</td>
<td>Grants to encourage tourism through Safe Food Towns and Food Streets and microfinance for scientifically designed food carts to promote food safety.</td>
</tr>
<tr>
<td>Market access</td>
<td></td>
</tr>
<tr>
<td>TF-Canada-2008</td>
<td>Promote international Canadian brand.</td>
</tr>
<tr>
<td>IR-Japan-2011</td>
<td>Promote national biosecurity standards and systems development, financial incentives for the implementation of biosecurity systems, and national traceability systems.</td>
</tr>
<tr>
<td>SP-Ireland-2010</td>
<td>Initiatives to rebuild key attributes: ‘deliciousness’, ‘safety’, and ‘environmental friendliness’. Build knowledge of experts with respect to production skills, manufacturing, management and marketing (to better meet consumer needs), and gather competences in independent agencies and universities to advance technologies, commercialise and disseminate.</td>
</tr>
<tr>
<td>SP-Ireland-2010</td>
<td>Provide funds to increase capitalisation of firms to meet consumer needs, advance hygiene management and appropriate culture densities in fisheries, and quality and hygiene control in the distribution networks of seafood products.</td>
</tr>
<tr>
<td>SP-Ireland-2010</td>
<td>Strengthen surveillance of radioactive materials, implement measures to reduce radioactive materials in farmland soil, provide technical guidance to farmers on safety, distribute results of surveys on radioactive materials to consumers, and compensate farmers where possible.</td>
</tr>
<tr>
<td>SP-Ireland-2010</td>
<td>As above.</td>
</tr>
<tr>
<td>SP-Ireland-2010</td>
<td>Develop SPS strategy, early detection systems for disease and pests, and improve surveillance and compliance systems, participate in standard setting forums and raise awareness among landholders/industry.</td>
</tr>
<tr>
<td>SP-China-2011</td>
<td>Funding to assist businesses implement HACCP and other Quality Assurance (QA) schemes (up to 50 per cent-75 per cent maximum) and funding to set up food quality testing laboratories.</td>
</tr>
<tr>
<td>Enabling environment</td>
<td></td>
</tr>
<tr>
<td>DG-EU-2011</td>
<td>Implementation of animal epidemic prevention and control system, agricultural pests epidemic and control system and facilities.</td>
</tr>
<tr>
<td>SP-China-2010</td>
<td>Policy: to reduce administrative burden, further implementation of shift away from production-based support to direct aid.</td>
</tr>
<tr>
<td>SP-China-2010</td>
<td>Reduce administrative burden, find alternatives to regulation where possible, encourage greater uptake of EU Protected Food Name Scheme, and develop sustainable farmers markets and other direct sales outlets.</td>
</tr>
<tr>
<td>SP-China-2011</td>
<td>Remove institutional obstacles to the free flow of factors of production and coordinated development.</td>
</tr>
</tbody>
</table>

Source: CIE.
Table 6 provides a list of the interventions proposed to achieve social objectives.

### Table 6  Social objectives and corresponding interventions

<table>
<thead>
<tr>
<th>Plan</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rural development</strong></td>
<td>• Farm price support, commodity purchase programs, a farm safety net through Federal Crop Insurance, and equitable access to farm credit (via farm crediting system and lobbying lenders).</td>
</tr>
<tr>
<td></td>
<td>• Develop country-level strategic plans that connect landholders to emerging or existing industry sectors, develop strategies through grassroots, asset-based strategies based on strong analytics, and connect exporters to customers.</td>
</tr>
<tr>
<td></td>
<td>• Ensuring minority groups and socially disadvantaged farmers, including small and new farm operators, have access to credit, training and services.</td>
</tr>
<tr>
<td></td>
<td><strong>DG-EU-2011</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SP-Scotland-2006</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SP-China-2011</strong></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nutrition</strong></td>
<td><strong>SP-USDA-2010</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SP-SA-2012</strong></td>
</tr>
<tr>
<td></td>
<td><strong>DG-EU-2011</strong></td>
</tr>
<tr>
<td><strong>Social equity</strong></td>
<td><strong>RDP-Ireland-2009</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SP-SA-2012</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SP-USDA-2010</strong></td>
</tr>
<tr>
<td><strong>Food security</strong></td>
<td><strong>IR-Japan-2011</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SP-China-2011</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: CIE.*
Social interventions proposed include:

- direct payments (loosely) related to environmental services;
- farm price support and commodity purchase programs;
- crop insurance programs;
- facilitation of better access to local and export markets;
- funding for diversification of enterprise activities (in Europe); and
- programs to promote nutrition.

A summary of interventions for the attainment of the major environmental objectives outlined in each plan are contained in Table 7. Interventions include:

- further research to support decision making and the creation of environmental markets;
- payments for ecological services (including direct aid);
- conservation easements;
- increased Natural Resource Management (NRM) advisory support; and
- stricter legislation.

**Overarching drivers of plans**

Plans differ because countries have unique drivers and constraints, and the organisations and stakeholders that develop the plans have different ways in which they propose to address problems or opportunities and deliver value to their industry (detailed in the next chapter). Can we make any generalisations about how and why the objectives and interventions in each plan differ?

Developing countries typically focus on ‘enabling’ or capacity building measures that foster the environment for markets to develop. Interventions contained within the plans of developing countries also often involve significant government intervention to establish or maintain markets that are capable of being competitive. Domestic food production systems may also be supported on the basis of food security objectives. This manifests itself in a range of interventions to target public and private constraints to viable food production in that country, which typically includes: access to viable parcels of land; dependence on rainfall; poor farming practices; marginal land that requires rehabilitation; limited access to capital and finance; limited access to farming inputs and good quality seed; and so forth.

Developed countries typically have more infrastructure, higher cost structures and greater access to funding. As such, their focus is usually on facilitating access to new and high value markets as well as improving productivity. Subsequently, their focus is on results from research and development, the commercialisation and adoption of new technologies, extension of practices to enhance productivity, marketing the attributes of their sector’s produce, and facilitation of market development.
<table>
<thead>
<tr>
<th>Plan</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP- USDA-2010</td>
<td>Strategically protect assets including through conservation easements, accelerate R&amp;D to fill knowledge gaps (landscape scale approaches, ecosystem service values), and assist landholders enter ecosystem services markets including for greenhouse gas (GHG) emissions.</td>
</tr>
<tr>
<td>SP- Canada-2010</td>
<td>Research to develop best management practices, develop science-based tools to assess soil processes and the impacts of contaminants on the environment, and understand the long term impact of agricultural practices at the farm, landscape, watershed and regional scales.</td>
</tr>
<tr>
<td>TF- Canada-2008</td>
<td>Government-funded environmental risk assessments for farmers and direct funding to protect assets (non-market based).</td>
</tr>
<tr>
<td>DG-EU-2011</td>
<td>Sustainability requirements as condition of direct aid.</td>
</tr>
<tr>
<td>SP-UK-2010</td>
<td>Consumers to play an essential role in driving the demand for food with low environmental footprint and to reduce waste, utilising consumer campaigns, providing grant funding for local authorities seeking new food waste collection schemes, and promoting flexibility in portion sizing, clarity and consistency in labelling and storage guidance. Reduce post-harvest losses in developing countries. Establish markets that reward ‘responsible behaviour’ (GHG emissions, sustainability and higher welfare standards). Research to develop sustainability criteria for biofuels/bioenergy at global and EU levels that address both direct and indirect impacts and ensure biofuel/bioenergy mandates are flexible to adjust between fuel, food and feed sectors.</td>
</tr>
<tr>
<td>RDP- Ireland-2009</td>
<td>NRM extension, NRM compliance requirements linked to direct aid or grants, and funding for agri-environmental commitments (for habitat, soil and genetic diversity, water quality, protection against land abandonment, environmental planning). Establish payments for ecological services by augmenting the evidence base for policy makers around the value of ecological services and examining appropriate compliance frameworks.</td>
</tr>
<tr>
<td>SP- Scotland-2006</td>
<td>Increase advisory support to smallholders that includes a sustainable production systems component.</td>
</tr>
<tr>
<td>SP-SA-2012</td>
<td>Incentivise compliance to environmental legislation, support the implementation of organic and crop-livestock-forestry integrated systems, and finance equipment for animal-based waste treatment, sanitation and other environmental adjustments.</td>
</tr>
</tbody>
</table>
Most countries, both developed and developing, seek to improve their economic performance through product and market development. However, developed countries have greater scientific and resource capacity to develop new products. Having a rigorous scientific regime is complementary with developing new products, whereby consumers need to be assured of the scientific evidence of product safety.

As we will discuss later in the report, the breadth of requirements that may be imposed by consumers, customers and foreign governments to gain access to markets is a risk for both developed and developing countries and an expanding cost component. Strategies to promote self-sufficiency tend to focus on increasing production whilst export market strategies focus on integrating the supply chain and regulatory functions to meet consumer requirements. Japan is a unique case where the strategies required to promote greater demand for domestic produce are consistent with those required to increase demand in export markets. The Japanese plan identifies a key barrier to domestic markets is the lack of consumer confidence in product quality and safety, particularly following the nuclear incident in 2011.

The interventions proposed also reflect each individual sector’s value proposition to international markets. For instance, the strategies pursued depend on the drivers of competitiveness in that country. A country may seek to compete on volume, price/cost of production, quality attributes including product consistency, the credentials in food safety and disease status, convenience attributes (delivery time, packaging, storability, shelf life, flexibility), meeting niche market needs (such as out-of-season produce or distinct food preparation requirements) and appeal to consumer values (such as animal welfare and environmental credentials).

- Brazil has a competitive edge in providing high volumes of produce at competitive prices. The Brazilian plan focuses on modernisation, access to finance and insurance for producers, reducing private risk and improving transportation (costs).

- The United States competes on volume, cost of production and product innovation. Its large scale enables it to support extensive R&D and science substantiation activities and allows it to take an aggressive, evidence-based approach to market development. It plans to continue to invest heavily in pursuing and selling new products to potential markets.

- Europe and (to varying extents) other developed countries are seeking to diversify the income base of landholders through tourism, commercial recreation, hunting, forestry and energy crops, processing and retail operations, and environmental markets.

- Some developed countries, such as Ireland, are seeking to establish their platform for competitiveness on the basis of superior environmental credentials. The Irish government outlined how it plans to provide integrity to the national branding strategy through auditing and standards development.
3. Analytical and implementation features

This section provides an overview of the analytical and implementation features of the plans. We attempt to characterise how the content (the objectives, rationale, and interventions) is formulated, organised and communicated and define the extent of the planning and consideration given to the execution of the plan. This includes the role stakeholders played in the formulation of the plan and are expected to play in its implementation, the timeframe for achieving objectives and the monitoring framework including the targets set out to measure progress.

Construction and delivery of a plan

The analytical and implementation features that characterise each plan can be broken in to three parts:

- the organisation/structure of the plan: its ability to communicate the value it seeks to create, the resources and approaches outlined to achieve its vision and its relevance to government and industry stakeholders;

- the framework linking objectives and interventions, including with respect to:
  - its logic with regard to the rationale of the plan;
  - the analysis undertaken and stakeholders engaged in the development of the plan;
  - the understanding demonstrated of the economic trajectory of the industry;
  - the detail provided around interventions, including the role of stakeholders in the implementation of the plan, prioritisation of issues and resources available to support the intervention; and
  - the integration of the different aspects of the plan;

- monitoring of the progress of implementing the plan such as through the use of targets. The distinguishing features of targets include:
  - whether they are specific, measurable, attainable, relevant and time-bound (how effective they are likely to be);
  - whether they focus on outputs, outcomes and/or inputs; and
  - their appropriateness relative to the baseline (trajectory without the plan).

The three major elements involved in constructing and delivering a plan are discussed broadly, as well as for each plan, below. The discussion incorporates a qualitative assessment of the strengths and weaknesses of each plan.

Organisation of the plan

In this section we are primarily interested in identifying the features associated with the layout and organisation of content in each plan that impact the effectiveness of the plan. We are primarily interested in the effectiveness of the communication rather than policy logic. The effectiveness of the plan is judged according to the rationale for it. For example, if successful adoption or execution of the plan requires adoption by external stakeholders, which is commonly the case, it would make sense that these stakeholders are aware and ‘on board’ with the proposals. The role of external stakeholders
should therefore be acknowledged within the plan. The degree of stakeholder ‘buy in’ is usually important, albeit difficult to assess through a desktop review.

Box 1 summarises the key features that we seek to identify for each plan below.

**Box 1 Features impacting the communication of objectives and implementation**

- Effectiveness of the plan layout
- Structure of the plan layout
- Identification of roles of various stakeholders

**Strategic Plan FY 2010–2015 – (SP-USDA-2010)**

- The plan is set out in four key chapters, one for each strategic objective or priority area. Chapter lengths vary, perhaps reflecting the weight of the resources dedicated to the level of priority given to each objective and the scale and scope of the resources required.

- The stakeholders which are involved in the implementation of the strategy are listed. Their specific roles are not given which seems appropriate given the far-reaching nature of the Department’s functions.

**Agricultural Research Service Strategic plan 2006–2011 (SP-ARS-2006)**

- The plan provides a catalogue of the collaborating agencies, beneficiaries, customers, stakeholders and partners. The research agenda is driven by work for its customers, as well as the need for basic scientific information of importance to the field. There is also a portfolio of short and long term problem solving and long term, fundamental research.

- The plan is well organised and structured in a logical manner. It is organised in to chapters which each discuss the strategies to be pursued by the Agricultural Research Service (ARS) to meet the overarching objectives established by the US Department of Agriculture (USDA).

- The document does not provide a break down of the role of stakeholders in the attainment of each objective. This would not be expected for a document prepared to cover five years of work and an agenda which needs to be flexible to adapt to demand. The strategies provided in each area are extensive and are specific enough to provide a measure of accountability. However, the targets are designed around the attainment of outcomes (such as increased production efficiency) rather than being overly prescriptive. It is clear that there is some flexibility in the level of priority given to each research strategy.

**National Bioeconomy Blueprint (BioPlan-US-2012)**

- The plan delegates responsibility for its implementation (‘moving forward’) to Federal agencies, rather than identifying any one specific agency. This potentially relates to the nature of the identified strategies which focus on creating value from synergies across and within government, research institutions and industry.

- The plan is largely informative and non-prescriptive. It provides a chapter on the background and impacts of the US bioeconomy and a chapter on the Federal Bioeconomy Strategic Objectives: strengthening research and development, advancing the transition from lab to market, reducing regulatory barriers, developing a bioeconomy workforce, and fostering partnerships.
Smart Food, Cool Beverage: New Zealand's Future in the Food and Beverage Sector (NZ-2006)

- The report is structured in several parts including:
  - the value of the sector and building on this;
  - the sector risks and opportunities;
  - the development agenda, focusing on productivity, innovation and new markets;
  - structural and other issues such as obesity, organics, regulation and policy; and
  - implementation of the development agenda.

- The flow of the report is easy to follow and logical. Action points are provided within the development agenda and include recommendations for strategies to address risks and opportunities. These recommendations are directed towards the relevant industry or government organisation (such as the Tertiary Education Commission, the food and beverage Skills and Training Action Group, NZ Food Safety Authority) or the government and industry in a more general sense. The plan also indicates that implementation is the responsibility of all stakeholders.

- A summary chart (see page 23 of the plan) provides a clear overview of the linkages between objectives, values to be promoted to the consumer, areas of value improvement for industry and the action agenda.

- The responsibility for the implementation of the agenda is essentially not determined. The taskforce recommends that implementation occur by a peak body with the mandate to champion its implementation (such as the Prime Minister’s Advisory Council) and, as such, there is little accountability specified within the plan. It recommends collaboration between industry and regional education and science providers be fostered through: government funding for over five years to support food and beverage alliances; collaborative entities established by government and industry; and government funding for the development of sector-specific strategies.

- Although recommendations are provided, the taskforce’s scope does not extend to its implementation. The plan’s effectiveness would therefore be affected by many factors not specified within the plan, including the collective commitment to the adoption of the plan among key and influential stakeholders.

The Way Forward: Summary of Agriculture and Agri-food Canada's Science and Innovation Strategic Action Plan (SP-Canada-2010)

- The document reviewed here is very short in length. It contains some background information on the purpose of the plan, the role for government, the partnerships and collaborative research and the changing approach to developing science, and an outline of the activities and results framework to achieve the seven science priorities at Agriculture and Agri-Food Canada.

- This plan adopts the strategic objectives from a Departmental plan and feeds in to the government’s overarching mandate via the Growing Canadian Agri-Innovations Program under Growing Forward (2009-2013). The seven priorities are:
  - human health and wellness;
  - food quality and safety;
security and protection of the food supply;
- enhancing economic benefits for all stakeholders;
- an environmentally sustainable sector;
- Canadian bioresources: protecting and conserving their genetic diversity; and
- new opportunities from bioresources.

- the model outlined for success is based on attracting the right people, collaboration, management for results, strategic management of capital assets and engagement and communication with stakeholders. Collaboration is provided for through several programs which are briefly listed in the plan.

- The plan provides a very high-level outline on strategic areas and guiding principles. It does not provide sufficient detail on the implementation of the plan. It is expected that such a plan is intended to provide stakeholders with a broad overview of the direction of research and the document is unlikely to be a significant resource, either internally or for these external stakeholders.


- This plan is a legal framework on agriculture, agri-food and agri-based products policy agreed between federal, provincial and territorial governments of Canada.

- It provides a vision, principles and the policy direction. The aim of the plan is clearly set out:
  - to provide an integrated, comprehensive and outcome based framework to support the attainment of the overall vision (a profitable and innovative sector that seizes opportunities in responding to market demands and contributes to the health and well-being of Canadians);
  - to identify common goals, potential measures and mechanisms for implementation and allow for flexibility in the approaches according to provincial and territorial needs; and
  - to establish funding arrangements and administrative settings for its implementation.

- All initiatives that are funded through the plan are directly linked to the attainment of three key desired outcomes: a competitive and innovative sector, a sector that contributes to society’s priorities, and a sector that is proactive in managing its risks.

- The plan exhibits a very well articulated framework. The overarching policy direction and perceptions around the role of government are made explicit. This includes an explicit statement that ‘the Parties recognise that sustainable profitability must come from the market, within a larger global context that presents both challenges and opportunities’. The plan commonly refers to ‘the Parties’, including that they ‘agree’, ‘shall work towards’ and ‘will be guided by’. That is, the framework does not appear to have been imposed on the provincial and territorial governments.

- The policy direction is linked with policy outcomes which are expected to achieve the three overarching strategic outcomes for the sector. They provide a highly succinct but detailed list of how the government plans to contribute to the sector. It does not cloud this list with details on
what the government is already doing or where the current trajectory of the economy is. It also provides some indication of the focus areas for interventions.

- The framework sets out very clear responsibilities for each party or Program Administrator with respect to auditing, evaluation, reporting, communication and governance (meetings and advisory committee requirements).

- So whilst priorities are ultimately set by at the regional level, the funding agreement specifies that at least 25 per cent of spending must be directed towards the competitive and innovative sector whilst at least 25 per cent of spending must come from spending on society’s priorities and managing risks.

**Interim Report for the Revitalization of Japan’s Food, Agriculture, Forestry, and Fisheries (IR-Japan-2011)**

- The plan is an interim document which sets out the broad issues currently faced by Japan as well as broad policy directions. It reflects the agricultural reform, transformation of the food supply and distribution systems, and measures for recovery and reconstruction deemed to be necessary by a group of senior government ministers, university professors and representatives of corporations and cooperatives.

- The report is logical and sets out clear priorities (agreed on by stakeholders). There is a clear rationale for cross-government and industry collaboration to address the issues outlined in the plan: the crisis of consumer confidence in the safety of Japanese food and the challenges associated with meeting self sufficiency objectives. Seven strategies for achieving the revitalization of agriculture, forestry and fisheries are outlined.

- There is still significant detail to be developed in finalising the plan.

- The interventions proposed are consistent with the priorities of the 2005 Basic Plan for Food, Agriculture and Rural Areas. However, this plan reflects additional setbacks affiliated with the Great East Japan Earthquake and associated nuclear disaster. One of the central objectives of this plan, consistent with the Basic Plan in 2005, is for improving food self-sufficiency. As a part of this, recovering the reputation of the safety of Japanese food is paramount.

**Directorate General for Agriculture and Rural Development (DG-EU-2011)**

- This plan communicates a very strong agenda to support social values in rural areas.

- The plan sets out the general objectives of the policy area (rural development) and the specific objectives for operational activities. The specific objectives are described in sections dedicated to the major initiatives: interventions on the agricultural markets, direct aid and rural development, the Special Accession Program for Agriculture and Rural Development (SAPARD)/Instrument for Pre-accession Assistance for Rural Development (IPARD), external relations and auditing.

- Administrative outputs corresponding to the implementing authority are highly specific and transparent. There are also very specific results indicators that can measure progress of the plan’s implementation.
Food 2030 (SP-UK-2010)

- The layout of this plan is very difficult to follow. The plan incorporates general discussion on the problem or situation, the values or objectives, and interventions and goals. It also provides case studies and a summary table of the proposed actions required by each party, how these interventions are expected to occur and what result is expected.

- Although the coverage of the issues is good, the formatting is difficult to follow.

- The order of the discussion also lacks fluency, with the text interchanging between the problem and what is being done. It also promotes the specific programs that the government is undertaking, without providing a clear analysis of the scale and direction of the resources needed for improvement. A more concise gap analysis is needed.

- The plan sets out the interventions and responsibilities of all groups: government, consumers and industry. These responsibilities are scattered throughout the document, which may make it difficult for those reading the document to achieve a clear picture of the broader direction and overarching responsibilities delegated. It is also unclear why the responsibilities of the consumer need to be articulated in the same format as the responsibilities of government and industry. It is perhaps more appropriate to discuss the role of consumers through a general discussion of the role of government (relative to its citizens).

Food Harvest 2020: A Vision for Irish Agri-food and Fisheries (SP-Ireland-2010)

- Food Harvest 2020 provides a logical structure combined with effective use of visual diagrams. Its structure is as follows:
  - setting out the vision and targets;
  - relevant background information;
  - the key issues surrounding growth and competitiveness including:
    - at the farm level;
    - at the industry level;
    - environmental sustainability;
    - achieving a customer and consumer focus;
    - the value-added sector; and
  - recommendations by specific sector.

- The suggested interventions are proposed in the form of recommendations containing specific actions for the relevant party (the Department of Agriculture, Fisheries and Food, Enterprise Ireland, Bord Bia, Teagasc, industry, creditors and so on). The specific and targeted nature of these recommendations is particularly effective in this plan, which has determined that a wide range of stakeholders are required to achieve the objectives. Specific interventions are also provided for each sector by priority area (farm competitiveness, technology and transfer, production systems, processing and marketing).

- This report provides examples of effective visuals and summary boxes to explain the rationale for the interventions. This includes a table of the main factors affecting growth and competitiveness for each industry, broken down by input costs and the business environment, industry configuration, knowledge infrastructure and the policy environment.
Irish Rural Development Programme 2007-2013 (RDP-Ireland-2009)

- This plan is intended to provide the European Union with detail of Ireland’s strategies to be funded under the EARDF. The objectives are already provided for by the rural development fund strategy, however, there is no in-depth rationale provided by Ireland for the selection of the programs.

- The plan simply outlines the programs that will be funded, including some information around the application requirements.

A Forward Strategy for Scottish Agriculture (SP-Scotland-2006)

- This Forward Strategy is easy to read and understand. It does, however, lack information on action points including which stakeholders are responsible and how the strategy will be actioned.


- This plan is linked to the government’s broad national priorities set out in the Medium Term Strategic Framework. These goals include ‘decent employment through inclusive economic growth’; ‘vibrant, equitable and sustainable rural communities contributing towards food security for all’; and to ‘protect and enhance our environmental assets and natural resources’.

- There is also a separate mission set out by the Department of Agriculture, Forestry and Fisheries (DAFF), which incorporates these objectives. In addition, there are strategic goals as well as strategic objectives (sub-objectives). These correlate to the achievement of one of the key objectives of the national plan. Further still, against each strategic objective there is a strategic outcome and outcome indicator.

- Whilst comprehensive, too many levels of strategies and linkages may be a potential weakness for those seeking to implement or understand the plan.

- The chapter which outlines each of the program areas and plan for implementation briefly discusses the purpose including the programs, the program deliverables, sub-program deliverables, followed by an overview, problem statement, implementation strategy and expenditure trends. Whilst the information is relevant, there is some duplication with the overview provided at the front of the document and it is not easy to follow the document.

Agriculture and livestock plan 2009/2010 (SP-Brazil-2009)

- This plan identifies strategies for continued, sustainable growth of the agricultural sector. These are identified as the maintenance of liquidity and for support to production and marketing. The plan identifies initiatives to deliver this support and in particular, targets mid-sized rural producers, sustainable agriculture and cooperatives.

- The document focuses on very specific interventions, which are summarised at the front of the document. The chapters reflect each of the five intervention areas:
  - rural credit;
  - direct support to marketing;
the subvention of rural insurance premiums;

- infrastructure; and

- sector initiatives.

- The chapters mainly cover the resources allocated, where they will be directed and for what purposes. There is little or no information given for the rationale of each program, other than the major overarching objectives such as to support the modernisation of agriculture, develop sustainable irrigated agriculture, and increase the competitiveness of cooperatives.

- The initiatives do not involve other stakeholders; the value proposition in the plan is not associated with maximising synergies between government authorities. It will require the support of cooperatives, farmers and insurance companies.

**Strategic Plan — Ministry of Food Processing Industries (SP-India-2006)**

- Given the scale of India, and number of provinces, this plan from the Ministry of Food Processing Industries in India will clearly require collaboration across provincial areas. It is not clear whether there has been any consultation to develop a shared understanding.

- However, the objectives of the plan and incentives provided within it are highly integrated and logical. The plan fundamentally provides for the government to share in the cost of the infrastructure required to establish a food processing industry.

- The report is set out in a highly logical manner, in terms of the vision, objectives and functions, the assessment of the situation, the implementation agenda, and a discussion of the linkages between the strategic plan and the results framework document.

- The framework also acknowledges the role of cross Departmental and cross functional issues such as the extensive number of schemes being administered at present by central and state governments. There is a risk of funding duplication and ineffective spending as a result. However, regular monitoring and review is intended, including through stakeholder consultation and an online reporting and monitoring facility.

**China — 5 Year Plan (SP-China-2011)**

- To analyse China’s five year plan and the role of agriculture within it, we rely on the translation of the Agricultural Section of the 5 Year Plan from the USDA Foreign Agricultural Service. It provides a compilation of elements of the plan related to agriculture. For this reason, we do not provide an analysis of the organisation of the plan.

**Framework to integrate plan**

The framework of each plan is impacted by the extent and quality of the analysis. Although in many cases this analysis may be implicit within the plan, the logic of the plan provides an indication of how (well) the plan has been formulated. Although economic achievements are not always the first and only consideration of the plans, the plans should demonstrate a strong understanding of the economic drivers and constraints of the industry and the trajectory of the industry under business-as-usual circumstances. The plan should also provide a robust rationale which links the proposed interventions with objectives.
The plans vary considerably with respect to the detail provided around how strategies are to be executed, with some plans outlining only general principles for implementation. Whilst this may provide for greater scope for regional-based assessment of the plans, insufficient detail around the plan makes it difficult to know what the intervention/s may hope to achieve.

Below we seek to characterise the frameworks of the plans through an assessment of a number of key features highlighted by Box 2.

**Box 2  Examples of features to assess in the development of frameworks**

- Sources utilised in establishing objectives and interventions including consultation
- Analysis of economic, social and political constraints and drivers
- Demonstration of the understanding of the economic trajectory
- Logic of the interventions (with respect to objectives)

**Strategic Plan FY 2010-2015 (SP-USDA-2010)**

The plan is developed through a comprehensive review of evaluation documents, including program evaluations, internal management studies, advisory committee reports, customer satisfaction surveys, reviews by the office of inspector general and government accountability office and other external reviews, and extensive consultation.

There is considerable emphasis on community collaboration to form regional strategies to achieve rural prosperity (a central objective), utilising planning grants, leveraging resources, additional funding, access to credit and other strategies to address the ‘unique challenges’ of each region.

This is coupled with broader strategies which include leveraging technology and innovation, encouraging business development, regional planning, increasing funding and access to credit.

The broader strategies are directed towards sub-objectives (pillars) which have been assessed by the Department as capable of supporting the attainment of objectives. The linkages between objectives and sub-objectives, and sub-objectives and interventions are very explicit and logical.

The interventions reflect the extensive scope and scale of the services provided by the USDA. They are highly proactive, comprehensive and aggressive in their approach to the delivery of services to agriculture.

USDA functions and the role of the USDA are commonly referred to throughout, forming a significant part of the rationale for interventions.

The economic assessment (of risks, constraints and drivers) is implicit rather than explicit.

The plan provides detail of the key function of the Department, such as: ‘to develop collaborative strategies’, ‘work with’, ‘provide’, ‘accelerate’, ‘continue to invest’. This provides a clear sense of the nature of the resource commitment, without providing excessive detail of each component.

The plan also incorporates internal strategies for the Department to enhance its service delivery, such as through strengthening/maintaining internal control systems, increasing the use of performance measurements and standards, implementing infrastructure to gain real-time financial management information and so on.
Agricultural Research Service Strategic plan 2006–2011 (SP-ARS-2006)

- This plan adopts USDA strategic goals contained in the Departmental Plan which are relevant to the ARS. Research plays a role in all key objectives set out by the USDA.

- The plan is very direct and transparent in the rationale for research strategies, such as through identifying and discussing risks and constraints or opportunities in the economy or sector. For example, a rationale provided for increasing the efficiency of domestic production is the intense competition in global markets and pressure on US farm policy to reduce price supports, underpinning the need for the pursuit of higher value agricultural products.

- The plan outlines a process for managing the relevance, performance and quality of the research. It includes peer review of prospective research, monitoring of program coordination and implementation, retrospective assessment of program quality, and program planning and priority setting.

National Bioeconomy Blueprint (BioPlan-US-2012)

- The framework here is based on a US Government Directive to realise the full potential of the US bioeconomy. It contains a very strong national directive, although the implementation of the plan relies on multiple players and funding sources.

- Most of the discussion is dedicated to outlining the research programs currently being undertaken including their expected outputs and the resources dedicated towards them. There is a small section explaining the rationale for investing in each strategic area, and an even smaller section outlining the potential steps to move forward. The details of the implementation of the plan are limited.

- The steps to move forward are relatively undeveloped (and vague) in terms of if and how they would be adopted and who would be accountable. The steps to move forward focus on the synergies from collaboration in research. Some examples include:
  - for multiagency collaborations for emerging foundational technologies to leverage agency investments;
  - encouraging greater inter-disciplinary and multi-disciplinary efforts (aligning research in health and medical fields);
  - flexibility in the use of new and existing funding mechanisms;
  - new, more efficient regulatory processes to be developed by all agencies including providing clear roles of the agency and timely, specific guidance for applicants; and
  - increasing Federal procurement of biobased and sustainable products.

- The plan demonstrates the significant potential for synergies to be obtained from effective coordination within the bioeconomy sector, which is still maturing and has important coordination and timing dynamics.
Smart Food, Cool Beverage: New Zealand's Future in the Food and Beverage Sector (NZ-2006)

- This plan was developed by a taskforce through a number of processes, including: research to provide a set of performance indicators to map existing activity; a discussion paper on the changes of the sector (for comment by stakeholders); regional workshops; issue-specific presentations; working groups on innovation; marketing and skills comprised of industry and government officials; and taskforce discussions. The significant stakeholder involvement to identify and verify the issues faced by the sector and priorities for interventions was extensive.

- The plan provides a very clear depiction of the baseline, including strengths, weakness, opportunities and threats encountered in the industry.

- The detailed assessment of economic drivers underpins the rationale for the strategies proposed. Thus, interventions aim to achieve productivity improvements and diversification in to higher value markets and new markets rather than social objectives or other considerations.

The Way Forward: Summary of Agriculture and Agri-food Canada’s Science and Innovation Strategic Action Plan (SP-Canada-2010)

- The plan’s aim was to provide a framework for five years (from 2006 onwards). We understand this plan is an update to reflect current government priorities.

- This plan does not spend much time discussing the purpose of research in each area. The objectives are, in essence, variations of the targets or results. There is a very close correlation (and circularity) between objectives and interventions.

- The plan is intended to provide a level of accountability to the delivery of key outcomes associated with each priority.

- The plan aims to align science resources and activities to support the Department’s priorities. It also provides detail of a number of opportunities for partnerships and collaborative research to take advantage of synergies in research capabilities.

- The plan identifies work areas undertaken by other organisations which are complementary and target groups for this research such as industry, government regulatory departments and agencies and consumers. The exact role of such stakeholders and proposed interactions with the research service are unclear.


- This plan appears to have been developed through considerable consultation with stakeholders. It is also developed with a clear sense of the government priorities and the role of the government.

- The plan does not explicitly discuss the rationale for the investment in each area, nor does it provide a discussion on the scope or scale of the potential improvements to be made against each area. It does not provide an overview of the baseline trajectory of the sector as a whole, or each region.

  - We might usually think that the absence of explicit analysis of the baseline trajectory, including what is required to improve performance, is a potential weakness.
However, this assessment is implicit within the framework and the proposed interventions are highly logical and well integrated.

Below is an example of how the logic of the intended outcomes and interventions flow. To create a competitive and innovative sector:

- Necessary outcomes identified include: appropriate agricultural research capacity, creation/adoption of innovative products and processes, information flow, and infrastructure for competitive success in markets, greater innovation and adoption.

- Interventions include for collaborative workshops, ‘innovation symposia’ to bring agri-based entrepreneurs together with potential investors, ‘science clusters’ to mobilise the scientific and technical capacity to develop and implement applied science and technology programs, ‘innovative commercialisation centres’ to provide pre-commercialisation services and for farmers or groups of farmers to develop or adapt technical innovations.

- At the national level, other provisions include to develop a bioeconomy strategy that engages industry and regional governments and to develop a centre to test novel food ingredient claims.

- This implicitly suggests some of the drivers are:
  
  o to address the incentives for private sector investment to encourage more investment by the private sector;
  
  o to address certain transaction costs to creating high quality research such as the costs of assembling high quality staff; and
  
  o the barriers to commercialisation or a lack of testing infrastructure and finances.

- Participation in each initiative is not mandatory and flexible to regional requirements. This is both a strength and a potential risk of the plan.

Interim Report for the Revitalization of Japan’s Food, Agriculture, Forestry, and Fisheries (IR-Japan-2011)

- There are sound priorities outlined in this plan, with clear correlation to the core challenges for Japan. The priorities include a mixture of short-to-medium term interventions to respond to the current predicament (such as monitoring food safety and promoting consolidation/modernisation) and medium-to-long term interventions to build capacity (such as building earthquake resistant infrastructure and using bioenergy for renewable energy generation). The timeline for each priority and relative weighting on each priority are not well developed.

- Strategies are very broad and demonstrate that the Council is still establishing the best policy approaches and financial incentives to achieve their objectives. For example, one of the strategies to enhance the competitiveness and soundness of agriculture and food systems is through value addition. The plan states that ‘export strategies, including enhancement of exporting system, should be rebuilt in order to restore confidence…’. There is little information on the approach to be taken to rebuilding export markets and consumer/customer confidence including the resources to be allocated towards such ends.

- The plan would benefit from a more detailed analysis of what the government is currently doing, relative to what needs to be undertaken, in the short, medium and long term. The plan is only an interim plan and therefore, we might expect these shortfalls to be addressed in due course.
**Directorate General for Agriculture and Rural Development (DG-EU-2011)**

- This plan aims to promote sustainable development of Europe’s agriculture and to ensure well-being in rural areas.

- Its reform agenda is to continue a progressive shift from price support to direct aid which is decoupled from production. To achieve this reform, price support is replaced by other measures which the plan suggests will result in ‘less distortion of markets’. These support measures are central to the plan and include the ‘greening of direct payments’ and ‘better targeting of direct payments’. The interventions proposed in the plan are concentrated around the provision of Direct Aid, Rural Development funding, SAPARD/IPARD (pre-accession assistance) and external relations.

- In this way, the plan is driven by political and social objectives. However, rural development funding provides resources to foster knowledge transfer and innovation, enhance competitiveness, and promote food chain organisation and risk management. Whilst the interventions targeting these objectives also promote economic objectives, the core rationale for this plan is not innovation or productivity.

- Another central driver for the plan is to work in areas of synergy. In particular, to work in promoting and protecting European values, markets and branding through augmenting efforts in standardising and improving agricultural and environmental practices, food safety, animal health and welfare standards, and sustainability. The plan also seeks to promote networking between government officials responsible for implementing grants and income support. It is hoped that this will foster information sharing and improvements to policy development and program administration.

- The relative emphasis on social and economic objectives is not entirely clear, with the implementation of plans to occur at the regional level based on ‘an in-depth analysis of the current situation of their rural areas’. Although the plan provides some analysis on the baseline trajectory, the responsibility for responding to opportunities, constraints and risks is delegated to the each member state (within the broad parameters identified).

**Food 2030 (SP-UK-2010)**

- The aim of this plan is to achieve mainly social objectives: sustainability, security and health. The interventions are shaped by this objective and the perceived role of the government. The interventions are listed according to the responsible stakeholder (consumers, government and industry), what is aimed to be achieved, the intervention expected to create the improvement and the result.

- The methodology to achieve the outcome does not always display a robust or explicit relationship with the ‘result’. For example, one objective is for government and industry to make sure ‘national infrastructure is well-prepared to withstand shocks’. The method suggested to achieve this is for ‘investments to be made in advance to adapt to new pressures and pre-empt threats and for business continuity plans to be coordinated’. The result is that ‘barriers to invest in infrastructure are removed and private investment encouraged’.
  
  - The identified action is a result rather than an action to achieve the result.
  
  - The methodology does not outline which barriers will be addressed or how they will be addressed. It therefore is of little value to the reader.
**Food Harvest 2020: A Vision for Irish Agri-food and Fisheries (SP-Ireland-2010)**

- Food Harvest 2020 was created by a Committee with predominantly industry-based membership, chaired by the main government departments with responsibilities for agriculture. These include DAFF, Bord Bia, Teagasc and Enterprise Ireland. As such, we would expect that the plan has a strong mandate and has been well informed by these engagements.

- The input of stakeholders appears to have considerable value. The plan demonstrates a very detailed understanding of the commercial drivers and constraints affecting growth and competitiveness in each industry. A matrix summarises the factors affecting inputs and the supply chain — this is a highly valuable tool (see page 16).

- The plan is driven by economic imperatives: growth and competitiveness. The major constraints identified include scale and fragmentation, access to credit and the cost of production. The opportunities are identified as the scale and synergies to be gained from increasing coopetition and collaboration, as well as umbrella branding. Environmental sustainability is seen as a key aspect of this branding and therefore, the industry growth strategy.

- Interventions proposed are well linked to this assessment. They include targeted support for consolidation of farms and businesses, advisory programs on low cost methods of production and government mechanisms to support the credibility of environmental credentials.


- This plan feeds in to the European Agriculture and Rural Development Fund (EARDF) funding for competitiveness measures, sustainability and social equity. The EARDF requires each country to submit a rural development strategy which will later be translated in to a practical program with measures, funding allocations, targets and mechanisms for delivery. The plan’s objectives are linked to the national Development Plan.

- There is no discussion on the rationale for the selection of interventions within the plan. However, other strategic plans for Ireland have identified the constraints and opportunities faced by the sector. The interventions appear complementary with these issues. They include for structural change at the farm level through installation aid for young farmers, pension support for early retirement and support for the enlargement of established farmers. The plan also incorporates funding for NRM extension (which is complementary with the green image being fostered), although this is not outcomes based.

- There is also a considerable focus on farm diversification, tourism, cultural values and ‘village renewal and development’. This includes funding to maintain vernacular features, for the use of forests for countryside recreation and niche tourism opportunities. As noted previously, the rural development program appears relatively weak on strategies to promote agricultural innovation.

**A Forward Strategy for Scottish Agriculture (SP-Scotland-2006)**

- This strategy aims to set out a general direction for the industry. It provides an update to a previous strategy developed by representatives of the farming and food sector. The update was conducted by the Agriculture Strategy Group, which comprised a wide range of stakeholders.

- The objectives for the plan indicate significant value was placed on government and industry cooperation. The objectives include:
– for collaboration of food producers, processors, retailers and the food service sector to identify, inform and meet market demand, drawing on business advice and sharing resources and experience to control costs and increase incomes;

– to contribute fully towards vibrant rural communities and stronger rural economies through sustainable diversification and continued community engagement; and

– environmental improvement: becoming a leading player in the protection and enhancement of our environment, emphasis on climate change and the promotion of a landscape scale approach.

• These objectives set out a shared understanding. However, the actions set out to achieve these objectives are extremely broad and vague. It is unclear how, in reality, the tasks would be implemented. They are also not integrated in to a results management framework.


• This plan provides clear analysis on the challenges for the South African community and agricultural sector, including the slowing productivity of the sector. However, the interventions proposed are motivated by social or political objectives.

• Although not outlined in the mission of the strategic plan, the focus of the plan is on social equity, including through land distribution and the restructure of company ownership.

• In addition, there are potential tensions between objectives and interventions. For example, the policy response of DAFF towards their mix of challenges, including the reduction of employment on South African farms, is ‘to develop a policy for supporting labour-intensive commercial agriculture’. Such an approach which involves an expansion of the small holder sector may be inconsistent with the attainment of economic objectives of sustainable job creation and economic growth, at least at the aggregate level.

• There are some more well aligned actions including for an increasing role for the public sector, strengthening regulatory frameworks and increasing extension-type activities.

Agriculture and livestock plan 2009–2010 (SP-Brazil-2009)

• The plan does not provide analysis or indications that consultation was utilised in its development.

• It is for a single year and does not provide analysis on the trajectory of the sector or potential policy direction.

• Subsidies are the main tool utilised in the plan. The initiatives include grants for modernisation, price support, access to finance (at a flat rate of 6.75 per cent), price stabilisation, tax incentives for freight and subsidies for rural insurance.

• The interventionist nature of this support might be expected given the developing nature of the sector and economy (for instance, the infant industry argument). However, the objectives and proposed timeline of this support (including when to discontinue this support) is not given.
Strategic Plan — Ministry of Food Processing Industries (SP-India-2006)

- The plan focuses on the expedient release of funds towards the attainment of its major objective: to increase the capacity of the industry to process food.

- There are an extensive number of constraints to the capacity of food processing, detailed in the plan through a very cohesive yet concise assessment of the situation. This incorporates:
  - an overview of the rationale for targeting food processing industry in India as a potential area of growth;
  - an outline of the status of the major sub-sectors, with reference to their potential;
  - growth drivers for the industry;
  - opportunities; and
  - constraints affecting the food processing industry.

- The proposed interventions are well integrated to five objectives of the ‘mission’. An extensive list of 19 proposed interventions, ranked by the level of priority, all fall under the five objectives:
  - enhancing processing levels;
  - value addition and the reduction of wastage;
  - institutional strengthening;
  - food safety and quality assurance; and
  - capacity building.

- The plan is almost entirely reliant on capital grants, which provide up to a maximum of 50 per cent of the cost of capital or 75 per cent in regions deemed difficult to access. Government investment in infrastructure for private businesses would seem appropriate given the food processing industry in India had/has very poor capacity and there are potentially significant spillover benefits from government investment related to health and economic improvement. Chilling facilities (cold storage), distribution networks, modern abattoirs, handling systems and food safety testing facilities were largely undeveloped.

China — 5 year plan (SP-China-2011)

- The objectives of the Chinese Government with respect to agriculture are:
  - to modernise agriculture: to safeguard food security, enhance production capacity, resist certain risks (such as those associated with climate change and desertification) and enhance market competitiveness;
  - to expand income channels for farmers: to increase wages and efficiently increase the transfer of income to rural areas;
  - to improve rural production and living conditions: to integrate economic and social objectives and enhance rural infrastructure and environmental capacity; and
  - to improve rural development institutional mechanisms.
• The priorities for interventions are dependent on the land planning zone allocated to the region. For example, if it is a major development region, the implementation focus is on quality and efficiency, energy efficiency and population growth. In restricted regions, emphasis is on both agricultural and ecological protection.

• The assessment of the broad constraints is implicit within the focus areas provided. However, there is a strong emphasis on leveraging the drivers and constraints at the regional level.

• The Chinese plan provides very high level directives of the objectives and intended outcomes of planning decisions and policies. However, there is significant uncertainty with respect to how interventions will occur and how objectives will be achieved. It does not serve to provide the implementing authority with sufficient detail (although, it possibly does not seek to).

**Compliance and monitoring vehicles**

Approximately three quarters of the strategic plans utilise targets or measures of performance. These can improve the capacity to assess the extent and adequacy of the implementation of the plan. They can increase transparency and accountability. To be effective, targets or performance indicators should be specific, measurable, attainable, relevant and time-bound. To develop relevant and attainable targets requires a good understanding of the trajectory of the sector and the relevant constraints or drivers to be targeted, as well as the scope for improvement.

The targets contained in some plans are non-specific and resemble broad objectives as opposed to targets. In contrast, some plans contain highly prescriptive, quantitative-based targets related to economic performance including, for example, attaining a certain percentage growth in exports.

Although there is no general rule, forms of outcome based targets can either be overly optimistic or conservative, or beyond the capacity of the plan to control. One of the most influential drivers of performance in Australian agriculture has been the exchange rate: a factor that is not controlled by the sector. Thus it is important for targets to be attainable and strongly influenced by the plan. To make this assessment, which is beyond the scope of this review, would require detailed modelling of the relevant agricultural sector.

There are twelve plans which contain targets that have been appraised according to each of the key features outlined in Box 3.

**Box 3  Key characteristics influencing the usefulness of targets**

Whether the targets are:

- input based (centred around principles), output orientated (reflect the delivery of a service rather than the ultimate desired outcome) or outcome orientated, or a combination of these;
- extensive or focused (number of targets);
- quantitative or qualitative targets;
- specific;
- measurable;
- relevant;
- time-bound; and
- derived from a sound understanding of the alternative.
The strategic plans which do not incorporate targets include:

- the US National Bioeconomy Blueprint;
- the Provincial Territorial Framework Agreement on agriculture in Canada 2008–2009 — 2012–13 (and discussion paper to develop a new agreement);
- the Interim Report for the Revitalization of Japan’s Food, Agriculture, Forestry, and Fisheries;
- the Irish Rural Development Program 2007–2013;
- the annual Strategic Plan of Brazil; and
- the Forward Strategy for Scottish agriculture.

**Strategic Plan FY 2010-2015 (SP-USDA-2010)**

- Targets are predominantly based on outputs deemed to be closely integrated with the attainment of objectives. A sample of these is provided (we have not listed the exact target) against key objectives:
  - rural prosperity (self-sustaining, re-populating and economically thriving communities): annual jobs created; millions of kilowatt hours from alternative energy sources; annual revenue from environmental markets; cumulative farmers markets established increasing consumer access to local food; economic contribution of recreation on National Forests and Grasslands; number beneficiaries of services, housing, health and safety improvements; number agricultural operations certified organic; value of trade preserved through SPS technical barriers to trade; value of plant exports from SPS agreements; and the value of risk protection provided through Federal Crop insurance program.
  - resilient and restored national forests and private working lands: acres of public and private forest lands restored; cropland with sustained productivity or improved ecological health; non-Federal and USDA-managed grazing lands under conservation; total acres protected through easements or simple purchases; communities with urban and community forestry programs; annual amount of carbon sequestered on US lands; and acres of National Forest System watershed at near natural conditions.
  - promote agricultural production and biotechnology exports as it works to increase food security: annual number of women and children assisted under the McGovern-Dole International Food for Education Program; cumulative number of genetically engineered plant lines reviewed by USDA and found safe for use in the environment and so on.
  - access for children to safe, nutritious and balanced meals: no. of households with very low food security (target is zero); participation rate in nutritional assistance programs; and food safety performance (number of illnesses).

- There is an extensive range of targets employed; the above is not an exhaustive list. However, there are an extensive range of services delivered by the USDA and therefore outputs to estimate the impact of these services.

- Rural prosperity is expected to be enhanced through expanding or maintaining markets, including through the aggressive strategies to market development, investment in R&D and price support given to farmers. There are few indicators corresponding to work around the creation of direct-to-
consumer, local and regional opportunities. However, this possibly reflects the difficulty in collecting information related to ‘outputs’ of this work.

- Targets are specific (quantitative), relevant to the objective, measurable and time-bound. The attainment of the targets is expected to be realistic, with the plan giving consideration to the baseline and review of the progress of programs. The plan identifies the target for 2015 with respect to a static baseline point. The plan also contains a section on external risk factors that may impact the attainment of the objective.

**Agricultural Research Service Strategic plan 2006–2011 (SP-ARS-2006)**

- Targets are highly prescriptive and output based. Examples of the targets include:
  - the number of new technologies (30) that mitigate risk of pests and pathogens in expanded export markets while protecting the safety and security of American agriculture;
  - the number of technological breakthroughs to increase the potential of bioenergy (24); and
  - the number of new technologies (20) developed by ARS to provide crops and products with high quality and extended shelf life, convenient and acceptable healthy foods, non-food, non-fuel biobased products, and valuable co-products.

- This plan outlines the beneficiaries of the research: domestic consumers, foreign consumers and US Federal and State agencies.

- It is unclear, however, how targets take account of quality such as the applicability of the research to its beneficiaries and the extent of adoption. These factors are likely to determine the actual value of the research. However, it would be difficult to set specific and realistic targets for these attributes.
  - The plan incorporates management indicators to ensure research is highly relevant, including targets for the number of scientific peer reviews to be undertaken, monitoring of the performance against milestones, and the percentage of work assessed as highly relevant.

- Each performance measure establishes a static baseline and anticipates targets to be reached by 2011 (at the end of the five year period). The target is informed by the number of breakthroughs realised in another reference year.

**Smart Food, Cool Beverage: New Zealand's Future in the Food and Beverage Sector (NZ-2006)**

- There is only one target outlined: to maintain the five per cent compound annual growth rate in the dollar value of the sector’s output which New Zealand was able to achieve over the decade prior to the plan (up to 2006). The target period is undefined.

**The Way Forward: Summary of Agriculture and Agri-food Canada's Science and Innovation Strategic Action Plan (SP-Canada-2010)**

- Although not referred to as indicators or targets, the plan contains ‘specific results to be accomplished over the next four years’. These incorporate research to identify certain new
products, new germplasm, new science based tools, scientific data to substantiate claims and so on. For example, the targets corresponding to human health and wellness include for:

- new food-feed bioactives with health and wellness benefits to be identified and their preliminary efficacy demonstrated;
- the identification and production of food products with bioactives;
- scientific data generated to be used to substantiate health, novel food and ingredient claims in support of Canadian regulatory processes.

- The objectives are not time-bound and it is unclear whether they are ongoing.

**Directorate General for Agriculture and Rural Development (DG-EU-2011)**

- The plan include a series of indicators and targets. The targets vary according to whether a specific value is provided or just a general direction for the target.

- Indicators relate to the three key objectives; there are also indicators provided against sub-objectives (called specific objectives). The key objectives and indicators (targets are shown in brackets) for each include:

  - to promote a viable and competitive agricultural sector with high environmental and production standards and a fair standard of living:
    - maintaining the ratio of farmers’ income development with other economic sectors;

  - to contribute to sustainable development of rural areas (jobs, quality of life, environment):
    - increasing the gross value added in supported holdings (US$25.9 billion);
    - maintaining high nature value areas (3.6 million);
    - increase the production of renewable energy (12 300 kilotonnes of oil equivalents);
    - net employment creation (344 000);
    - share of greenhouse gas emissions from agriculture (to reduce);

  - to promote European agriculture in world trade:
    - the value of trade flow in agricultural products between the European Union and rest of the world (to increase);
    - the EU-27 unit value of exported products (to increase); and
    - the proportion of subsidised exports in the percentage of total exports (to reduce).

- Targets for the first and third objective are outcome based, whilst targets for sustainable development by their very nature are output based.

  - It is appropriate that output based targets are quantitative, whilst outcome targets simply specify the direction that they are intended to move in.

  - The outcome based targets do accurately reflect the objectives sought to be achieved and targets are measurable.

- A range sub-targets are also incorporated which are predominantly output based indicators.
There is also a rigorous plan outlined for the review of progress for each sector, major programs, measures and policies.

**Food 2030 (SP-UK-2010)**

- This report contains a number of target ‘results’ or outcomes. They are not quantitative targets and are highly descriptive. However, at the back of the document there is a framework to assess progress against each objective. It provides a headline indicator and the general direction the indicator has moved in, in recent years, rather than a specific base line.

- The headline indicators for enabling and encouraging people to eat a healthy, sustainable diet include:
  - accessibility and affordability: the relative price of fruit and vegetables;
  - engaged and informed consumers;
  - diet related ill health/obesity; and
  - consumer confidence in food safety measures.

- Some of the indicators are difficult to measure. For example, engaged and informed consumers and consumer confidence in food safety measures. However, a range of supporting indicators is provided. For example, to measure progress towards healthy, sustainable diets, supporting indicators include:
  - for low income households share of spending on food;
  - food prices in real terms;
  - household access to food stores;
  - purchasing behaviour in at risk groups; and
  - the public sector leading by example.

- These indicators are reasonable, particularly given the difficulties associated with measuring social progress. However, many of the indicators are not well linked to the interventions. For example, food prices may have little to do with the education campaigns which are promoted to achieve this strategy.

**Food Harvest 2020: A Vision for Irish Agri-food and Fisheries (SP-Ireland-2010)**

- This plan utilises very broad outcome based targets. These include, by the year 2020, to:
  - increase the value or primary output in agriculture, fisheries and forestry by 1.5 billion Euros (a 33 per cent increase from the 2007–2009 average);
  - increase the value-added in agri-food, fisheries and wood products by 3 billion Euros (a 40 per cent increase compared to 2008); and
  - achieve an export target of 12 billion Euros (a 42 per cent increase compared to the 2007–2009 average).
• The targets are for the year 2020, allowing for around ten years for their attainment. Still, these types of increases are potentially significant. The plan does not identify how the average target growth rate compares to the annual increment achieved in previous years. It does state that available data was analysed to generate these expectations and the targets represent what is expected to be achievable.

• There are other factors outside the influence of the plan that will determine whether these outcomes are achieved. With such high level and specific targets, attributing the role of the plan to the outcome attained would be difficult.

**Strategic Plan for the Department of Agriculture, Forestry and Fisheries: 2012–13 — 2016–17 (SP-SA-2012)**

• The plan utilises an extensive number of outcome based indicators.

• They include targets that are highly prescriptive, demonstrating the highly targeted nature of the interventions (towards smallholders). For example, ‘outcome indicators’ include:
  
  − 30 per cent of smallholder producers to be organised in to producer organisations or marketing cooperatives to give collective power in negotiations for inputs and marketing; and
  
  − the percentage of small producers producing for sale to rise from 4.07 per cent to 10 per cent.

• The program deliverables link each objective with strategic outcomes, outcome indicators and strategic interventions. There are a couple of potential weaknesses in the targets which stem from the framework of the plan.
  
  − The linkages between the strategic objective and the strategic outcome are often not economically robust or clear.
    
    1. For example, to achieve ‘increased growth, income and sustainable job opportunities in the value chain’ the two outcomes identified include ‘more labour absorbing growth support’ and ‘improved cost structure in the economy’.
    
    2. The framework is based on diverting resources to smallholders, which is unlikely to cause the necessary improvements in productivity to achieve objectives of increasing growth and creating sustainable opportunities in the value chain.
  
  − Many of the ‘outcome indicators’ are not easily measurable.

**Strategic Plan — Ministry of Food Processing Industries (SP-India-2006)**

• This plan contains a number of highly specific, outcome based targets, including:
  
  − to increase the level of processing of perishables from 6 per cent to 20 per cent;
  
  − for value addition to increase from 20 per cent to 35 per cent; and
  
  − to increase the share of global food trade from 1.5 per cent to 3 per cent.

• The plan also contains some output based targets:
  
  − for skills development in the order of $1.5 million;
– TQ (Total Quality Management) compliance in FP (food processing) Units; and
– a range of ‘success indicators’ related to the government’s delivery of interventions.

- Output requirements are quantitative targets that do not take into account the quality of the investments. This could represent a potential weakness if, for example, public officials were to receive incentives tied to meeting such *outputs* targets. However, the broader outcome based targets should provide an indication of the degree of effectiveness in spending.

- All targets are very specific and measurable. They are relevant to the vision of the plan: to be a global leader in the production, consumption and export of safe, hygienic, nutritious and quality processed food items leading to growth of rural income and national Gross Domestic Product.

**China — 5 year plan (SP-China-2011)**

- China does not utilise an integrated set of targets at this stage, albeit there are some specific targets. These include:
  - to maintain farmland reserves at 121.3 million hectares;
  - to increase the country’s grain production capacity by 50 million tons to around 540 million tons; and
  - to accelerate the mechanisation of agriculture: to achieve a tilling-planting-harvesting integrated farming mechanisation level of around 60 per cent.

- These targets are specific, measurable and relevant given the objectives include for modernisation, expanded grain production and maintenance of the overall amount of farm land. But they are only partial measures of progress as they do not measure the effectiveness of the resource allocation to achieve the productivity and efficiency improvements expected to drive growth in farmer’s income (a central objective of the plan).
4. Lessons for blueprint development

In this chapter we discuss some of the characteristics expected to define the degree of success attained through the development and implementation of a blueprint for agriculture. A blueprint has the capacity to add value to an industry, and in particular the agricultural sector, because of the range of issues that are common across individual industries. However, there is an essential problem with trying to link the plans to the success or performance of the agricultural industry. As such, the success of a blueprint can only be evaluated through analysing its components. For reasons discussed below, including most significantly the problem of attribution, the contribution of a national plan to a sector should only be assessed in a qualitative sense.

Defining blueprint success

There are a number of reasons why it is difficult to link the performance of the agricultural sector with the success of a blueprint. These include the following.

- It is very difficult to separate out the role of the strategic plan from the actual implementation of the plan. Whilst strategic plans may provide quite prescriptive mechanisms and targets, its outcomes are determined by the effectiveness of its implementation. The implementation of the plan may be relatively informal, such as through the creation of collaborative relationships across the supply chain and industries.

- The attribution of performance to a strategic plan is essentially very difficult because of the requirement to understand what may have occurred in the ‘counterfactual’ scenario, in which the investments outlined in the plan were not undertaken. An agricultural sector may have performed poorly relative to previous years, but may have performed even worse in the absence of adopted measures. Achieving a consistent set of Key Performance Indicator’s to the assess performance of the sector is extremely difficult.

- A further complicating factor in many of the strategic plans is the emphasis on the attainment of social values such as social equity (income distribution), access to affordable and healthy food and the preservation of sustainable communities. These social values have an implicit value placed on them, although the exact impacts and the counterfactual scenarios are extremely difficult to pinpoint. In some cases, there may also be economic tradeoffs associated with these including preventing resources in the economy from adjusting to more efficient uses.

To assess the value of a blueprint we must understand its value proposition. A blueprint may derive value in a number of ways, including through:

- assessing the core areas of deficiency (constraints/risks) and drivers of future performance (strengths and opportunities), against objectives, to underpin effective and efficient decision making by relevant stakeholders;

- examining the role of government, industry groups, commercial business and others stakeholders;

- promoting synergies within and across industries, government and stakeholders;

- weighing up priorities, through analysing and articulating the core dimensions including:
  - the scale of the challenges or opportunities (the payoff);
  - the scope for the objective or measure to be achieved;
− the role of government, industry and other stakeholders; and
− the risks and costs involved;
• developing coherent and aligned objectives across stakeholders;
− priorities should flow through to decision making and resource allocations;
• promoting cooperation, collaboration and cost sharing arrangements to generate the scale required for investment in infrastructure, servicing export markets and effective marketing initiatives;
• leveraging funding sources to meet the priorities identified by stakeholders;
• sequencing strategies to ensure factors come together in an effective manner (lining the ducks up); and
• documenting and monitoring progress against objectives.

As identified in Figure 2, the very first requirement is to understand how the blueprint intends to create value. The objective or rationale for the plan will impact what is required in each of the subsequent steps identified in Figure 2. For instance, if the core rationale for establishing a blueprint were to take advantage of the synergies from working across government and industry, we would expect that success would be influenced by the extent of involvement of key stakeholders, the perceived mandate for the plan, the consensus attained and the commitment of stakeholders to the implementation of the plan. That is, the value of the blueprint would be derived from getting all stakeholders on the same page.

In Australia, it is important to consider the incentives of major retailers and food service chains. The dominance of major retailers in some markets constrains and shapes the potential payoffs from different investments such as integrity schemes, marketing, and research and development. In the past, successfully implemented industry strategies have enjoyed the support of key stakeholders, particularly the chains which are the principal customers of many agricultural products.

The ability to align incentives across the supply chain and government to work for a common objective could impact the success of the Australian blueprints under development.

Another important driver for producing a national plan is to establish the case for new funding and how the blueprint’s agenda will be funded. This rationale would play a significant role in the nature of how the plan is developed, albeit the plan would still follow the logic of the framework presented in Figure 2. In most cases, a new stream of funding will be sought to augment or modify existing investments rather than funding a completely new initiative. Understanding the baseline trajectory (step 2) would therefore require a detailed understanding of the funding mechanisms currently in place, including whether these are sufficient or inadequate to address drivers, constraints, risks and opportunities. Also, in assessing what it will take to get there (step 4) a detailed consideration of the potential financial or resource commitments would be required. The Federal government is likely to be required to assist in financing the plan and as such, they would be required to be ‘taken along’.

Whether the industry takes a political approach to this engagement or seeks to make a business case on economic grounds would shape the approach to consultation and critical analysis. That is, the consultation and analytical phase should consider the target audience in determining which stakeholders are consulted and the evidence required to support the business case for new funding. Is it sufficient for industry to all agree on their priorities or is evidence required from technical reports and experts?
Figure 2   A framework to develop national blueprints

1. Set out broad overarching objectives

2. Understand the baseline trajectory
   - Identify drivers, opportunities, strengths
   - Identify constraints, risks, weaknesses (Synergies)

3. Refine step 1, identifying more specific and targeted objectives

4. Identify what it will take to get there
   - Investments
   - Policies/programs
   - Collaborations

5. Who needs to be taken along? Shape strategies according to incentives of stakeholders

6. Establish the level of priority of each objective and instrument

7. Align approaches to achieve objectives, establish leverage of funding

8. Communicate steps 1 to 7 via Strategic Plans
   - Set out implementation vehicles
   - Establish monitoring framework
   - Use targets or indicators as appropriate

9. Adopt plan

Source: CIE.
In step 7, all of the previous work to identify priorities and bring stakeholders along would be brought together to leverage existing and potential funding sources. This involves establishing funding mechanisms, commitments and the distribution of this funding across priorities. Underpinning these decisions is a set of principles which preside over how the funding will be split between industry and government, the burden on individual sectors and the priorities which are met through this funding.

- In the Australian context, cost-sharing arrangements between industry and government provide precedence. In many cases, the funding share between industry and government is split equally. Placing an equal share of the burden on industry makes industry a co-investor, giving it the incentive to ensure that funding is effective.

- Historically, contributions between participating sectors have been determined on the basis of gross value product or on the magnitude of the benefits expected to be derived from the investments.

- Where sufficient funding cannot be secured to address all areas, key stakeholders will be required to assess which priority areas are undertaken within a given timeframe and which will be delayed.

It is also important to consider the perceived role of government, and how this shapes the interventions proposed and supported across industry and government. There is usually some disparity between the government and industry with respect to the role of government.

Ultimately, the success of a blueprint, irrespective of who develops and implements the plan and the strategies pursued, is determined by the capacity of the plan to raise performance levels relative to the baseline or ‘without plan’ case and expectations around the movement of key parameters or performance indicators in the absence of the plan. For example, if through developing an industry plan policies and priorities are influenced to become more effective, the incremental change in performance against objectives can be attributed to the plan.

The extent of the incremental change is difficult to know with any certainty. Identifying what might have happened if the plan was not developed with regard to policies and funding arrangements, and their effectiveness with respect to key economic, social or environmental parameters, involves considerable speculation. Assessing the baseline involves a complicated assessment of constraints and drivers over time (including accounting for productivity improvement or decline, structural changes in the market and changes in consumer preferences), the contribution of industry improvement unrelated to the plan and the impact of other organisations working in the area.

The attributes identified in previous chapters are relevant to the performance of the plan. It is not because the plans must follow one form or another that we identify these attributes. It is because collectively, these attributes reflect:

- how (well) its objectives and pathway to implementation is communicated;
- the logic and rigor of the framework used to develop and integrate objectives and interventions; and
- the potential usefulness of the targets in promoting accountability.

A qualitative assessment of the potential overall effectiveness of a plan can be undertaken through identifying the following key attributes (listed in chapter 3):

- the effectiveness of the plan layout;
- the structure of the plan layout;
• how well the role of stakeholders is identified;
• the sources used and consultation undertaken to identify objectives and interventions;
• the quality and extent of analysis of constraints and drivers and the understanding demonstrated of the economic trajectory under business-as-usual conditions;
• the degree of harmony between economic, social, political and environmental objectives;
• importantly, the logic of the interventions with respect to objectives; and
• whether the plan provides a pathway to implementation.

The validity of the objectives themselves is not of importance, but the framework for developing, communicating and implementing them. In some of the plans reviewed, achieving the objectives required tradeoffs against other values which we may deem to be important as economists. For example, political and social objectives underpinning the EU Directive for Rural Development meant that some economic tradeoffs with efficiency were required. New forms of income support were required to maintain the political support for reforming agricultural subsidies. However, any potential conflicts between interventions and objectives or across objectives should be considered. For example, in the South African DAFF plan, we identified a risk that the proposed interventions to bolster smallholders would not deliver the desired sustainable employment opportunities.

In reality, a desk top analysis of the strategic plans is not able to capture all elements which may impact the performance of the plan. Other critical determinants of a successful plan, not able to be characterised throughout this report, include:

• the perceived imperative to have a plan;
• the acceptance of the plan by stakeholders;
• the will of stakeholders (farmers, processors, retailers and government/industry organisations) to commit to implementing and adopting the plan; and
• the relationships between relevant stakeholders.

Trends from analysis of content

The perceived role of government and the scale and scope of the agricultural sector, play a significant role in the scope and nature of the interventions put forward. Australia’s competitors are all providing extensive services to industry. This includes with respect to:

• data collection services;
• analysis of market trends and distribution of information on markets to farmers and across the supply chain;
• facilitating supply chain collaboration and/or consolidation;
• identifying existing market opportunities and augmenting or diverting resources required to develop these opportunities:
  – this assistance can be provided at a broad level, to specific industries or to targeted groups such as farmers and cooperatives;
− this incorporates working with foreign governments to satisfy SPS and QA arrangements (market entry requirements);

• developing new technologies and new markets (such as through R&D, developing IP rights, product development and science validation);

− including the development of markets for ecological services;

• establishing a national brand; and

• assisting farmers to integrate risk management into their businesses.

Governments and industry must take into account their objectives, scale and bargaining power when assessing the appropriate resources to dedicate towards services to industry. In Australia, we do not have the same scale of industry to warrant the magnitude of the agricultural services provided in the United States. Australia also has a clear position and interest in promoting free and fair trade. We therefore would not seek to replicate the level of services (and subsidies) provided by the European Union or the United States — whereby support is extensive. It may be more appropriate to compare ourselves to similarly developed countries, comparable in size and trade policy such as Canada or New Zealand. More extensive services to Australian industry in some areas such as data collection services may be consistent with the objectives and approach to governance in Australia.

Across almost all the plans, it is acknowledged that ongoing investment in industry infrastructure to meet consumer and customer requirements is required to continue to gain access to markets. This includes a role for governments in fostering access to markets and reducing the threat and impact of non-tariff barriers on export performance. Many of Australia’s largest competitors are building their capabilities to respond to consumer tastes, including for ethical and environmentally sound production systems. These values are now taken for granted (assumed) by consumers.

There is a significant divergence in the capacity of developed countries (including Australia) and developing countries to meet the requirements of foreign markets. Developing countries tend to focus on meeting food quality, food safety and phytosanitary requirements. Resources dedicated to NRM are usually limited. However, China proposed in its plan to upgrade middle and low yield farm land, improve soil management and strengthen irrigation and drainage facilities. Brazil also intends to incentivise compliance with its environmental legislation.

As identified in chapter 2, countries are undertaking the following steps with respect to ‘new markets’ and ‘market access’:

• research to provide a sound scientific basis to the safety and quality of products including environmental credentials (see, for example, Canada, United States, Ireland and New Zealand);

• market research and dissemination of research to industry on consumer tastes (included in the plans for Canada and New Zealand);

• developing national branding strategies linked to health and safety, animal welfare and environmental attributes (contained in the plans for Ireland, New Zealand and Japan);

• grants to increase capital in firms to meet consumer requirements in relation to hygiene, quality and safety (as in the plans for India and Japan);

• funding for skills development to improve capacity to meet product standards and improve marketing (such as in the plans for India and Japan); and
• general institutional building to improve regulatory capacity and credentials, as identified in the plans for Canada, Japan, South Africa, Kenya, Uganda and China.

The activities listed represent public costs. There are also significant private costs from investing in new capital and complying with ongoing management and reporting requirements. These costs represent a significant impetus to productivity.

Private costs associated with meeting these market expectations could have important implications for the structure of domestic and international markets. It is foreseeable that these compliance costs could place further significant pressure on middle sized producers to consolidate and cause further vertical integration of corporate producers that supply supermarkets. Marketing is expected to play an increasing role in determining market share.

Many of the plans suggest an increasing requirement to establish direct-to-consumer and organic markets, in which consumers know the providence of the product including details of the production systems. Producers servicing these markets may retain margins or receive a premium for offering personalised service on a regional basis. However, the CIE anticipates that consumers will continue to value the convenience and affordability attributes offered by supermarkets, particularly in the Australian market.

A significant number of plans identify strategies to promote consolidation, collaboration and competition across landholders and the supply chain. The rationale is a perceived lack of scale to compete with vertically integrated companies in export markets. In their plans, many governments have articulated a role for themselves in facilitating this process. In Ireland, this was suggested to include government provision of targeted roll-over relief for land sales, the removal of other impediments to land mobility and assistance in addressing anti-competition laws. Japan, Scotland, China, Uganda and Kenya also have policies which promote consolidation at an enterprise or regional level.

In Australia, government and industry strategies to create synergies in production and environmental compliance systems may be beneficial. The increasing rigor of market access requirements provides a strong rationale for strategies to address key areas of deficiency in capability. This may include, for example, the regulatory capacity at the operational level (such as government inspectors), the scientific and extension capability in certain areas and the access of industry to reliable and timely data and information. Examining the impact of these market trends on the private sector and the role of government via the development of blueprints in Australia may add value.

Characterising successes and pitfalls

The approach to developing and implementing blueprints varies considerably. Each plan sits on a spectrum with respect to: length and detail of the rationale provided; the extent of the consultation utilised; the prescriptiveness of interventions; the flexibility for adaptation to suit regional development priorities; the extent of the government’s hand in the market; the aggressiveness of government in facilitation roles; the extent of cross-industry and cross-government collaboration and so on. None of these factors in themselves characterise the success of a blueprint. The development of a blueprint must be undertaken in light of its intended value.

Here we seek to place some general parameters around what may strengthen or weaken the value of a blueprint. A blueprint should:

• identify a strong value proposition;

• consider and involve critical stakeholders in the development of the plan;
• articulate key drivers and constraints of the industry (and its components);
• demonstrate a clear relationship between objectives and interventions;
• articulate the responsibilities of, and agreed by, stakeholders;
• use an effective, logical and engaging structure; and
• incorporate specific, measurable, achievable, relevant and time-bound targets.

A blueprint should avoid:

• excessive detail or description without clear critical analysis of the baseline:
  – including, for instance, excessive detail around what the government is doing without proper analysis of where the industry may be able to go with current resources and with more or better directed resources;

• setting too many different priorities and sub-priorities or a lack of prioritisation of issues and resources;

• unresolved tension between interventions and priorities or between objectives; and

• lack of detail on how the plan is intended to be implemented.
References


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Review of National ‘Blueprints’ for Agriculture

By Lauren White and David Pearce

Pub. No. 12/070

To inform the National Farmers’ Federation (NFF) and the Australian government in developing national blueprints, the Centre for International Economics (CIE) reviewed national blueprints developed for other countries’ agricultural sectors.

The review analysed approximately 20 national blueprints. The plans were compared and contrasted to identify the factors expected to characterise a successful blueprint and, therefore, to inform the development of the Australian blueprints.

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