Fund Impact Assessment program 2020-21: Small tropical summary

What was the research about

During 2022, Hort Innovation engaged independent consultants to evaluate the impact of small tropical research and development completed over the five years ending 30 June 2021. Impact assessments seek to provided insights into the type and magnitude of impacts generated from investments in the small tropical levy funds, which includes lychee, papaya, passionfruit, persimmon, and pineapple.

The evaluation revealed a range of economic, social and environmental benefits being generated for small tropical fruit growers, supply chain participants and the community at large.

About the impact assessment process

1. Project population defined

A pool of research and development (R&D) projects from small tropical funds was identified, with the criteria of being completed between 1 June 2016 and 30 June 2021 and with a Hort Innovation managed investment value of at least $80,000. This criteria was met by a total of 7 projects with a Hort Innovation investment value of $1.93 million.

2. Projects sampled

From this pool a random sample of three projects was selected (listed in Table 1). Together these three projects had a nominal Hort Innovation investment value of $0.94 million (47 per cent of the overall investment value).

3. Projects evaluated

Each of the three projects was evaluated using a logical framework approach, to map the impact pathway from activities, outputs and outcomes and impacts. Impacts were identified across economic, social, and environmental themes where appropriate. Where sufficient evidence and data allowed, the identified impacts were then valued in monetary terms.

The approach for evaluating the impacts was performed in line with impact assessment guidelines defined by the Council of Rural RDCs. To support the evaluations, the impact assessment consultants reviewed project documentation, and engaged with 18 stakeholders including researchers, Hort Innovation staff, growers, and supply chain participants.

The results

As shown in Table 1, the impact assessment process was able to value impacts for one of the three project sampled: *PR13007 Australian Sweet Persimmon Industry Development Project- Phase 4*. The benefit cost ratio of this project was estimated to be 1.36:1, and is expecting to deliver some $0.43 million in value to the industry (considering the present value of their benefits, minus the present value of the project costs). While some impacts were valued, other benefits were not able to be quantified due to a lack of evidence or data to confidently attribute in impact. As such, the results give a conservative estimate of the true benefits that will be realised.

For similar reasons, the potential impacts of the two remaining projects could not be valued in monetary terms. For these projects only the present value of costs was reported, with all other investment criteria appearing as NR (not reported). Across the three projects, when the investment costs and benefits are grouped together, the benefit cost ratio was equal to 0.65:1.

Through the assessments, 14 impacts were identified as having been generated directly by the three randomly selected projects or have the potential to be generated. Economic and social impacts were grouped into the following 5 broad categories. Environmental impacts included increased environmentally sustainable production from adoption of industry best practice.

Economic impacts

Increased farm productivity and profitability. Identified for two of the three sampled projects.

Example. PR13007 increased the adoption of higher efficacy mealybug and CWM management in line with IPM, resulting in improved pest management productivity (efficacy (quality) or cost or both), and a reduced risk of pesticide resistance associated with high chemical usage.

Example. LY16005 increased grower awareness of lychee levy investment research results and outputs, supporting earlier grower adoption of innovations and best practices.

Enhanced export value. Identified for one of the three sampled projects.

Example. LY16005 Increased grower awareness of lychee levy investment research results and outputs, supporting earlier grower adoption of innovations and best practices relating to export market access and protocols.

Enhanced domestic value. Identified for two of the three sampled projects.

Example. PR13007 undertook ongoing maintenance of new high performing varieties (such as Rojo Brillante) supporting improved fruit quality and varieties sought by customers, supporting increased demand and price support.

Example. LY16005 supported increased demand for lychees as a result of greater understanding (through the website) of the Australian lychee industry; and how to store, use and buy lychees, providing price support for Australian lychees and supporting economically sustainable increases in production levels.

Social impacts

Increased RD&E and scientific capacity. Identified for two of the three sampled projects.

Example. Following a period of limited RD&E in the early 2000's, PI12008 demonstrated the importance of a consolidated RD&E structure, incorporating the strategic industry advisory panel (SIAP) as a platform to effectively steer RD&E to closely align with the industry's needs, which reinvigorated the pineapple industry with a more cohesive RD&E focus.

Productivity/profitability benefits having a flow-on community benefit in small tropical growing areas. Identified for one of the three sampled projects.

Example. PR13007 Increased sustainability of quality and affordable persimmon supply, supporting increased consumption of persimmons with associated health and wellbeing benefits.

Example. LY16005 Increased contribution to regional community wellbeing from more profitable lychee growers as a result of adoption of new levy research outputs.

Reporting against the Strategic Investment Plan 2017-2021

Impact assessment results can also be used to understand the impacts achieved by the SIP outcome area. The results provide an assessment of indicative impacts by project but are not representative of all investments undertaken in each outcome area.

Table 1. Reporting against industry Strategic Investment Plans 2017-2021

Project code	Project Name	Present value of benefits ($M)	Present value of costs ($M)	Net present value ($M)	Benefit-cost ratio
Lychee SIP Outcome 1: Build uptake of research, development and better management practices amongst lychee growers					
LY16005	*Australian lychee industry communication programme*	NA	0.17	NA	NA
Pineapple SIP Outcome 1: Improved pest and disease management and best practice adoption increases grower productivity, profitability and sustainability.					
PI12008	*Integrated pest, disease and weed management system for pineapple (Pineapple Industry Technical Officer)*	NA	1.10	NA	NA
Persimmon SIP Outcome 2: Increased industry production and improved productivity to meet increasing domestic and international demand.					
PR13007	*Australian Sweet Persimmon Industry Development Project- Phase 4*	1.59	1.17	0.43	1.36

Glossary of economic terms

The following economic terms have been used in the above table, illustrating the cost-benefit analysis results by project sampled:

Present value of benefits: The discounted value of benefits to 2021/22 terms. n Present value of costs: The discounted value of investment costs to 2021/22 terms.

Net present value: The discounted value of the benefits of an investment, less the discounted value of the costs – that is, present value of benefits minus value of costs.

Benefit-cost ratio: The ratio of the present value of investment benefits to the present value of investment costs.

The multi-industry project MT21013 Fund Impact assessment 2020/21: Cherry, Sweetpotato, Vegetables, Small Tropicals was funded by Hort Innovation, using the industry research and development levy and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture. For more information visit www.horticulture.com.au. For more information on this summary or the underlying impact assessments, please contact George Revell, Principal Economist at Ag Econ, through george@agecon.com.au.