

When do we know investment in extension has been worthwhile?

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Abstract. A National Industry Development Portfolio review was carried out “to help maximise efficiency of levy investment and impacts for growers”. The review involved a desktop analysis of industry development projects and delivery partner interviews. Key evaluation questions were used to assess the design, implementation and monitoring and evaluation attributes of these projects. Findings indicate the majority of projects demonstrate “effective” or “very effective” grower engagement. Projects provide adequate evidence of meeting project outputs but lack rigour in reporting on outcomes. Delivery partners highlighted confusion in Requests for Proposals and project requirements and the need for capacity building initiatives for project staff in extension theory and practice. Recommendations to maximise efficiency and impact for growers include improving contractual agreements to enhance the quality of project delivery and providing opportunities for delivery partners to access extension and project management resources and training. The Hort Innovation Extension Team are working collaboratively with delivery partners to initiate these recommendations.

Keywords: review, industry development, extension, project.

Introduction

The Hort Innovation Extension Team (Extension Team) undertook an Industry Development Portfolio review “to help maximise efficiency of levy investment and impacts for growers” (Hort Innovation 2019). Hort Innovation is the Research and Development Corporation for horticulture in Australia. Annually it invests over \$120 million in research, development, extension, and marketing projects on behalf of industry. The review provided an opportunity for the newly established Extension Team at Hort Innovation to review the projects within the Industry Development Portfolio. The team also considered the environment the projects operate in and how this has influenced the findings reported here. Extension like research is forever evolving and this review has given Hort Innovation an opportunity to take stock and consider how it can work in collaboration with delivery partners in adding value to project design, delivery, and evaluation. Working closely with growers and other industry stakeholders Hort Innovation can support delivery partners to bring innovative solutions in what are, at the best of times, challenging situations.

What we did

The Hort Innovation Extension Team consisted of seven senior extension managers with experience in extension and project management. Only investments within the Industry Development Portfolio were included in the review, with the range of projects including:

- Industry development projects that employed Industry Development Officers/Managers (IDO/MS) with a focus on meeting the needs of growers by extending levy funded research and development (R&D) outcomes.
- IDO training and coordination projects.
- Issue-specific extension projects, such as Soil Wealth and Integrated Crop Protection - Phase 2 (VG16078).
- Industry communication projects were not a part of this review.

There were 44 projects reviewed; 26 were current projects and 18 were completed projects. The oldest completed project was contracted in 2013. The review involved a desktop analysis of projects. Project contracts, final reports, mid-term review reports and M&E plans were used as sources of information to undertake this assessment. Project characteristics such as budget, staff, and project team level of experience as a delivery partner with Hort Innovation and in extension practice were also included. Projects were each assessed against the three phases of a project - ‘design’, ‘implementation’, and ‘evaluation and reporting’.

For each phase, the five key evaluation questions from the *Hort Innovation project M&E planning guide* (Hort Innovation 2021b) (detailed in Table 1) were used to assess them using either an objective or subjective rating scale. Results for completed and current projects were kept separately to allow for analysis of potential improvements over time. In addition to reviewing documents, semi-structured interviews were carried out with 24 delivery partners. This

included project leaders and IDO/Ms. Questions focused on delivery partner experiences in delivering Hort Innovation industry development projects.

Table 1: Key Evaluation Questions used in desktop analysis of projects

Characteristic	Key evaluation questions
Effectiveness	1. To what extent has the project achieved its expected outcomes?
Relevance	2. How relevant was the project to the needs of the intended beneficiaries?
Process appropriateness	3. How well have intended beneficiaries been engaged in the project? 4. To what extent were engagement processes appropriate to the target audience/s of the project?
Efficiency	5. What efforts did the project make to improve efficiency?

Source: Hort Innovation 2021b, p. 6.

In 2020, a review of the *Responses to the Hort Innovation delivery partner extension survey* (Hort Innovation 2020) was released on the company's web site. The results from this were also used to assist with the Industry Portfolio review.

Industry Development project characteristics

Industry development projects typically have two objectives. The first is to identify grower needs that can be met by past and current project outputs from Research and Development (R&D). The second is to deliver along the impact pathway (a causal chain of events that will lead to meeting project outcomes). This is to increase grower awareness of relevant and current completed research project outputs. This also includes extension of relevant research outputs to growers and other major stakeholders that enable a positive change in grower *knowledge, attitude, skills, aspirations and practice change* (KASAP). This will in turn have a positive long-term benefit on their business and builds wider impact on the capability and capacity of the industry.

Throughout the report where two figures are provided, the result for current projects is presented without brackets and the result for completed projects is within brackets, e.g. 45% (42%).

Our industry development project delivery partners fell into the following categories:

- 64% of projects were delivered by peak industry representative bodies (PIBs), state, and regional industry bodies
- 19% delivered by private consultancy companies
- 15% delivered by government organisations.

About three-quarters had over five years project delivery experience with Hort Innovation.

Within the projects, it was found the IDO/M was the major deliverer of on-ground extension, while their extension knowledge, skills and experience varied, from low to high:

- 46% (44%) of projects employed IDOs with 'up to 2 years' of extension knowledge, skills and experience.
- 33% (27%) of projects employed IDOs with '2 - 5 years' of extension knowledge, skills and experience.
- 22% (27%) of projects employed IDOs with 'more than 5 years' of extension knowledge, skills, and experience.

Findings

Project design

Effectiveness Has project design focused on ensuring outputs, key performance indicators (KPIs) and outcomes will be met?

- 100% (100%) of projects lacked specificity in their overall objectives and outcomes. The review team believes this can partly be attributed to Hort Innovation Request for Proposals (RFPs) having been broad in their description of required project objectives and outcomes.
- 65% (38%) of projects reported that their methodologies, if followed, would achieve the desired outcomes.
- 69% (33%) of project designs suggested their KPIs should be achieved.
- 81% (50%) of project logics suggested outcomes should be achieved.
- Outcomes stated to be achieved that were included in projects were:
 - 57% (50%) included 'creating engagement and awareness of R&D project outputs'
 - 69% (63%) included 'increasing grower KASA', not including practice change
 - 53% (63%) included 'increasing adoption and/or practice change'.

- Project design had improved in current projects compared to completed projects.
- Proposed outputs and activities were clear but not described along an impact pathway.
- KPIs and metrics lacked detail in M&E plans.
- An increase in specific best practices and increasing productivity were rarely stated in outcomes and if so, only in general terms.

Relevance Did the projects aim to meet the needs of industry?

- 92% (94%) of projects demonstrated that they aligned from “adequately” to “very well” with Industry Strategic Investment Plan (SIP) priorities.

Process appropriateness Were project engagement approaches based on adult learning principles?

- 88% (56%) of projects used methodology that provided “good” to “plenty” of opportunities for achieving appropriate engagement with growers/industry/stakeholders.
- 39% (28%) of project methodology provided “good” to “plenty” of collaboration within the industry.
- Very little cross-industry collaboration was demonstrated.

Efficiency Did projects have the resources required to deliver the outputs necessary to achieve the project outcomes?

- 69% (83%) of projects were considered to have an appropriate budget necessary to achieve their stated outputs.
- 58% (72%) of projects were considered to have an “adequate” duration to achieve their outcomes.

Project implementation

Effectiveness Have stated project outputs and outcomes been met?

- 81% (94%) of projects implemented the methodologies contracted.
- The proportion of projects that reported a change along the practice change continuum knowledge, attitude, skill, aspiration, practice change (KASAP):
 - 42% (94%) reported change in awareness
 - 31% (72%) reported change in skills
 - 27% (67%) reported an intention to change
 - 27% (50%) report change in practice.

Reporting of these outcomes did not include significant detail and was often reported on per event rather than on a continuum throughout the project.

Some current projects were too early into delivering their outcomes to make fair assessments of: an increase of skills and knowledge (42%), intent to change (12%), and practice change in (54%)'. Measuring and reporting measurable on-ground outcomes has not been a requirement of Hort Innovation industry development projects until recently.

Relevance Are the projects delivering a significant service to the industry?

- 74% (61%) of projects have demonstrated they have been received “well” or “very well” by growers and other industry stakeholders.

Process appropriateness How well have the intended audience been engaged in the project and to what extent were the processes appropriate?

- Event feedback sheets and annual project M&E surveys undertaken by delivery partners were usually divided into subject/issue. This is where growers will indicate if they have found the event useful, have gained knowledge and intend to make a change or have made a change. It was noted that there was an absence of specific detail in project reporting for a range of characteristics within this general topic that any change applied to. For example, a change in water management was recorded but may not have given any particulars on the actual changes in practice.
- Whilst participation rates are captured in the project reporting, they do not necessarily demonstrate how representative these are in relation to the target audience/s.

Efficiency What efforts did the project make to improve efficiency?

- 54% of current projects were assessed as “running to schedule”, with a further 35% of current projects considered to be “partly running to schedule”. This was largely due to factors such as recruitment, pest incursions, bushfires and/or COVID. Project variations were able to address these challenges. In these circumstances the need to modify the project outcomes was unnecessary and the need to modify the budget was rare.

Monitoring, Evaluation, Reporting and Improvement

Was project progress and meeting outcomes demonstrated well?

Effectiveness Collecting appropriate data for M&E reporting posed challenges to being able to establish project progress towards and achievement of and KPI/outcome findings.

- Outputs associated with both current and completed projects were well documented.
- 27% (11%) of projects were reporting KPI's and outputs, that accurately reflected if outcomes were being achieved and 34% (78%) partially. 31% of recently contracted projects were yet to start reporting on this. Inadequate measuring of KPI's likely result from the project design, the operation of M&E plans and/or milestone expectations.

Relevance Did the data reported on demonstrate project outputs and outcomes were or had been met?

- Generally, end of project outcome reporting included increased grower engagement, awareness, intent to change and practice change (at a broad level).
- Output, outcome and KPI results were reported on very differently between projects. Reporting on meeting KPI's and outcomes were not always clear in final reports.

Efficiency 'Value for money' was a subjective rating based on comparing budget against resources required to deliver the project and expected and achieved project outputs and outcomes.

- 31% (11%) of projects demonstrated "good value for money".
- 31% (56%) of projects "adequately" demonstrated value for money.
- 35% of current projects were too early in their contract to assess value for money

Delivery partner feedback

Interviews with project team leads and IDO/Ms indicated increasing interactions with Hort Innovation in recent years have improved relationships between both parties. This includes a greater understanding of the highlights and challenges of delivering industry development projects. Common themes in the feedback included:

- More consistency is required with RFP documents and other project requirements. The level of detail required in relation to the size of the project also needs to be considered.
- More use of final reports by Hort Innovation to guide future investments.
- Independent midterm reviews for large investments.
- Need for project flexibility to respond to seasonal issues and in deliverables (activities).
- Need for five-year project contracts to support consistency of delivery and encourage project staff retention.
- Consider a range of capacity building initiatives targeting IDOs and other project staff. These include the development of mentoring programs, peer to peer networking opportunities, encouraging collaboration between delivery partners and regional face to face training (where IDO/Ms can learn and practice in a safe environment).
- Hort Innovation demonstrated flexibility in project delivery that was impacted by COVID restrictions.

Project management resources which include templates, guides, and tips and tools can be found on the Hort Innovation website. Delivery partners were asked which resources they used and how beneficial they were. The most often cited resources utilised were the Milestone Report and Final Report templates. This was followed by the VegNET templates and the M&E planning resources. Most delivery partners reported that the templates helped them to understand Hort Innovation expectations relating to project reporting requirements.

Discussion

Hort Innovation has unintentionally influenced project design by indicating broad project objectives and outcomes in RFPs. Projects have taken a broad approach to identifying the needs of growers and meeting those needs by extending R&D outputs. IDO/Ms indicated they have a full workload, partly due to researchers and industry expecting them to deliver extension on the majority of R&D levy projects. The review identified it is unrealistic to expect the one Industry Development project to be able to effectively deliver extension across all the R&D projects an industry invests in. IDO/Ms put substantial time and effort into organising and delivering events and activities, as well as the development of support tools such as posters and fact sheets. Since IDO/Ms are also expected to attend to grower ad hoc requests and respond to industry crises, their workload has at times been significant. This has led projects to focus more on creating

awareness and less on developing grower skills and knowledge and follow up support in embedding practice change.

Due to the hectic workload of IDO/Ms, developing project logics and M&E plans ran the risk of being a “tick the box” exercise. This has impacted projects in the following ways:

- Project plans and reports focused on delivering activities without demonstrating the causal chain or impact pathway.
- Milestone requirements focused on delivery of outputs, rather than the gradual demonstration of outcomes throughout the life of the project.
- Increasing KASAP was not reported on a continuum with cumulative results and rarely for specific best practices and innovations.
- Project reports used anecdotal evidence to indicate practice change, which made it difficult to objectively judge if a project was achieving its objectives and outcomes.
- M&E plans were not adequately operationalised, leading to insufficient and inadequate data collection and reporting.

Insufficient evidence relating to change (including increased KASAP) does not mean it did not happen. Anecdotal evidence sourced by the review team indicated that in many cases such projects most likely achieved change, but this was not supported with hard evidence in project reports. The results from the responses to the *Hort Innovation delivery partner extension survey* (Hort Innovation 2020) back up these findings by highlighting the need for delivery partner M&E training. Linking in with programs such as Hort360, EcoHort, Banana industry Best Management Practices Environmental Guidelines and EnviroVeg that have developed industry benchmarks for best practices may assist delivery partners in setting a baseline, supporting growers and in monitoring progress.

IDO/Ms have observed growers and other beneficiaries increase KASAP due to their participation in projects. Evidence based changes need to be better captured and documented. This will assist in encouraging greater grower participation, adoption of best practices and innovations. It will also allow better evaluation of a project’s return on investment.

Projects were often three years in duration. It is unrealistic to expect significant grower practice change across an industry in this restrictive time frame unless there is a strong driver in place. Evidence from delivery partners’ interviews show three-year contracts have frequently led key staff to seek other employment before project completion. This led to disrupted project delivery and losing a valued person permanently to another industry or sector.

Changes required in project delivery due to COVID mainly occurred without the need for official variations which saved time. This was appreciated by delivery partners who experienced a high level of stress in largely changing their mode of operation from face to face to online engagement during 2020 and 2021.

Both delivery partners and Hort Innovation have a responsibility in ensuring the project plan and reports demonstrate a progression towards meeting KPIs, outcomes and meeting industry needs. Delivery Partner interviews strongly indicated collaboration between the Hort Innovation Extension Team and delivery partners will enhance project design, implementation and M&E and therefore benefits to growers. Delivery partners also believe an increase in cross project and cross industry networking, coordination, and collaboration will also achieve greater benefits for industry.

Historically, industry development projects were designed based on one model, commonly known as Technology Transfer. In this model R&D comes first followed by extension. This is a linear model and although the method is suited to helping solve some problems, benefits from drawing on a mix of methods would assist in meeting project outcomes. Methods such as participatory, knowledge and innovation systems approaches needs to be supported further by Hort Innovation. The challenges highlighted by growers are expanding past the farm gate and require engagement of a wider community of people and are suited to knowledge and innovation systems approaches to help solve. These approaches acknowledge one solution to a problem may not suit all and there can be many barriers of adoption to change. These approaches also understand that although an increase in grower KASAP is important it is only part of the solution and resolving the problem involves the engagement of many different stakeholders.

Key methodology learnings

On reflection the Hort Innovation Extension Team identified the following learnings from undertaking the Industry Development Portfolio review:

- Drawing on the collective experience and input of all Extension Team members enabled a robust and efficient review of industry development projects.

- Gaining direction from the *Hort Innovation M&E guidelines* (Hort Innovation 2021b) saved time and ensured an appropriate process was undertaken which fitted in with company and delivery partner practices.
- Semi structured interviews with delivery partners and reviewing the Responses to the *Hort Innovation delivery partner extension survey* (Hort Innovation 2020) provided the Extension Team with further context and a richer picture on which to base the review findings and recommendations.
- In future, project data will be collected in a more appropriate collection tool than an Excel spreadsheet. Questions whose answers proved superfluous to the review's needs will also be omitted.
- Project data will be collected on an ongoing basis from now on. This will be at time of contracting, midterm and at final reporting. This will negate the need for a large portfolio review, as data will be available on an ongoing basis.

Recommendations

The *Industry development portfolio review report* (Hort Innovation 2021a) included over 20 recommendations which fell into the four categories below:

- Improve contractual agreements to enhance the quality of reporting and place greater emphasis on demonstrating project outcomes including having positive long-term on ground outcomes for levy payers.
- Provide opportunities for delivery partners to access extension and project management resources and training.
- Ensure effective and efficient project M&E is in operation.
- Optimising effective and efficient levy investments in the Industry Development Portfolio and gaining impacts for growers is important. It can be achieved by further developing meaningful working relationships between Hort Innovation Extension Team and delivery partners.

The Extension Team are working collaboratively with delivery partners, where relevant, to initiate these recommendations as part of the *Hort Innovation extension team strategy* (Hort Innovation 2022) in alignment with the *Hort Innovation strategy 2019-2023* (Hort Innovation 2019).

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