IM4DC Evaluation of Impact: The Program Deliverers' Perspective

Researchers: **Lena Wang, Jelena Opacic, Daniela Andrei, Karina Jorritsma, Sharon Parker, Mark Griffin**
School/Centre: Accelerated Learning
Laboratory University/Institutions: The University of Western Australia

Key themes: Governance and Regulation;
Community and Environmental Sustainability
Operational Effectiveness
Key countries: General application
Completion: March 2015

Research aims:
This evaluation project sought to understand how IM4DC educational and development programs have impacted program deliverers by:

- contributing to their knowledge
- contributing to their development
- providing broader-level benefits

For further information on this action research:
Contact person: Lena Wang
lena.wang@uwa.edu.au

IM4DC
Action Research Report

International Mining for Development Centre

FUNDED BY
Australian Government Department of Foreign Affairs and Trade
Australian Aid
IMPLEMENTING PARTNERS
The University of Queensland Australia
The University of Western Australia

www.im4dc.org

Summary of Action Research Activity

IM4DC Evaluation of Impact: The Program Deliverers' Perspective

This evaluation project aimed to assist the International Mining for Development Centre (IM4DC) to understand how its various educational and developmental programs have benefited program deliverers and contributed to their work and development, and if broader-level impacts have been achieved. The information generated should complement other evaluation initiatives that IM4DC has been engaged in to provide a broader picture about the impact of IM4DC activities.

A mixed-method evaluation design was adopted using online surveys and interviews to collect data from program deliverers. The surveys and interviews were designed to solicit comprehensive and in-depth feedback from key staff members who were closely involved in the design and delivery of various IM4DC activities including educational programs, action research projects and fellowships. Initial contact was made with 87 staff members, primarily from the University of Queensland and the University of Western Australia, the two key academic institutions conducting IM4DC activities. Completed survey responses were obtained from 53 staff members and interviews were successfully conducted with 7 of them. As well as analysing impact, the report provides information on staff motivation to engage, input, activity and outputs.

A broad range of positive outcomes for staff were recorded, including:

1) intellectual outcomes – where many staff developed new cultural knowledge and understanding and improved their research and practice
2) reputational outcomes – where many staff actively engaged in knowledge generation and dissemination, with some already producing high-impact academic publications
3) financial outcomes – where some staff actively built on their IM4DC work to apply and obtain additional funding
4) social outcomes – where many staff formed new collaborations and networks within their institutions and across institutions, as well as with government and industry

Positive signs of broader-level organisational and social impact were also seen, as staff suggested that IM4DC involvement has contributed to the reputation and capacity building for their university, for their community of practice and for Australia as a whole. An additional finding concerns the unique value propositions of universities in delivering IM4DC activities. Staff commonly believed the key strengths of universities lie in their multidisciplinary expertise, objectivity, credibility, and the long-term commitment towards knowledge generation and dissemination through education and research. Several staff provided anecdotal examples of how their university status allowed their work to be positively perceived by various stakeholders they were working with.

THE UNIVERSITY OF WESTERN AUSTRALIA

Achieving International Excellence

Accelerated Learning Laboratory

RESEARCH REPORT to:

International Mining for Development Centre (IM4DC)

IM4DC Evaluation of Impact: The Program Deliverers' Perspective

ALL@UWA Team Members:

Dr Lena Wang

Jelena Opacic

Dr Daniela Andrei

Karina Jorritsma

Winthrop Professor Sharon Parker

Winthrop Professor Mark Griffin

March 2015

TABLE OF CONTENT

1. Executive Summary 3
2. Project Background and Method 5
2.1 Project aims 5
2.2 Research methods and processes 5
2.3 Participants' demographic 7
3. Finding Part 1: Staff's Engagement in IM4DC 9
3.1 Stage 1: Motivation to engage 10
3.2 Stage 2: Input 13
3.2.1 Intellectual 13
3.2.2 Social network 14
3.2.3 Financial 15
3.2.4 In-Kind 16
3.3 Stage 3: Engagement 18
3.3.1 Length of involvement 18
3.3.2 Scope and depth of involvement 18
3.4 Stage 4: Output 19
3.4.1 Intellectual (Knowledge generation) 19
3.4.2 Reputational (Research dissemination) 20
3.4.3 Financial 21
3.4.4 Social (Network building) 22
3.4.5 Overall values of involvement 24
3.5 Stage 5: Impact 28
3.5.1 Impact for university 29
3.5.2 Impact for Australia 31
3.5.3 Impact for community of practice 32
4. Finding Part 2: University's Value Proposition in Delivering IM4DC Programs 34
5. Summary and Conclusion 38
6. References & Extra Readings 41
7. Appendix 42
Appendix 1: Online Survey Questionnaire 42
Appendix 2: Interview Schedule 49
Appendix 3: Publication / Dissemination Emerged from IM4DC Involvement (Section 3.4.2) 51

1. EXECUTIVE SUMMARY

Successful training and development programs require thorough, rigorous and timely evaluation of their outcomes and impact. Traditionally, impact is assessed solely at the level of program beneficiaries. Yet it is important to recognise that developmental programs could also have impacts on the parties involved in the delivery of these programs. This is because the knowledge generated through the developmental programs could feed into increased capacity of the deliverers, leading to improved and innovative future programs. This is especially true when programs are delivered by universities, who consider improving education and generating knowledge as their key missions and are committed towards building capacity and developing partnerships even after the official conclusion of programs. In this evaluation project we aim to assist the International Mining for Development Centre (IM4DC) to understand how its various educational and developmental programs have benefited program deliverers and contributed to their work and development, and whether broader-level impacts have been achieved. The information generated through this project aims to complement the other evaluation initiatives that IM4DC has been engaged in to collectively provide a broader picture about the impact of IM4DC activities.

To meet this purpose and in consultation with the IM4DC, the Accelerated Learning Laboratory at University of Western Australia (ALL@UWA) adopted a mixed-method design using online surveys and interviews to collect data from program deliverers. The surveys and interviews were designed to solicit comprehensive and in-depth feedback from key staff members who were closely involved in the design and delivery of various IM4DC activities including educational programs, action research projects, and fellowships. Initial contact was made with 87 staff members, primarily from the University of Queensland and University of Western Australia which were the two key academic institutions conducting IM4DC activities. Completed survey responses were obtained from 53 staff members, and interviews were successfully conducted with 7 of them. Data from surveys and interviews were analysed and key findings were integrated into this report.

To provide a comprehensive understanding about program deliverers' involvement in IM4DC activities and the impact that has been achieved through such involvement, we developed a logical model that is aimed at capturing the causal chain and the associated key stages in program deliverers' IM4DC journey. In particular, we intended to understand five key questions: 1) what motivated the university staff to engage in IM4DC activities; 2) what inputs they contributed to the program design and delivery; 3) what activities they engaged in; 4) what they personally achieved as a result of this engagement; and finally, 5) whether a broader-level of impact was generated.

Our results uncover key findings in relation to each of these five questions. First, staff members actively engaged in and committed to IM4DC activities out of the motivation to improve their research and make a global impact, and to build and strengthen collaborations with overseas partners. Second, in designing and delivering IM4DC activities, staff members brought along their knowledge and expertise, drew on their personal and professional network, and leveraged funding from other sources to enhance the success of IM4DC projects. Third, in terms of the level of engagement, many staff engaged in a broad scope of IM4DC activities and over a relatively long period of time. The fourth and fifth questions were our main interest of this evaluation, which concern the actual outputs/outcomes and impact of staff's involvement. We found that a broad

range of positive outcomes have been achieved for staff themselves, including: 1) intellectual outcomes - where many staff developed new cultural knowledge and understanding and improved their research and practice; 2) reputational outcomes - where many staff actively engaged in knowledge generation and dissemination, with some already producing high-impact academic publications; 3) financial outcomes - where some staff actively built on their IM4DC work to apply and obtain additional funding; and 4) social outcomes - where many staff formed new collaborations and networks within their institutions, across institutions, as well as with government and industry. We also found positive signs of broader-level organisational and social impact, as staff suggested that IM4DC involvement has contributed to the reputation and capacity building for their university, for their community of practice and for Australia as a whole.

An additional finding of this evaluation concerns the unique value propositions of universities in delivering IM4DC activities. We found from surveys and interviews that staff commonly believed the key strengths of universities lie in their multidisciplinary expertise, objectivity, credibility, and the long-term commitment towards knowledge generation and dissemination through education and research. Several staff provided anecdotal examples of how their university status allowed their work to be positively perceived by various stakeholders they were working with.

Overall, findings from this evaluation project with program deliverers suggest that involvement with IM4DC activities has positively contributed to their work in various ways, and has led to enhanced reputation and capacity building for their organisation and beyond. It is however necessary to acknowledge the limitations of this project. Despite that using mixed-method design reduces methodological limitations and strengthens the validity of results, our data were nevertheless based on participants' subjective perceptions which could be potentially biased in a way that leaned towards positive outcomes. While it was possible to obtain some objective data, for instance, the funding acquired and the publications generated by staff members are quantifiable and verifiable, some other aspects of the data, such as the broad impact that have been generated (i.e. the last stage of the logical model), is difficult to be objectively measured in a short timeframe. A proper evaluation of organisational, social, and economic impact can only be assessed using rigorous evaluation methods over time.

Disclosure:

We would like to acknowledge that the Accelerated Learning Laboratory at University of Western Australia (ALL@UWA) who produced this report is involved in the design and delivery of several IM4DC projects, including the annual Occupational Health and Safety short course for the IM4DC during 2012-2014, 4 action research projects, 1 fellowship, and 4 commissioned evaluation research projects with the current one included.

However, the impact of such involvement in the results of this evaluation is relatively minimal, as this study is heavily based on survey results where data are collected from a broad scope of program deliverers outside of the ALL. With the online survey, only 3 staff from the Accelerated Learning Laboratory provided input into the survey, while the total completion number was 53. In terms of the interview, only 1 out of the 7 interviewees was from the Accelerated Learning Laboratory.

2. PROJECT BACKGROUND AND METHOD

2.1 Project aims

Established in October 2011, the International Mining for Development Centre (IM4DC) organises and delivers a variety of mining-related courses, programs, and activities every year. The main purpose of these courses is to lift the quality of life in resource-rich developing countries, through developing the knowledge, skills and capabilities of key personnel in those nations.

Being jointly supported by the University of Western Australia and University of Queensland, the majority of IM4DC activities has been designed and delivered by academics, researchers, and professional staff across these two universities. Over the last 3 years there have been evidence and anecdotes suggesting the significant benefits that IM4DC involvement has brought to staff (or program deliverers), such as generating new knowledge, producing impactful research, improving quality of education, among other areas which collectively contribute to the core missions of Australian universities. However, IM4DC is keen to understand this impact in a more systematic and in-depth manner and from the program deliverers' perspective.

To meet this aim, IM4DC decided to partner with the Accelerated Learning Laboratory at University of Western Australia (ALL@UWA) to engage in a program evaluation from an internal program deliverers' perspective. In particular, IM4DC decided to collect staff's feedback through an online survey, which can help reach a broad scope of people as compared to other data collection methods. In addition to the online survey, the evaluation process also solicited detailed and in-depth insight from a small number of staff members through semi-structured interviews.

2.2 Research methods and processes

This project involved two phases of data collection. First, we designed and launched an online survey that was distributed to all staff members who have been involved in the design and delivery of IM4DC activities. The staff were primarily from University of Western Australia and University of Queensland. Second, we conducted interviews with some of the staff to obtain more in-depth information of their involvement journey with IM4DC. This mixed-method approach not only allows us to collect both quantitative and qualitative data which nicely complement each other, but also strengthens the validity of findings as results can be triangulated (e.g. Greene, Caracelli, & Graham, 1989).

Survey. A survey questionnaire was designed in consultation with key members from the IM4DC and by drawing on insights obtained from an earlier reflection workshop conducted with staff from UWA and UQ[1]. The survey was intended to solicit input from staff about their involvement with IM4DC, such as the input they brought in to the projects and the outcomes they achieved. The content of the survey questionnaire is shown in Appendix 1 and the survey was launched on the Qualtrics survey platform.

[1] Information was drawn from the "IM4DC Annual Reflection Report, July 2014" which summarises staff's input at that reflection workshop.

Survey web-link was distributed via mailing list which contains the contact email of all staff involved in IM4DC activities. Within the University of Western Australia, emails were distributed to 37 staff and research students across various disciplines at the university. Within the University of Queensland, approximately 50 targeted emails were distributed to staff and students across various centres who had been involved in IM4DC activities, and the survey was also highlighted across all SMI Centres via the weekly Institute Newsletter. A total of 53 individuals successfully completed the survey, representing an approximate response rate of 61%.

Interview. At the end of the survey questionnaire we asked people to leave their contact details if they were willing to be followed up with a semi-structured interview. A total of 29 indicated such willingness. We selected among these staff based on several criteria: 1) choosing relatively equal number of interviewees across the two universities; 2) choosing interviewees who are from different disciplines to provide a broad perspective; and 3) in consultation with IM4DC, choosing staff who have had more involvement with IM4DC and who may provide more in-depth observation of their experience.

Based on these criteria, contacts were made with 10 staff and among them, 7 interviews were successfully scheduled and conducted. Among them, 4 were from University of Queensland and 3 were from University of Western Australia. The 7 interviewees came from a range of disciplines including law, business, environment, water management, among others. Each interview lasted between 40 to 70 minutes, and was conducted either on the phone or face-to-face. Interviews were semi-structured and followed the schedule presented in Appendix 2.

After interview data were collected, all interviews were transcribed independently by professional transcription companies and then analysed and summarised by the project team. The roadmap of the project is displayed in Figure 1.

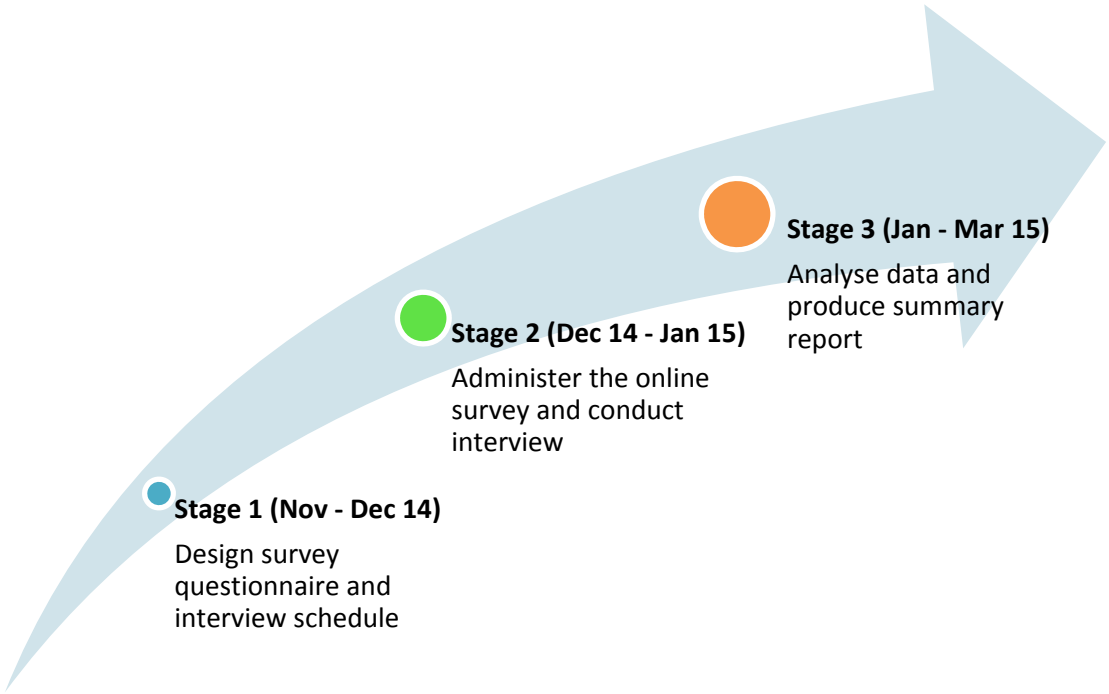

Figure 1: Roadmap of the IM4DC evaluation of program deliverers

2.3 Participants' demographic

A total of 53 university staff members successfully completed the survey. Out of these 53, 24 were male and 18 were female; 11 participants did not state their gender. The average age of the staff was 45.7 years. Figure 2 shows the distribution of responses from different organisations among 44 staff who indicated their affiliations. Majority of the staff members were from University of Queensland and University of Western Australia; 3 people indicated that they worked in different organisations (e.g. Curtin University).

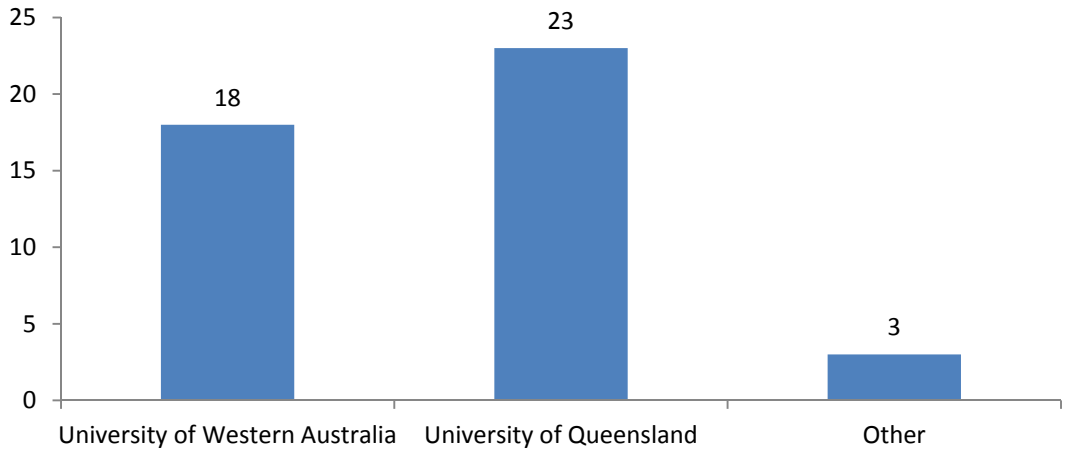

Figure 2: Number of individuals working at various universities

Staff members who responded to the survey were working across different disciplines. Figure 3 displays the discipline distribution of staff who responded to this question. A relatively large range of disciplines were represented. It should be noted, however, many staff members were working cross-disciplinarily and thus the categorisation here may be more or less arbitrary.

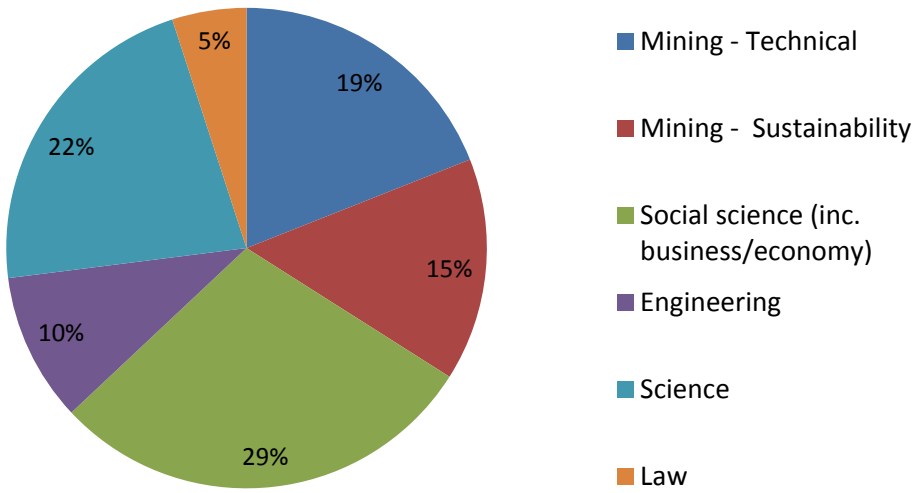

Figure 3: Percentage of staff members working in different disciplines

The staff members were also from a wide range of job roles. Among the 41 respondents who reported their job roles, most were research-only staff (N = 16) and tenured academics with teaching, research and service responsibilities (N = 12). There were also professional staff (e.g. program manager, training coordinator, etc.), those on adjunct/associate appointments, students, and others (e.g. consulting roles). A detailed breakdown is shown in Figure 4.

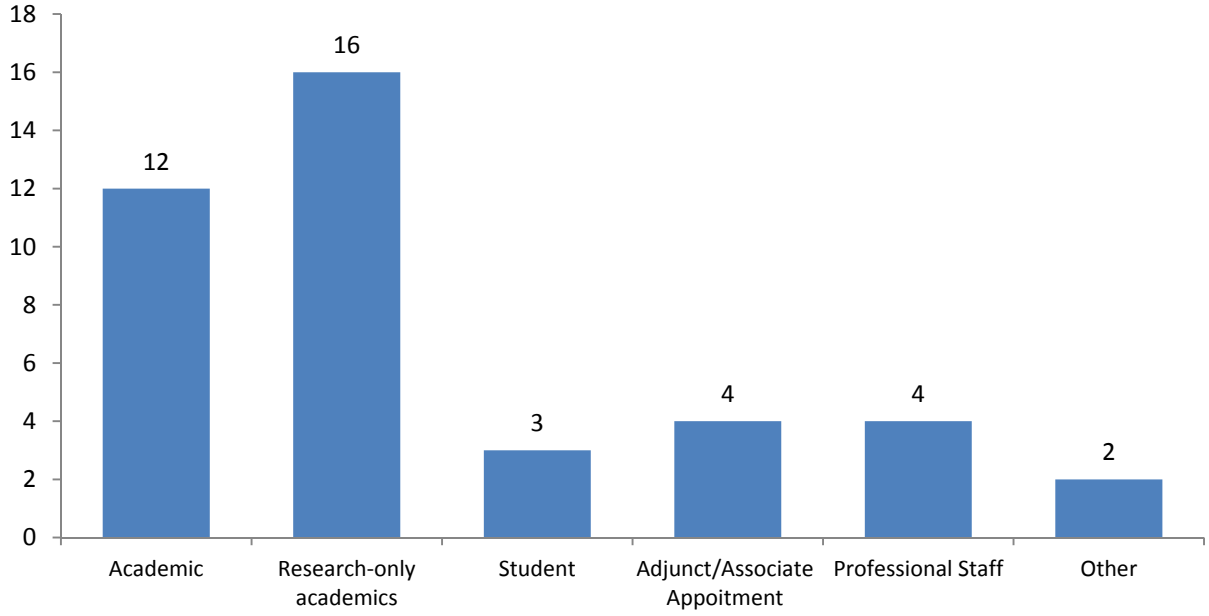

Figure 4: Distribution of staff job roles

Below, we present the key findings of this project in two parts. Part 1, which is the main section of this report, focuses on our findings. In particular, we developed a logical model to articulate staff members' journey of IM4DC involvement, including why they initiated the engagement, what they had done, and what the outcomes resulted for them individually, organisationally and beyond. Part 2 focuses on the input we gathered from participants about their perceived values and unique strengths of delivering IM4DC activities by universities.

3. FINDING PART 1: STAFF'S ENGAGEMENT IN IM4DC

This section focuses on the findings about staff members' engagement in IM4DC, using data collected from online surveys and semi-structured interviews. To provide a structure to these findings, we developed a logical model which depicts 5 key stages of staff's journey of engagement (see Figure 5). The model is useful in understanding the chain of the relationships between input, activities, output and impacts. It also helps to articulate the ultimate goals and outcomes (e.g., Rogers, 2008).

However, it should be noted that most logical models are aimed at capturing the impact of intervention strategies upon the subjects of interventions, while this project is focused on the impact for the deliverer or initiator of the interventions. For this reason, we think it is necessary to adapt the logical model so as to better suit this purpose. First, most of the logical models start from "input", that is, what resources are needed to operate the program. However, given we are targeting at program deliverers, we believe it is important to go one step backward and understand the reason these delivered invest in their resources into the interventions. Second, we merged the "output" and "outcome" stages, while in other logical models these two are usually clearly spelled out. Our reasoning is that when we consider the development journey from program deliverers' perspectives, once they have engaged and delivered the activities, the immediate output of such engagement is considered achieved. It thus seems less necessary to go into great depth about the output, and it is instead the outcomes from their engagement, such as the intellectual and financial values, are of more interest.

The key stages in the logical model we developed include:

1. **Motivation to engage:** This concerns the key factors that had motivated staff to initiate their involvement with IM4DC and to sustain this engagement over the past 3 years. We have no prior knowledge about what are these factors, so we decided to use a bottom-up approach to uncover this information from interviews.

2. **Input:** This concerns the input staff has brought in to design and deliver IM4DC activities. In particular, we focus on their input by drawing on their intellectual capital (e.g. knowledge and skills), social capital (network, resources), financial capital (e.g. other funding leveraged) and additional in-kind support.

3. **Activity Engagement:** This concerns staff's actual engagement, for instance, the particular programs/ activities they had been involved in and the length of their involvement.

4. **Output/outcome:** This focuses on immediate outputs that have been produced by staff as a result of IM4DC involvement. We intend to understand their outputs from different levels such as intellectual (e.g., gained knowledge and skills), social (e.g., developed networks) and financial outcomes that have been leveraged and achieved by being involve with IM4DC.

5. **Impact:** This focuses on broader impact beyond individuals and their immediate environment. We aim to solicit input from participants about the impact that they perceive

as been achieved for their university, for their own community of practice, and for Australia as a whole

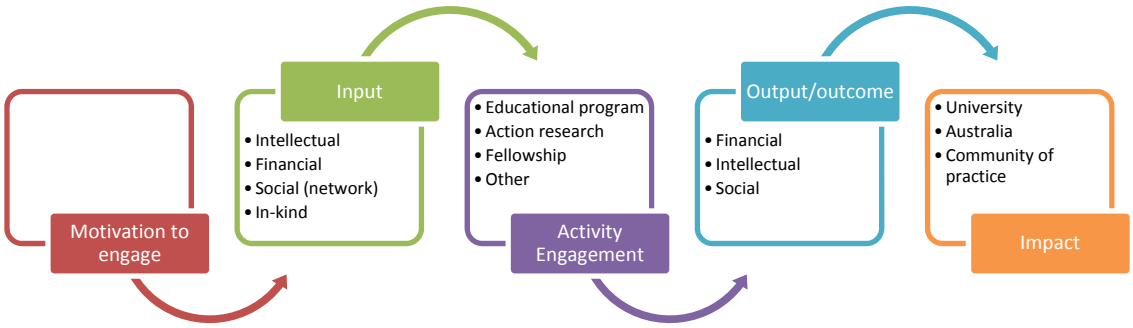

Figure 5: Logical model for program deliverer

It should be noted that different data collection methods are more suited for understanding different stages as articulated above, thus while we integrate the findings from both surveys and interviews to present a coherent picture, we will indicate which data collection methods the results are based on for each specific section.

3.1 Stage 1: Motivation to engage

Motivation is important as it drives individuals to identify goals they want to achieve and to persist with these goals even when encountering obstacles (e.g. Latham & Locke, 1991; Mitchell & Daniels, 2003). Often, the delivery of IM4DC activities involves engaging multiple stakeholders, diligently planning and executing the project, and effectively managing challenges in the process. Based on psychological motivational theories (e.g. self-determination theory), individuals who have strong motivations and who see the work as interesting and meaningful for themselves are more likely to invest efforts willingly and sustain input persistently (Ryan & Deci, 2000). Additionally, individuals who choose to engage out of an intrinsic motivation are more likely to be proactive in identifying ways to improve their work and achieve best outcomes (e.g. Strauss & Parker, 2014).

To understand individuals' motivations, we first investigate what motivated staff to initiate their engagement in IM4DC activities. This information was gathered through interviews, which allowed for rich data to emerge and provided the opportunity to probe if necessary. Based on the interview with 7 staff members, we summarise 5 key reasons with which staff chose to initiate their collaboration with IM4DC.

- **Conduct research and make an impact in a global area.** Several staff commented that the reason IM4DC projects were appealing to them was that the work involved is of strategic importance and is usually at national and international levels. The scope of work allowed

them to reach out to regions that they wouldn't usually have access to. One senior staff even commented that the opportunity to get involved in IM4DC projects was one of the main reasons that motivated him to take up his current academic position and move from UK to Australia. Below are some example quotes from various staff members.

> *"There's quite a lot of appeal in focusing on people from developing countries who wouldn't get this information disseminated to them, I guess it's a chance to make a difference globally."*
>
> *"Most of the work that I have ended up doing in the past has been in countries like the UK, North America, Australia, which are relatively well developed in terms of their water management. Much more challenging and interesting are countries that are actually quite undeveloped in terms of their water management frameworks, their science base and their capacity building framework. That was a big incentive in trying to get involved in some of these more serious problems in the world."*
>
> *"We have been trying to work with industry to study mining project, but this was the opportunity to take it to a much higher level, with the potential to take it to national and government level, to use it as a process to navigate key sustainability issues. The idea of doing it through IM4DC was certainly attractive to me, it presented the opportunity to me which would have been difficult to do without someone like IM4DC."*
>
> *"I think it's a great opportunity to engage at a very high level, in this case the ministerial level."*

- **Build broad research collaboration.** This was another reason that motivated staff members to work with IM4DC. Woking on these projects could allow them to build broad networks with people from others parts of the world. Setting up contact for research collaboration in developing countries was something that they could only experience through IM4DC programs.

> *"[The other value is] the ability to be making the business contacts and research collaborators in these [developing] countries so I've had trips to Peru and Colombia as part of my IM4DC projects, being able to build significantly on my existing networks and having opportunities to follow up to contribute to teaching, and to research programs. There is the opportunity to have some quite interesting and fruitful collaboration."*
>
> *"I get to engage with people from civil societies in other countries, there's a social aspect to it, and there's a professional aspect to it. There's quite a bit of prestige in that. And so that would be the main appeal for me."*

- **Support developing countries.** Several staff commented on the idea that being involved with IM4DC and their programs allowed them to make a difference and contribute to developing countries. IM4DC allowed them the opportunity to apply their knowledge and skills to support developing countries and have a positive impact.

"I identified in my report for Department of Foreign Affairs and Trade (DFAT) that there was a great need for XXXX training…. I was really keen to follow up the report that I written for them with some practical work, so it was a really good opportunity being able to do that. I am hopeful for whole of Africa and for Australia, the whole thing have good synergies going through bit of work."

"How can countries improve their livelihood through mining for development? In other words, if we develop the mining industry, how could they improve their livelihood? So that's been a vision for me and a mission for me."

- **Apply research into practice.** For many staff, research is an important aspect of their work and the IM4DC involvement provided them an opportunity to apply their research into practice. As their research was focused heavily in Australia, IM4DC provided an opportunity to apply this research to developing countries, which in turn increased their interest.

"I think the ability to actually go to the affected countries and get direct evidence [for research], increased my interest and commitment."

"The fact that it involved the translation of some of the research that was happening within the university was definitely something that was interesting to me. "

- **Apply one's knowledge, skills and capacities.** One staff commented that the project allowed him to use many, if not all, his knowledge, expertise and project management skills, to design and deliver a large-scale and high-impact study tour. This has clearly fulfilled his need for competence.

"It's the kind of thing that allows me to combine; very rarely you get to pull all your skills and expertise into one project. What I mean by that is this project, for me, not only should be to have a very big project management role and to use those skills, dealing with dozens and dozens of different stakeholders and events, having time with them and manage them. But it also allows me to use my own teaching experience, my own research experience, and there's a very personal dimension to it, too, in the sense that I would be involved in facilitating and leading the study tour, in addition to planning and designing it."

We were also interested in knowing if people's motivations had changed throughout their journey of engagement. Most people suggested that there were no major changes in their motivation; if there were any, their motivation and commitment had only increased and they felt more engaged to continue with their work or to do more.

"Still the same motivation and can see the benefits…would like to just do more of it really."

"In terms of my interest and commitment to the project is probably grown. It is probably grown most over the last months since doing the field work in XXXX [country]. The actual meeting of people on the ground and establishing the partnerships with our colleagues at the university there, and then actually talking to stakeholders in community, government and business, made it seem less like an

abstract research project and made it seem more important. I could see the value and I could see people's interest in the work."

However, there was also a few people commented that their motivations did change, in a positive way. For instance, one staff member commented that through the engagement with IM4DC, he has developed interest in regions that he did not consider before.

> *"My interests were previously really Peru and Colombia. But now, I've got involved in Africa, Philippines, Mongolia and Indonesia, and my eyes have been opened to all the interesting things going on now. If there is another IM4DC, I would be looking for opportunities following up and getting more involved in some African and Asia-Pacific areas."*

Another staff member commented on the change of perceptions about the network and connection being built as a result of IM4DC involvement. She suggested that along the way she gradually developed the sense of being part of a much larger community who collectively makes things happen, and this has motivated her to engage more.

> *"Definitely, my personal motivation to begin with was to expand my own networks. I guess it was like to learn what others did. I really wanted teamwork, to actually feel as part of a team, and I think at that time I saw the team as the immediate people who were all involved in the program. That has changed in that I now see the team as a much larger group of researchers in the university, I would even argue [the team includes] IM4DC and some of UQ."*

3.2 Stage 2: Input

Having understood staff's motivation to engage with IM4DC, we were interested in understanding what personal resources that staff had brought along and invested into the design and delivery of IM4DC activities. This is the section that addresses the second stage – input, in the logical model.

Findings reported in this section were drawn from both the survey and the interview. We present these findings in several subsections. First, we discuss the intellectual input such as knowledge and skills that staff have brought in. Second, we present the social capital that they drew from, especially in terms of leveraging the contacts and resources in their professional network. Third, we discuss the in-kind contribution that staff invested in delivering the projects.

3.2.1 Intellectual

In the survey we asked staff to report the knowledge that they had drawn on to deliver IM4DC activities. Individuals often commented on contributing knowledge in *specific area of expertise* that they specialised in, such as safety, sustainability, mining and mineral knowledge, among others.

> *"I used my own expertise area with a variety of safety management techniques, based on work in consultancy, research, and teaching at universities."*

"My expertise area of environmental chemistry particularly in heavy metal and metalloid contaminants in water and sediment has been applied in the action research project to deliver the research outcomes for IM4DC program."

"I have drawn from 20 years' experience in the mining industry, particularly in the areas of mineral resource optimisation and planning."

"I have drawn on my previous research, CSRM research and research by other Australian academics."

Staff also spoke about using their industry and field work that they had done. With industry and applied experience they could contribute best practice and address industry challenges, while others stated that their industry knowledge allowed them to connect to people and understand their needs:

"I utilised my industry knowledge around current best practice as well as current industry challenges to best practice."

"I have drawn on my own knowledge, but also the knowledge of others with specialist expertise outside my own areas who work at the university. This knowledge is a combination of theoretical knowledge and practical knowledge based on my industry experience."

"My research and training activities have drawn upon the 10 years' experience I have working in West Africa in collaboration with industry and the geological surveys and universities in the region."

"I have drawn from areas of expertise in mining and human development, my African background and also field experience as well as the interest to interact with people from different backgrounds."

3.2.2 Social network

In the online survey we asked staff whether they used their professional networks to design and deliver IM4DC activities. We drafted a list of options and allowed staff to tick all that applied. Many staff members ticked all options. The final count is reported in Figure 6. It appears that colleagues in their own school/department (N = 27) and industry partners (N = 25) were among the most frequently sought contacts. Additionally, government contacts were often approached (N = 21). In general a wide range of social capital has been used to deliver IM4DC activities, and a relatively good balance in the employment of academic, industry and government personnel was observed.

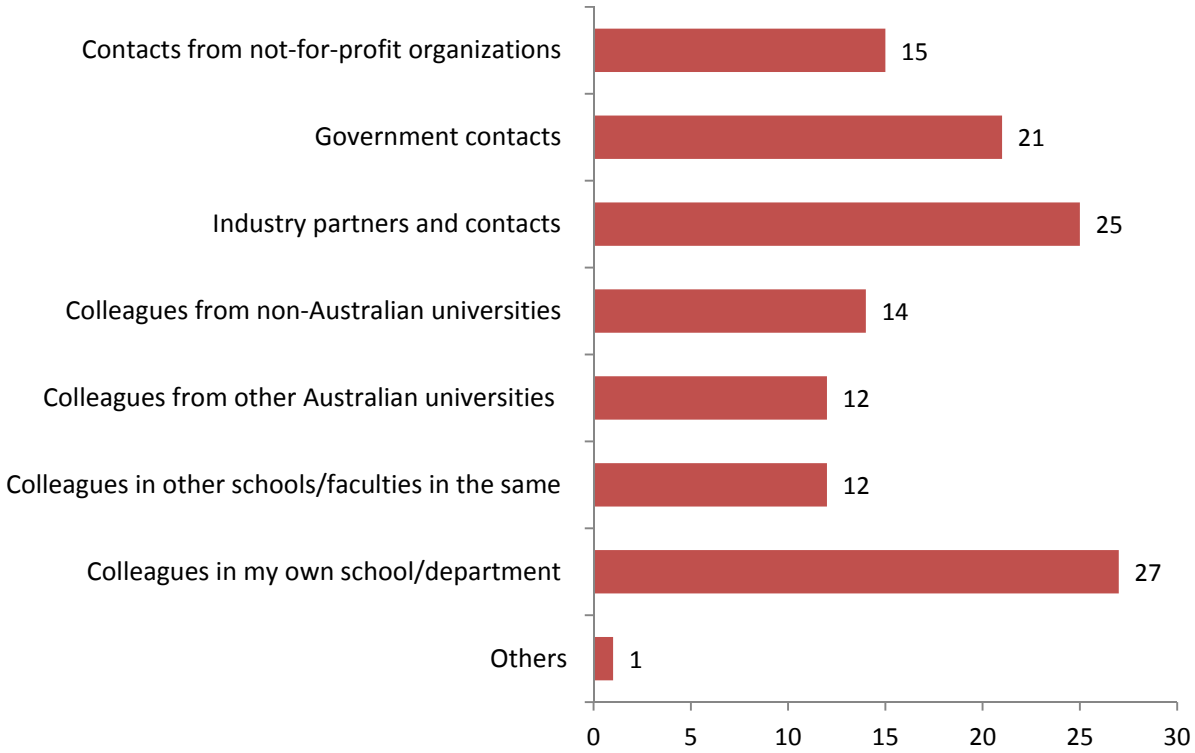

Figure 6: Professional networks used to design and deliver IM4DC activities

We also briefly address people's drawing of social network in program delivery during the interview, and a few staff members provided specific example of contacts that they drew from:

> *"A couple of the people I work with from outside of the faculty and from internationally have come in and assisted, so it hasn't just been me...I have brought national and international colleagues, because it was a little bit too much for me to do on my own and actually it's the best practice to use more than one trainer."*
>
> *"Putting together these study tours requires dealing with visiting mine sites. You need to draw on networks there if you want to get access to mine sites. We explored all, we utilised all of our networks as a team here at the University of Queensland. Networks in companies, networks in state government, networks in academia, guest speakers, networks in consultancies. We had to really pull all the stops, amongst all of us here, to be able to find the right people to deliver on those areas."*

3.2.3 Financial

In terms of the financial input, we understand that the majority of the financial input invested in delivering the actual IM4DC activities comes from IM4DC. However, we were interested in understanding whether staff were able to leverage other funding opportunities. We found this was indeed the case with several staff members. Examples as below demonstrate that staff were creative

and proactive in soliciting and acquiring additional funding sources, such as other grants, universities, industry, among others to contribute to IM4DC activities.

> *"Funding from ARC Discovery grant was used to help conduct and analyse interviews with IM4DC participants. Perhaps estimated at approximately 5K value."*
>
> *"[Acquired] funding from XXXX [local] University to run the Water in Mining summer school (AUSD 20K)."*
>
> *"I leveraged support from CARE Peru for an IM4DC funded workshop so that 4 additional participants from outside Peru could travel there and participate in the four day workshop."*
>
> *"The Peru action research on abandoned mines has benefited greatly from our connection with University of Technology (UTEC) in Lima. They have helped with IM4DC workshops and have arranged site visits for us."*
>
> *"We attracted industry participation to the GIS training course in Ouagadougou that raised additional funds for the course. Estimated total $5000."*
>
> *"Funding from ANDI (Colombian industry association) to support travel from Colombia to Peru for action research workshop."*

3.2.4 In-Kind

In the survey we also asked participants to report the in-kind contribution they provided in delivering IM4DC activities. The in-kind contribution refers to the contribution that is not covered by project grants. A wide range of in-kind support was reported, with *leveraging own network* and *spending time beyond the project scope* being most often mentioned type of in-kind support. We report people's responses in each category as below.

It should be noted that some slight overlap can be observed. For instance, a few staff members commented on leveraging their personal networks and resources, which has been covered in the previous section. Despite of this, we would like to report the in-kind support separately here as it is useful to know what are considered by staff as in-kind contribution.

- **Senior staff's time in providing supervision and quality assurance.** Individuals spoke about involving senior staff members' time in supervising action research projects, for example, providing advice, planning field work, conducting interviews, helping access resources, reviewing drafts, among others.

- **Staff and students' time to provide support.** This included providing advice and coaching in assisting alumni to complete their projects.

- **Share developed curriculum and course materials to alumni in support of their teaching and research.** Many staff spoke about supporting alumni's teaching and research, such as sharing power-point lecture slides and course notes to facilitate learning. For example, some staff stated:

"I have provided the Structural Geophysics course notes and practical exercises to all participants of the training course."

"Most presentations have been pro bono and material has been shared with alumni."

- **Leverage own network and connections (academically and industry-wise).** Several staff members spoke about leveraging own networks and connection to support the delivery of IM4DC programs.

  "I Leveraged networks in Cape Town to support IM4DC leadership program there."

  "My networks in anthropology, particularly in areas of water justice/working with Indigenous societies, facilitated my interactions with academics in Peru."

- **Invest time to interact with IM4DC and/or program alumni (e.g. keeping in touch via emails, attending workshops, conferences etc.).** Individuals took time to meet with IM4DC visitors, and took time to communicate with them and share their knowledge.

  "I take time to meet with IM4DC visitors at receptions to learn about their roles in their respective countries and organizations and to make them feel that they are getting value for their effort in coming to UQ."

  "I have invested time in advising and helping participants which continues via email."

- **Provide accommodation, meals, space, facility and other on-site logistics support.** It was mentioned that staff provided meals, organised dinners/BBQs, and invited IM4DC participants to community events.

- **IT support (e.g. software, hosting service).** A few staff spoke about offering IT support, such as providing laptops and particular software.

- **Translation / interpreting service.** Some staff spoke about providing translating services to alumni to help facilitate learning.

  "I provided translation services for a group of Latin America civil society leaders that visited Australia as part of one of the IM4DC courses."

Such in-kind contribution was also mentioned in interviews. One staff commented the following:

"There's certainly an in-kind dimension to some of the courses we put together. What I mean by that is we will have people that will help, give guest lectures and sometimes, you know, presentations, they may not be paid."

3.3 Stage 3: Engagement

In this section we focus on participants' actual engagement in IM4DC activities. Given that IM4DC has a full record of this level of information, we will only briefly present participants' length of involvement and the distribution of different types of IM4DC activities that that they engaged in. This section addresses the third stage – engagement in the model.

3.3.1 Length of involvement

In the survey we asked participants about their length of involvement with IM4DC (i.e. when they started working with IM4DC). There was a range of duration of involvement, with an average of 26 months (SD = 9 months) up till March 2015 when this report is finalised. The duration ranged from 3 months to 39 months, indicating a rather large and varied range of involvement.

3.3.2 Scope and depth of involvement

We also asked staff members what IM4DC activities they were involved in, based on four main categories of activities that have been identified by IM4DC: Educational Programs (in Australia), Educational Programs (outside of Australia), Action Research Programs, and Fellowships.

Participants can tick all categories that applied to them, and were also allowed to enter additional programs that they engaged in. As can be seen from Figure 7, participants engaged most frequently in action research programs and Educational Programs (in Australia). Some reported additional programs beyond these four categories, including: commissioned research project, student support project, development of educational tools, scoping studies, development of learning modules, among others.

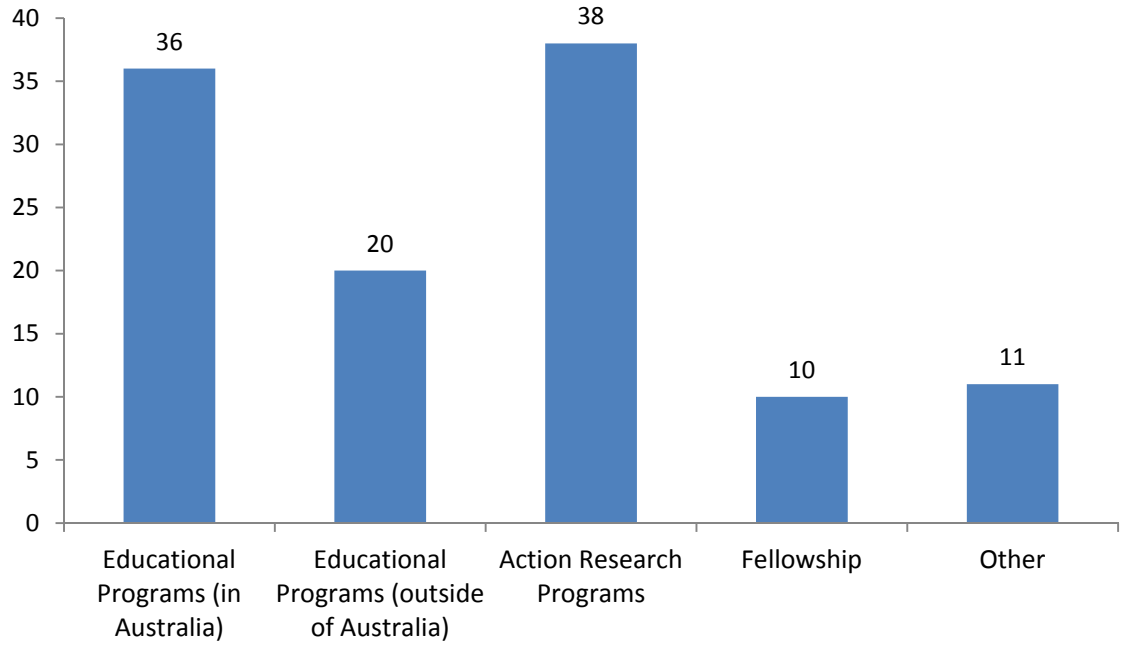

Figure 7: IM4DC activities staff have been involved in

Individuals were also asked to report how many of each of the four main IM4DC programs they engaged in. A total of 89 Education Programs (in Australia), 49 Educational Programs (outside of Australia), 76 Action Research Programs, and 16 Fellowships were reported by 53 alumni. This worked out to be 2.75 Educational Programs (in Australia), 2.4 Educational Programs (outside of Australia), 2.05 Action Research Programs and 1.6 Fellowships involvement per person. It should be noted that usually each IM4DC activity was delivered by several staff collaboratively, rather than by one person independently, thus the data reported here merely represents how broadly every staff member was involved across different activities.

3.4 Stage 4: Output

In the survey and interviews we asked participants the outputs of their involvement in IM4DC activities as represented in four aspects: *intellectual* benefits in terms of knowledge generation; *reputational* benefits as represented in research disseminations; *financial* benefits as in the additional funding they have obtained, and *social* benefits in terms of enriched and newly formed social networks. Along with this, we also consider individuals' perceived overall value in involvement with the IM4DC programs. This section addresses the fourth stage – output in the model.

3.4.1 Intellectual (Knowledge generation)

Participants reported that they had gained new knowledge as a result of their IM4DC involvement. The most commonly mentioned aspect of knowledge being developed was *cultural/country exposure and knowledge*. Some spoke about understanding cultures in terms of the way they communicate with people in developing nations and what should be expected. Others spoke about developing new knowledge around how these developing nations function, how their policies look like and what practices work best in those contexts. Some example quotes are provided below:

> *"I developed new knowledge based on interactions with participants - cultural understanding of the differences between developing countries in terms of expectations and interactions with large and small mining companies."*
>
> *"The fieldwork provided me with a unique opportunity to work in a context which is fractured by religious identities, socio-economically deprived and with pervasiveness of caste stratification within Hindu faith. It was a learning experience especially in terms of ethical challenges faced during the intense fieldwork."*
>
> *"I have increased learning in XXXX [country] provincial concerns regarding ownership of mineral resources, new knowledge on assessing incidence of poverty/or lack of it by engaging other researchers who have focused on such assessments."*
>
> *"I had zero knowledge before starting. I suppose [I gained] knowledge of the way Africa works or you know African governments might work, the African culture and the way DFAT works. I had no idea how the whole aid thing worked, basically I was a naïve little puppy when I came in and now I know a lot more. "*

Other new knowledge came from understanding country issues and how to work with them. For example peopled talked about the specific challenges facing government and communities. This knowledge had helped them alter their way of thinking and delivering work to individuals from developing countries. Some examples are below:

> *"I developed a deeper understanding of critical stockholder issues and mining in general in the Philippines."*
>
> *"A greater awareness of mineral policy and mining taxation related issues in a large number of developing countries."*
>
> *"I have increased detailed knowledge of specific challenges facing government and communities in resolving social conflict around mining in Peru."*

The remaining respondents spoke about various *professional developments*, such as developing new research methods and changing the way they go about doing their own work.

> *"By being involved in IM4DC activities, I have developed new knowledge which has included theoretical knowledge gained through extensive literature reviews of resource and development literature."*
>
> *"I have developed new research approach and cultural understanding. This adds value into my current research pathways and experience to work with developing countries."*
>
> *"All the IM4DC knowledge has opened up different avenues of seeing where my work applies and knowing and seeing also that my work does have a cross cultural resonance."*

3.4.2 Reputational (Research dissemination)

We are also interested in whether IM4DC work has led to improved reputation for the staff. We consider the reputation in the sense of professional and academic reputation, as most of the staff were involved in research activities. In particular, we asked staff if being involved in IM4DC activities had led to new research publications being generated, such as journal publications, books/book chapters, conferences (both academic and practitioner), and others. As it can be seen from Figure 8, a large number of dissemination activities have been reported. Many of them have actively disseminated their findings from IM4DC projects through internal knowledge sharing and through conferences, and a few of them had already produced high-impact academic publications. Given the relatively short amount of time being involved in IM4DC (i.e. average of 26 months among the staff) while academic publications can take a few years to be produced, these dissemination outcomes can be considered rather significant and can contribute to reputation building not only for individual staff themselves, but for IM4DC and the partnering universities in general. Examples and details about the specific dissemination outputs are reported in Appendix 3.

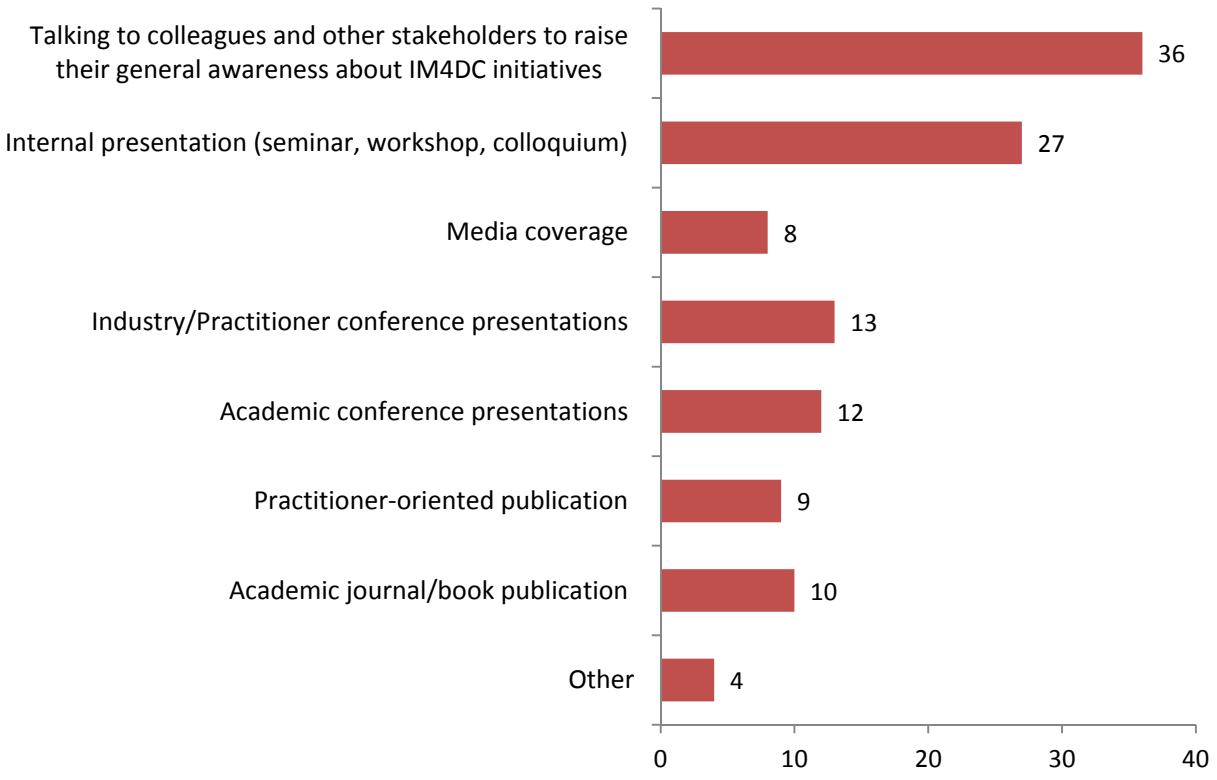

Figure 8: Dissemination activities among IM4DC staff

3.4.3 Financial

Furthermore we would like to understand the financial outcomes achieved by the staff. Obviously, staff had acquired funding from IM4DC to deliver education and research projects and there was clear financial benefits for them in that perspective. However, we intend to understand if the IM4DC-related work provide a foundation for staff to apply and acquire additional funding in order to make a larger impact. Though there were not many examples, we did observe some successful cases where staff engaged others and acquired more funding, building on their work with IM4DC. For instance, two staff stated that they acquired additional funding from other sources for projects related to IM4DC activities. One individual stated that they had acquired roughly US$200,000, while the other acquired funding through the AMIRA International West African Exploration Initiative which supports research and training in West Africa and received around $2,000,000 industry funds. Some example quotes are:

> *"With other researchers, we have secured an Australian Aid fund (AIIRA action research for the Indonesia Infrastructure Initiative) we received roughly $165,000 to date."*

> *"We obtained significant funds through a 50-50% joint venture between IM4DC and the World Bank."*

There were also a number of staff who mentioned that they have applied for funding and are currently waiting for decisions. See some examples below:

"ARC Training Centre application lodged for assessment in 2015 - the total is several million dollars."

"With other researchers, we have submitted a proposal to USAID/Rockefeller foundation to conduct research in East Kalimantan. This research is designed to collaborate with one of the IM4DC alumni in this province. The research will be in several stages, for this stage - the budget is roughly $200,000."

"I am currently awaiting a decision from IM4DC to support the Indonesian Ministry for Energy and Mineral Resources to conduct a collaborative research. The Indonesian government has allocated roughly $100,000 for this research."

"Waiting on decision for Global Resilience grant directly related to IM4DC subject matter from USAID/Rockefeller."

3.4.4 Social (Network building)

Another areas of output that we would like to understand is whether the involvement in IM4DC activities had allowed staff to build, extend and develop social networks, both within their university and broadly with the industry, government and others. We asked staff to report whether IM4DC involvement has led to forming new collaborations and staff were asked to tick all the types of collaboration that applied to them. As reported in Figure 9, a wide range of new collaborations have been formed through staff's IM4DC involvement, especially with colleagues from non-Australian universities (N = 19) and with government (N = 18). There was also a substantial relationship building with industry partners (N = 14). This provides evidence that IM4DC activities not only strengthened our social networks with IM4DC program alumni, but also expanded our in-country professional networks.

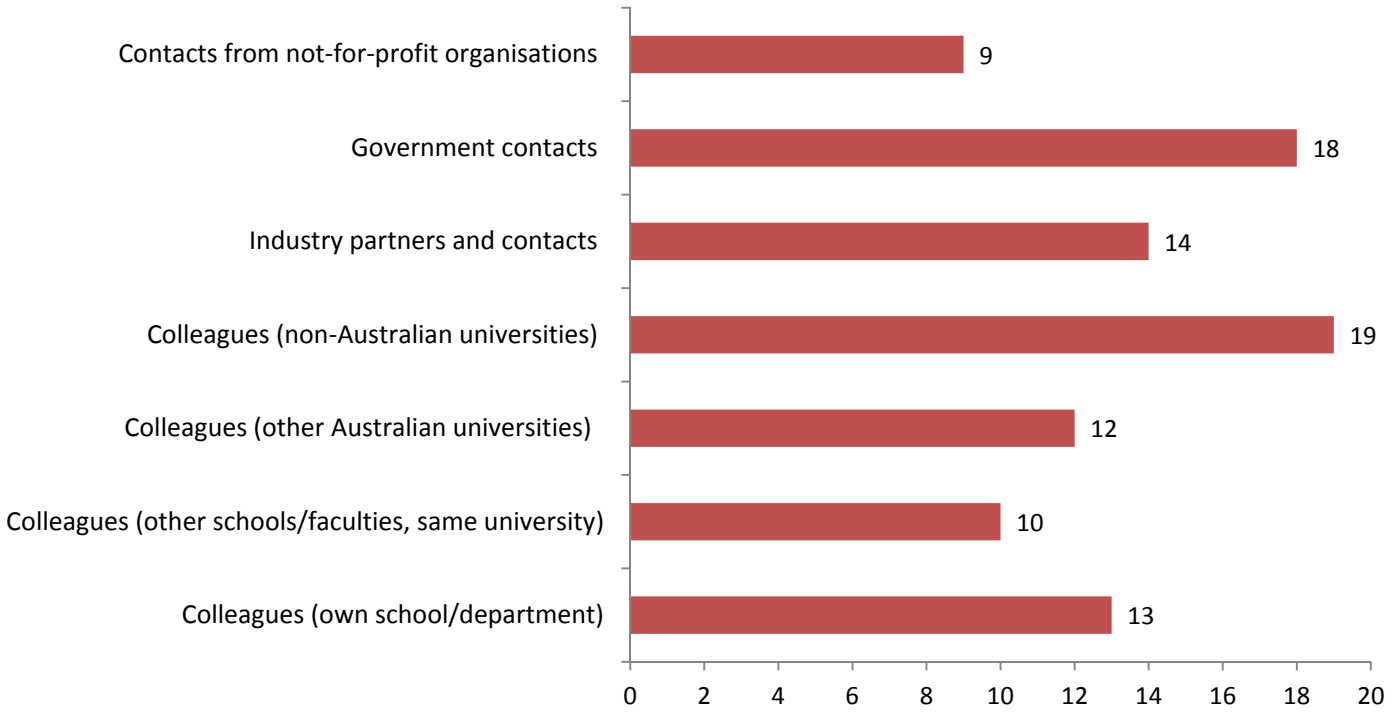

Figure 9: Various network building/collaborations formed through staff's IM4DC involvement

We also asked staff to provide more details about their newly formed relationships in the survey and the interview. The findings from this qualitative information confirm the significant level of relationships and networks being built.

For instance, some staff commented on their *newly formed or strengthened relationship with government, industry, and other civil organisations*, both in Australia and overseas.

> *"There are people that were in state government in the Department of Natural Resources and Mines that I didn't previously know, and through IM4DC I was able to become quite friendly with them. There were obviously the mining companies; we've got some contacts there now that we continue to maintain relationships with."*
>
> *"You're making very good connections through these people. These are people who are in government and civil societies. They're the people on the ground who are influential, actively involved in mining for development issues. And here we are sitting in this university, where we have great access to network with these people, who then in turn look up to us as leaders in this, as a source of information and wisdom on development issues."*
>
> *"I have established networks with governments, civil society, academics, and industry in Rwanda, Ethiopia, Uganda, Mozambique, Nigeria, Liberia and Madagascar."*

There is *also a strengthened network with academics, researchers and community of practice groups both in Australia and in other countries*. Some of these established networks have already contributed to knowledge transfer and collaborations, while some have built a solid foundation for staff's future work.

> *"[The newly developed network was] particularly in XXXX [country] because this is how I've engaged mainly. [The contact] was originally on the study tour. He and I have become quite good friends. He stayed with my family for a weekend. We have planned future projects together. So whether or not anything happens straight away, long term we will have those networks, I will have those networks in XXXX [country]. His think tank organisation, his research group, we have access to work with them. And of course, there's civil society people who we've made contact with. It's a great set of contacts and a big network that I've now got access to, which was a direct result of IM4DC."*
>
> *"Collaboration with the XXXX and XXXX University in Zambia has been successful. This has been from a skills transfer perspective to the Zambian Universities. There has also been good collaboration with the Zambian Department of Mines Safety."*
>
> *"Developed linkages with experts in the field in University of Queensland, ANU and AIIA. Also enabled me to link up with the Chief Minister' Policy Reform Unit in XXXX [country]."*

Some staff also commented briefly that their strengthened network has already led to collaborations and publications, which suggest positive and concrete impact of these relationships. For instance:

"IM4DC co-funded the summer school so we made that possible and as part of that trip, had numerous visits to the university, to the national agency of mines…the collaboration with XXXX University has resulted in our publication already and continuing discussions about setting up a potential research centre based in national university."

"We are now working with our network at the University of XXXX and the DRC observer in Australia to start a training program to be conducted in the Katanga region."

"Developed collaboration for research with XXXX's Centre for Economic and Social Development."

We are also interested in understanding whether contacts with alumni from the educational have been maintained by the staff; therefore we designed a question to ask staff tick the types of communications they have sustained with alumni after completing these programs. It was found that most contact was via emails and phone calls (N=21) and continuous on-going support (e.g. coaching, answering inquires) (N=19). Other types of contacts include meeting with alumni in conferences (N=15) and visiting alumni in their country (N=7). Particularly promising was that 12 staff stated they had built more effective professional collaboration with alumni, such as collaborating in research or consulting projects, or resulting in alumni pursuing further study and reconnecting with Australia universities. For instance:

"A research partnership with IM4DC alumnus XXXX [name] will begin in January 2015 for a one year research project funded by DFID."

"We held a water and mining knowledge exchange event here and a few months after that, we held an action research project workshop in XXXX [country]. And a couple of the people who were here at the water and mining knowledge exchange event also participated in the event and both of them have now applied to do a PhD."

3.4.5 Overall values of involvement

Besides intellectual, reputational, financial, and social benefits, we were interested in how staff perceived the overall value of their involvement in IM4DC projects. In the survey, we developed a wide range of options about perceived overall values for staff to indicate to what extent they agree, with 1 indicating strongly disagree and 5 indicating strongly agree. Figure 10 displays the mean scores for each of these options.

As it can be seen from Figure 10, the highest rated statements were "gain personal satisfaction from being involved" (Mean = 4.74) and "develop relationships with overseas government/industries" (Mean = 4.67). These were also the two statements that people's perceptions converge most (as represented by the smaller range of error bars). In comparison, the perceived values of "build linkages with colleagues in other Australian universities" and "develop relationships with Australian government/industry" were rated relatively lower. This result is not surprising, as the IM4DC activities directly created opportunities for Australian academics, researchers, and university staff to connect to and work with mining-related professionals in developing nations overseas.

Comparatively, more could have been done to build better linkages and collaborations within Australia, such as encouraging academics to work across institutes and to partner with industry in delivering IM4DC projects.

Other benefits that staff have indicated beyond the options provided in the list included: gaining experience, exchange on knowledge, making universities more practical/applied and enabling developing countries to have a forum and voice in expressing their concerns regarding development issues.

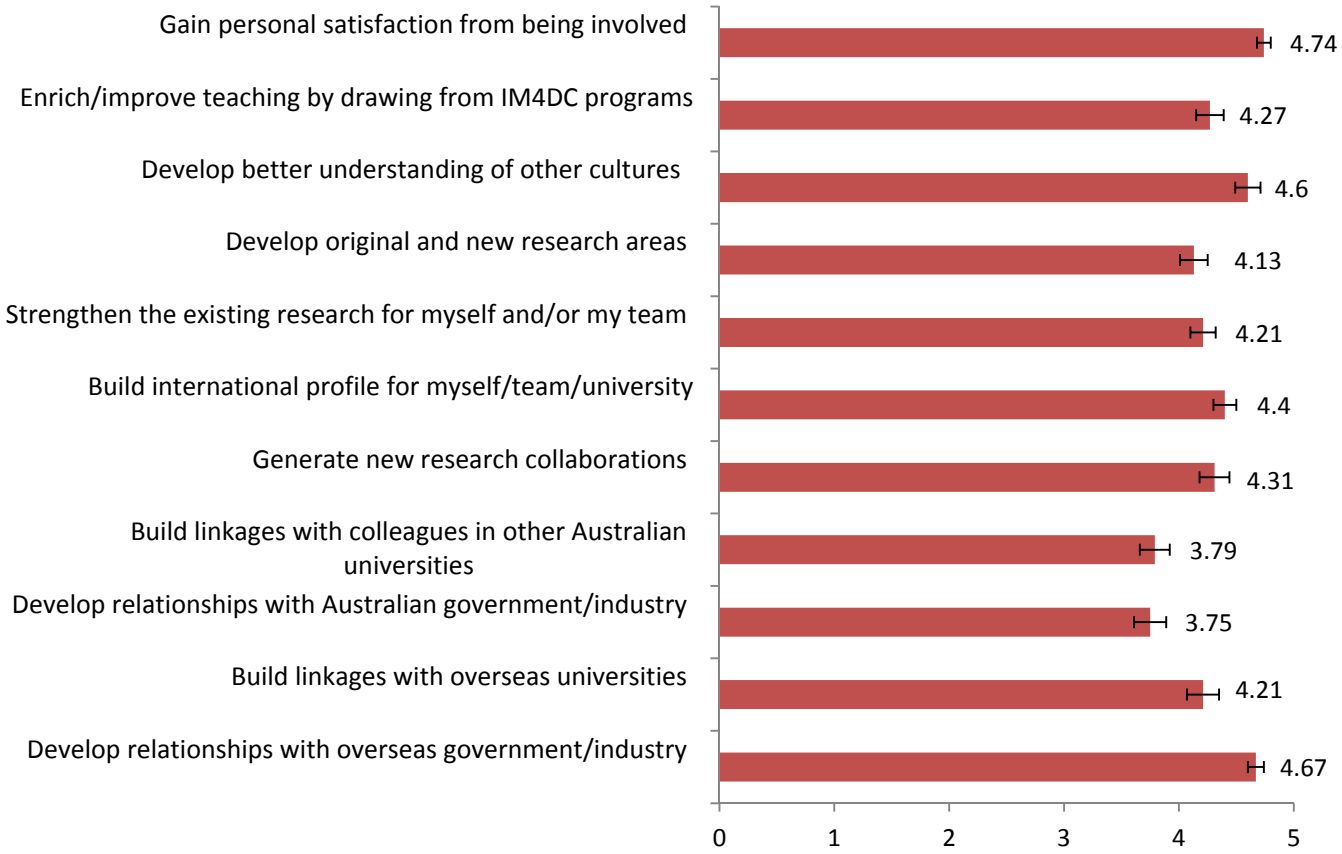

Figure 10: Rating of value of involvement statements with IM4DC programs

Below we provide some specific quotes in terms of staff members' perceived values in involving in specific IM4DC activities. We will separately present the perceived values with educational programs (in Australia), educational programs (outside of Australia), action research projects and fellowships.

Educational Programs (in Australia). The most common values gained from being involved in the educational programs (in Australia) was stated as network/relationship building, sharing expertise and learning.

- *Building relationships/networks:* Many staff members stated that having opportunities to build professional relationships with people from developing countries was of value to them:

"Opportunities to connect with professionals with a range of different experiences in dealing with the social problems related to mining and development - this has been personally enlightening and inspiring."

"In addition to financial fund to my Centre, the opportunity that the program provides in terms of networking with others is valuable as this has enabled on-going communications which may lead to some research collaborations in the future."

- *Sharing expertise/validating own work:* Staff found that another significant value of being involved with the educational programs was the recognition of their own work and the opportunity to share their knowledge in teaching and research:

  "The programs provided the opportunity for me to show the situation related to health and safety in the minerals industry in Australia."

  "I got the recognition that the research I'm doing is very much needed and valued overseas even if not yet recognised in Australia."

- *Learning:* This was another frequently mentioned personal value of involvement with educational programs. A lot of staff stated that they had to opportunity to learn new skills and experience unique projects that they have not hand a chance to do before.

  "I got the opportunity to get to know and learn from people from vastly different countries. Find out together which approaches to safety applied in Australia would also apply elsewhere"

  "The IM4DC students come from a diverse disciplinary, educational, cultural and organisational and socio economic and political background. That was a unique experience for me. The preparation of teaching materials and interaction with participants helped me to look at some of the subjects at a deeper level and from a very different perspective."

Educational Programs (outside of Australia). In regards to education programs (outside of Australia) individuals stated that the value of involvement they gained from these programs was focused around learning and relationship/network building, which are similarly to the values gained from educational programs within Australia.

- *Learning:* The most mentioned value of involvement from these educational programs was the new and unique experiences that individuals expressed. Many staff members commented about the increased learning of difficulties facing developing countries. Other spoke about undergoing new projects and issues they had never faced before.

  "I experienced first-hand the situation for mining regulators, industries and academics in the countries of origin provided me with an increased understanding of the opportunities and difficulties of working in developing countries."

  "Being involved in this program has value for me in allowing me to be exposed to regional development issues in a region I might not have had a chance to visit otherwise."

- *Building relationships/networks:* Professional relationship building and networking was seen as another value of involvement with educational programs outside of Australia. Some staff have turned these relationships into meaningful collaborations, while others have maintained professional relationships**.**

> *"The training course I taught in XXXX [country] gave me access to government, industry and civil society contacts, which enabled my research on community aspects of mining in XXXX [country]."*
>
> *"It has given me the chance to build alumni networks and build teaching collaborations with overseas partners."*

Action Research Projects. In regards to values of involvement in action research projects, staff stated that applying theory into practice, developing connections/networks, gaining experience and providing funding for research were of biggest value to them.

- *Applying theory into practice:* Many staff indicated that having the opportunity to apply their theoretical aspect of research into global practices is one of the key values they gained from action research projects. For example:

> *"As a research student, the grant offered me the privilege not only to focus on theoretical aspect of my research but also to apply my research to a real case study."*
>
> *"The application of research undertaken in Australia drawing upon global leading practices applied in a developing country. Fantastic to see how it can be applied and also the different elements which need to be included in the next phase of my research to meet areas of need."*

- *Building relationships/networks:* Like with the educational programs, staff stated that a significant value of action research projects was the development of connections and professional relationships.

> *"It enabled me to widen my networks, both with [my] university, across other universities and with other industry and government groups. Also strengthened research relationships across disciplines and within my own discipline within my university."*
>
> *"Being involved in the IM4DC action research project in 2014, I have gained a great opportunity to establish the environmental research collaboration program with researchers and government development authority officers in the XXXX [region], the Philippines. The project also provided us a platform to identify current and future needs and issues related to environmental sustainability of the XXXX [region]."*

- *Providing funding for research:* The action research projects served as a good source of funding and allowed staff to progress and carry out meaningful research projects, which could have been difficult otherwise.

"The research projects have been helpful in terms of progressing some interesting research. They have also been a very useful form of funding at a time when it is very tough to get external funding."

"The action research projects provided extremely valuable funding for field visits to mines In Mozambique and Tanzania, which enabled me to conduct original research in an under-explored area."

- *Offering different perspectives:* Some staff stated that action research projects were beneficial in providing them the opportunity to take fresh perspectives in developing new conceptualisations.

"The action research projects that I have been involved with, have provided excellent opportunity for me to travel and visit field sites in remote areas, meet communities, and get a completely different perspective of the issues and possibilities. Throughout my career I have travelled to many places for research and consulting projects. But, the IM4DC experience was different because I was not working under pressure from clients. I was thinking freely, observing, discussing and initiating new research collaborations."

Fellowships. Given that not many staff were involved in fellowship programs, the comments provided on this type of IM4DC activity were relatively less. The most commonly mentioned aspect of benefits with IM4DC fellowships concerns the opportunity to network and closely engage with people from other countries, and these connections were considered as building good foundations for potential future collaborations.

"The fellowship gave an opportunity to develop a deeper relationship with one individual who I am now doing research with and whose country I will soon be visiting. I hope this will result in some research opportunities."

"Opportunity to work closely with distinguished fellow, exchange ideas, and build on the relationship to come up with future collaboration. Currently progressing on a short training course to be conducted in the Democratic Republic Congo."

3.5 Stage 5: Impact

Finally we intend to understand the last stage of the logical model, that is, the broad impact that involvement in IM4DC activities has achieved beyond the immediate positive outcomes for individual staff members. This question is best addressed in interviews where we could ask people to articulate in great details about these impacts, based on their personal experience and observations. In the interview, we asked staff three areas of impact, and we report our findings on these areas respectively.

1. What was the impact for the universities as a result of their involvement in IM4DC activities?
2. How did IM4DC activities contribute to Australia as a whole?
3. How were the community of practice impacted by staff's involvement in IM4DC activities?

3.5.1 Impact for university

In terms of the impact that IM4DC activities have brought in for universities, staff commented several aspects of benefits including: *expanding research collaboration internationally*, *enhancing reputation*, *attracting high-quality staff and students, and improving education*. These aspects are well aligned with universities' key missions.

- **Expanding research collaboration internationally.** Many individuals mentioned that involvement with IM4DC meant that more research networks were created and that their work has achieved a more international and widespread focus. Other staff spoke about IM4DC projects allowing the university to more closely engage with key academics from other countries and with diverse background.

  > *"It has delivered to us, to research partners, including University of Queensland and University of Zambia [and among others]. At the very minimum it creates more research networks and then through that people then get different funding opportunities and they let their partners know, so there may be ones that people would not have got otherwise."*
  >
  > *"'[The IM4DC involvement is] enabling the staff to do better work and do more international focus to their work, so I think that's been a great benefit… the international aspect and taking us further up the field than we would normally do."*
  >
  > *"I think it's certainly giving us an opportunity to actually work more closely with the key people in the priority countries where IM4DC is operating, and take the knowledge and experience that we have to work with the countries, and not only provide them with some insights into some mining development in their countries but also I'm sure we learned from that as well in terms of experiencing and understanding some of how they had to deal with mining development…it's been beneficial in the reach of where our research was going, it has been beneficial on the financial sense definitely. It has allowed us to do work which we wouldn't have been able to do otherwise and hopefully delivered good outcomes…it's a two-way stream and I am sure we have learnt a lot from dealing with those people."*
  >
  > *"'Well, I think clearly the opportunity to seek out engagement or to obtain research engagement with people in a diverse range of countries we would never have opportunities to engage with. Whether it's Myanmar or Sierra Leone or Ghana, we would have, we do engage with academics from those countries and students, but certainly there are countries there where we probably would have never had access to. I think that it's being exposed to these people who are the key players in the extractives for development space in these countries. It's very hard to get that access."*

- **Enhancing university reputation.** Some staff members spoke about IM4DC involvement contributing positively to the universities' reputation, as IM4DC activities attracted influential professionals and government officials to learn about Australian universities.

Besides, doing good work for developing nations can enhance universities' reputation and impact.

> *"The number of professionals and government people and academics in the Philippines that learned about UQ through IM4DC is huge. There are a lot of these people that come to UQ through IM4DC, through training, through other things, and are all part of a big umbrella of thinking... So UQ has become a like a magnet for people who want to learn about mining in the Philippines…not only Philippines but also Zambia and…UQ is number one for these people who want to learn about sustainable mining…and it's a big reputation building."*

> *"I think for the university it must have a positive reputation or impact…I'm a great believer in unintended spinoffs that you can't always anticipate at a time, but if you've got these good relationships things often flow. There's lots of valuable research opportunities that are coming out of these as well, so I guess there's the broader reputation of doing good things in the space and then it's probably helping indirectly the research of the university through these more idiosyncratic and unpredictable opportunities that's going to merge out of these sorts of things."*

- **Attracting higher quality staff.** Two staff further commented that IM4DC opportunities have allowed the university to recruit internationally leading academics and high-quality students to work on impactful research projects. For instance,

> *"It has really helped to recruit people from overseas who are motivated by the developing countries program….it helps us to recruit students mostly because of the networks you formed and because the kind of problems are very attractive…so it allows us to attract good staff and students."*

- **Improved/innovative education.** There is also a comment about how the learning in IM4DC activities could potentially be transferred broadly to universities so as to provide better and more innovative ways of education, such as by facilitating academics to better engage with industry and building a community of practice.

> *"I think that the challenges that we are facing to deliver these programs to make them successful, to make them sustainable are probably like a little micro version of some of the challenges that the university has, so in some ways maybe it's like the essence of what's working for us could be transferred to, these learning could be transferred to the university in other ways… how do we actually properly partner with the industry rather than just tell them what to do? How do we actually listen to them and have those deeper relationships? How do we stop thinking about just short-term stuff and move to broader impact of those people who are directly related to us? How do we get academics to want to actually engage in the whole practical translation activities? How can we have our subject matter experts deliver small components of courses so that the university has an ability to engage with more people… if we tie the learning in those pieces and we build programs around them? I guess it's more innovative ways of providing education."*

3.5.2 Impact for Australia

In terms of the impact IM4DC activities have generated for Australia as a whole, we solicited staff's inputs during interviews and summarised their comments as below. In particular, the main benefits for Australia that have been suggested include enhancing national reputation, building positive relationships with future leaders in other countries, building national capacity for Australia, and fulfilling social responsibilities.

- **Enhancing national reputation** is a frequently mentioned area of impact for Australia. By providing education to a wide range of developing nations across continents, the IM4DC activities can allow Australia to be perceived as a leader in mining-related knowledge and practice. This not only draws people, with current and future national leaders included, to connect with Australia, but also produces positive and long-lasting flow-on effect for future collaborations with those developing nations. Some example quotes are:

  > *"I would say that the IM4DC activities clearly give an impression amongst the key players in the extractives industries in a very, very wide range of countries that Australia is a leader in responsible resource extraction and governance."*
  >
  > *"I think reputation, national reputation and various services that Australia can offer [is the main impact to the country]. A lot of the feedback we have had from the people on the courses has been the value of what we are teaching them and the importance of expertise that we have and our experiences in Australia to transfer over to their countries…and access to some of the best universities in the world, you know universities like UQ and UWA are magnets for some of the best scientists and researchers around the world to come to."*
  >
  > *"'From my experience working in this area of responsible resource governance and social responsibility, the world's leaders in this field are Australian companies. And they're the first, they're advancing human rights agendas, they are sharing benefits with indigenous peoples and poor people, they are trying their best to promote sustainable development that the mining projects lead. And I think that all these hundreds and hundreds of people who are influential in their own countries come through the IM4DC program and they leave and there's no question about it, they know that Australia is where they would look to in the future if they were the Minister of Mines for reassurance that an Australian company or an Australian organisation would generally be doing the right thing and would be a good choice for them to partner with."*

- **Building positive relationships with next generation of leaders in other countries.** Related to the first point, some staff specifically commented on the fact that IM4DC activities provide solid foundation for building and strengthening relationships with high-potential and future leaders in other countries. Some IM4DC alumni have the potential to rise to influential positions in their home country, and the positive experiences that they obtained in Australia are likely to encourage them to collaborate with Australia once they are in those important roles. This can produce long-term effect for Australia's economy and society in the future. An example quote is:

"Take it from an Australian point of view, it's an investment in establishing good relationships with these countries, especially where mining is the focus…the fact that we have been working with people not only in senior government positions, but there has also been rising stars, younger people who are likely to get to leadership roles, and if they do, they'd remember the positive experiences coming into Australia and being involved with IM4DC."

- **Building national capacity:** Several staff members pointed that capacity building is a two-way process, thus while we are building the capacity of the developing nations through the IM4DC activities, this journey also allows Australia to learn from our experience and learn from other countries, which helps to build our national capacity and enables us to make more effective polices and investment strategies. For instance people commented:

  "Lots of the issues facing [developing countries] are not completely unlike the issues we face here with mining; they are just on a different scale. So I think that helps Australia to get another perspective on its own political and policy and investment issues…also I think it would help direct investment and policy decisions that the Australia makes."

  "I also think that by educating capacity building in Africa we are building our own capacity as well, and as you like to see more of that, I think Africa were far more ahead of us in some of the stuff they are doing, so I think we can greatly benefit from it if we bring some of the lessons that we are learning by assisting them back here."

  Another staff also commented on building Australia capability, though with a slightly different perspective. This person comes from a broader social perspective and believes that the IM4DC engagement provides a working model in terms of facilitating academics and practitioners to work together effectively, which will ultimately lead to a better society.

  "If we have academics and now practitioners working together, improving practice and doing these things then we live in a more economically prosperous society from that. Hopefully, we make reforms and we make decisions as a society…that makes us world citizens and that makes as better as a society."

- **Fulfilling social responsibility:** This was mentioned by one staff member who believed that we fulfil our social responsibility as a developed nation, through investing and inputting in IM4DC activities.

  "'I think it is providing that kind of international collaboration and less isolation and awareness that we are mining as part of the global village and so it is stepping up our responsibility, because we have got comparatively a lot of resources and privilege to do that. So I think here is some responsibility there to be able to play a part in helping address inequities."

3.5.3 Impact for community of practice

Finally we asked interviewees to comment on if they have observed any positive impact that IM4DC activities had produced for their community of practice. That is, whether their community (either

academic or practitioner) had benefited from their involvement in IM4DC activities. Many considered that *generating and disseminating professional knowledge to* the wider community as an immediate benefit, for instance, people commented:

> *"There are industry conferences that we present the outcomes of IM4DC and so increased knowledge generally amongst these organisations."*
>
> *"Certainly in the mediation community … our communities practice could really benefit and also the way we engage with industry and the way there is a lot of linkup between the law school and the profession and the mining companies… those avenues are being opened up through IM4DC."*

Relatively few other benefits have been mentioned. One staff commented that she contributed to her profession by introducing an alumnus to serve on the international committee of a large academic association in her field.

> *"A good example would be you know the Academy of Management and we established this international committee as part of the XXX division and they needed someone from Africa so I suggested … [omitted for confidentiality] and she said yes so she's now in International Committee… so that's all about trying to make that professional body more international and it's very difficult for people to find."*

4. Finding Part 2: University's Value Proposition in Delivering IM4DC Programs

The last question of this evaluation is to solicit input from program deliverers about their perceived benefits and unique value propositions that university have in terms of delivering IM4DC activities.

Through collating staff's feedback in the reflection workshop in July 2014, we summarised people's feedback into several broad categories, and we included these options in the online survey so that people can respond their level of agreement using a 1-5 Likert Scale (with 1 indicating strongly disagree and 5 indicating strongly agree). Figure 11 displays the mean scores for each statement. We also use the error bars to indicate the range of responses.

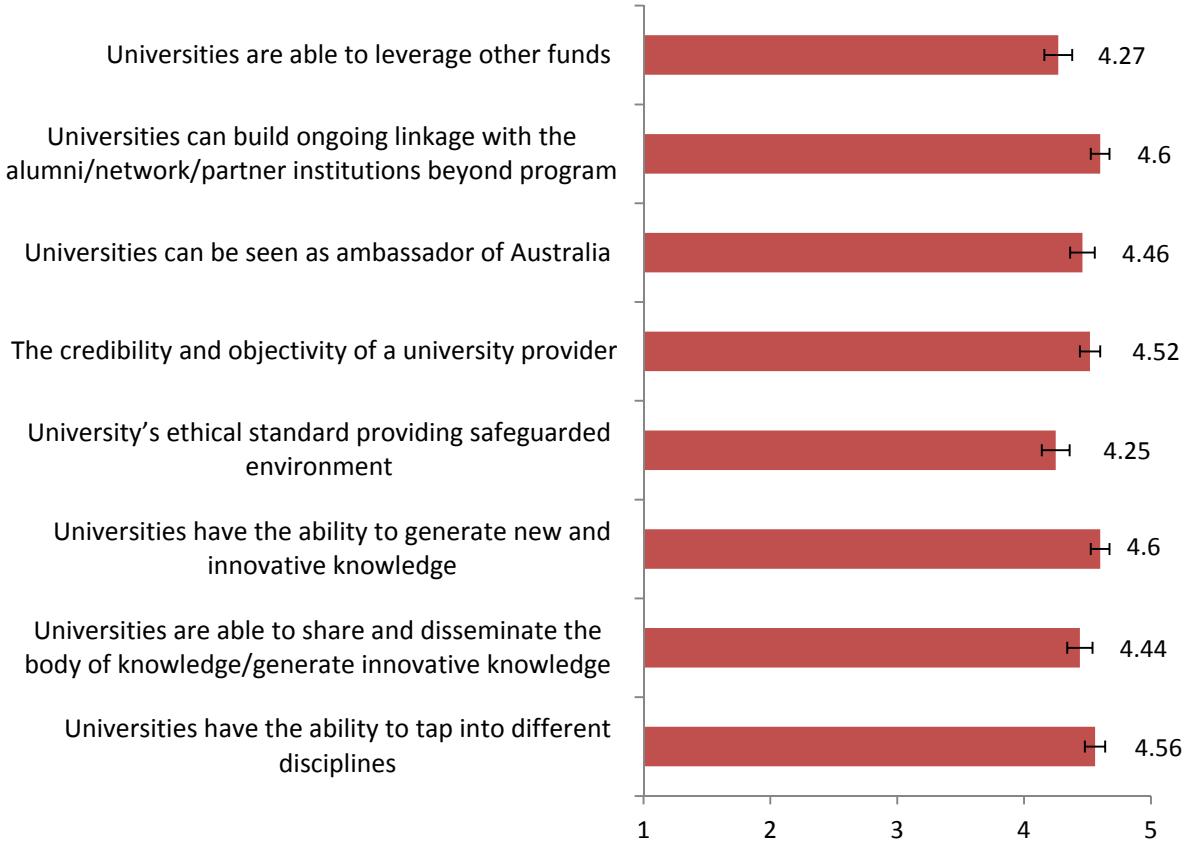

Figure 11: Average rating for each value proposition of delivering IM4DC activities by universities

As it can be seen in the above figure, there is a generally strong agreement on all statements. Among them, the most strongly agreed statements are:

1. *Universities can build ongoing linkage with the alumni/network/partner institutions beyond the program* (Mean = 4.6, SD = 0.53)
2. *Universities have the ability to generate new and innovative knowledge* (Mean = 4.6, SD = 0.53)
3. *Universities have the ability to tap into different disciplines* (Mean = 4.56, SD = 0.57)

These areas clearly tap the distinct missions and strengths of universities. First, universities are dedicated to providing ongoing education for the community and are willing to invest additional time and effort beyond the length of the programs. As mentioned in previous sections, many staff shared knowledge/support to alumni, kept on-going contact with them, and engaged them in collaborations, and some of this ongoing involvement was voluntary and un-funded. Second, universities' mission in knowledge generation, in addition to knowledge dissemination, suggests that the knowledge generated through IM4DC activities is well integrated into further teaching and research activities. For instance, many staff members have actively engaged in producing research outputs from IM4DC activities and sharing such knowledge within their community and with the broader industry. Third, universities' multidisciplinary strength suggests that they have the capacity to pull together and leverage expertise across a wide range of disciplines. This is very hard to be achieved elsewhere.

It should be noted that the differences in ratings across these statements are not large, with a range of mean scores from 4.25 to 4.6. This means that all these factors have been generally agreed by all staff as critical and unique university values in delivering IM4DC activities.

We also asked the same question in the semi-structured interviews and their responses were largely in line with those found in the survey. We summarise the key points and quotes from interviews as below.

1. **Objectivity and trust:** this has been mentioned several times by the interviewees. One staff particularly commented about the objectivity of universities in conducting and delivering research, and this level of objectivity is commonly acknowledged by the general public both in Australia and overseas.

   > *"I think the university is in a very strong position because I think, within the general public, whether it would be in Australia or overseas, universities are considered to be obviously institutions of learning, but they are also considered very objective in the way that they do their research. They are not necessarily coming in, having a desired outcome, then trying to do work to deliver that desired outcome. They come in and do what they should be doing as good evidence-based research….those major research institutions that are predominantly publically funded are considered objective."*

   This person went on and gave his observations that in Philippines, it is not only the mining-related professionals that come to seek the expertise from universities, but also people sitting on the opposite side of the table, those anti-mining stakeholders, would come into universities to learn and understand the mining processes.

This is confirmed by several other staff too, who commented on higher levels of trust that the public seems to readily give to universities:

> *"I think this is also more a culture of agnostic, mutual interest in research without having a vested interest in outcome of the actual research. For example this project we were agnostic when coming out with the idea whether mining was good or bad for development, we just neutrally do the research and then analyse that and then, both public and private sector can now use the findings. We don't have any vested or commercial interest in the particular outcome…I guess it's established in the university network that there is a bit of kudos. So I noticed in Zambia, if you say I am in university, there is a different reaction than if you say if you are a consultant or a company. I think there is a little bit more trust. I think unless you are very established company who managed to keep a very good reputation, there is a little bit of mistrust, probably what is in it for you, or what your agenda, what is your interest…University can bring that's a little bit of prestige and objectivity."*
>
> *"Number one of course, I think that there is a trust level there. The University of Queensland and to my understanding the University of Western Australia are world leading institutions that are trusted. And what I mean, what I'm trying to get at here is that if you compare outsourcing these kind of functions to private sector, to consultancies, yeah, sure, some of these consultancies have good reputations. But they are profit consultancies, they are for profit. And what I'm saying here is that we have a university where it's not a profit thing, we're a not-for-profit organisation."*

2. **Multidisciplinary knowledge provider:** This is mentioned several times by different interviewees. Staff tend to agree that one of the key strengths of universities lies in their ability in pulling together and delivering a diverse range of expertise.

> *"You have very, very high level expertise across a very wide range of disciplines that are very relevant to the extractive resource sector. From economics to social science to environmental management to planning, human rights, indigenous peoples. There are people who are doing cutting edge theoretical research, but also breaking that theoretical research with a practical applied dimension, too."*
>
> *"Yeah, I think the multidisciplinary aspect that you can bring in… in our collaboration with Queensland we have economist, geographies, like human geography anthropologist, I guess I am a lawyer/geographer…so there's broader and deeper range of expertise I think at the university level."*

3. **Long-term investment in education and research:** Other individuals believed that universities had long-term investments in delivering IM4DC projects and this is important in building effective partnerships.

> *"Definitely the nexus between teaching and research, and just the level of professionalism in the university in terms of teaching…and the philosophical underpinning that we are not for profit, that all of us are in to see the extension of knowledge…The university will have a long term investment, so you invest in it, you*

do the training, you do the research, we will be looking at long term partnerships…there's a longitude aspect to it."

4. **Integrity:** Some individuals believed that integrity is what made universities the preferred option for delivering IM4DC activities

   "We have a great reputation; we're governed by very high ethical standards. In any other organisation, government or otherwise, the university takes very, very seriously confidentiality, you know, protection of human rights, all these things. So there's that level. The level of integrity, the research that we do, is very in depth, it's very rigorous."

5. **Access to leading-edge and across-industry knowledge:** Universities are constantly increasing their industry knowledge and are ensuring that their research is being practically applied and updated. They also have access to broad level of understanding of the high-level challenges across industries.

   "I think a big thing is that we are constantly keeping abreast of new technology, new practices, those things and that is inherently part of everybody's jobs in their other roles within the universities. A training institution could not do that. The amount of time and money that they have to allocate to those industry professionals, you know, who would have a set for training across something and the learning that they would get would be from some, I don't know, industry newspapers….we have a breadth of connections ever changing, set of relationships and networks. So we can actually choose to illustrate particular things, the thoughts, the practices that we are wishing to illustrate the challenges…if you are trainer, people are not coming to you and thinking about the larger industry challenges in another area."

5. Summary and Conclusion

In this evaluation project we set out to understand program deliverers' perspectives about the impact that IM4DC involvement has brought to them. In particular, we developed a logical model that illustrates the entire journey of such involvement, with the aim to provide a systemic understanding and a complete picture about the outcomes and impact that has been achieved for program deliverers. Using data collected from online surveys and semi-structured interviews, we were able to map out the key stages in the involvement journey and to understand the unique values IM4DC activities have brought for the staff themselves, as well as their universities and beyond.

Referring back to the logical model, we summarise the key findings in Figure 12 with brief comments as below.

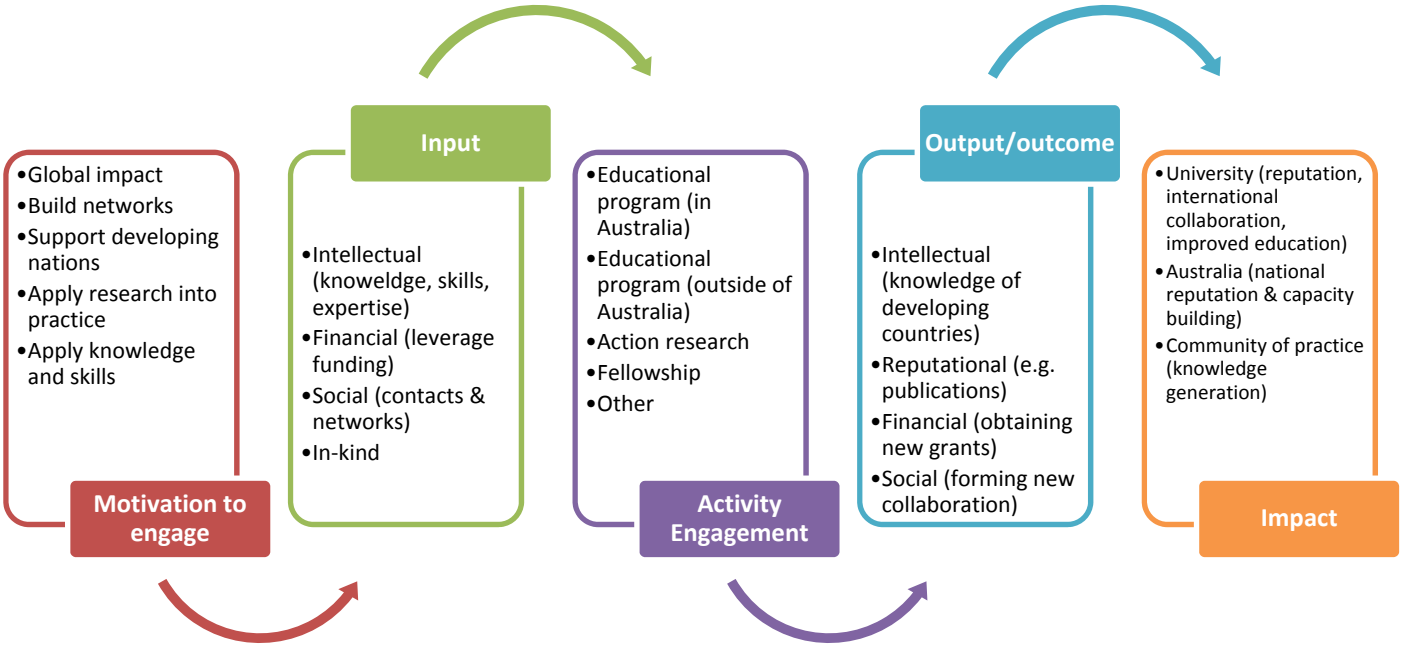

Figure 12: Results mapped onto the logical model

Finding 1: Program deliverers' motivation to engage in IM4DC activities. We found five key reasons that motivated staff members to engage in IM4DC activities: 1) conduct research in a more global area; 2) build networks and collaborations with individuals attending the course, include key personnel; 3) support developing countries; 4) apply research into practice; 5) apply own knowledge and skills. Staff suggested that the same types of motivations have sustained their involvement throughout IM4DC activities, and a few indicated that their interest and commitment has grown, for instance, by developing interest in new regions.

Finding 2: Input from program deliverer into deliver IM4DC activities. We investigated the intellectual, financial, social input drawn by the staff in delivering IM4DC activities, as well as their in-kind contributions. Intellectually, staff contributed their knowledge and skills in specific areas of expertise and drew on their extensive industry knowledge and experiences. Financially, several staff members leveraged existing funding and resources to support the delivery of IM4DC activities. Socially, staff used their professional networks to help design and deliver IM4DC activities. Furthermore, staff provided various in-kind contributions such as providing time, advice, information and logistical support that had not been covered by projects grants. These findings indicate the strong commitment from program deliverers into the delivery of IM4DC activities, their proactivity in going above what is required and their efforts in continuously supporting IM4DC and its alumni.

Finding 3: Level of engagement in IM4DC activities. Staff members had been involved with IM4DC on an average of 26 months up till March 2015, with some staff being involved since the launch of IM4DC in 2011. The types of programs that have mostly been engaged by staff members were action research projects and educational programs (in Australia). The findings suggest that staff members demonstrated generally long-term involvement with IM4DC, and many engaged in a variety of activities. It is possible that staff members built on existing programs and activities, leveraged their understanding from those programs and developed more targeted and impactful solutions to continue their contribution.

Finding 4: Output/outcome achieved for program deliverers. It was found that staff members achieved a range of positive outputs for themselves. First, at an intellectual level, most staff gained new knowledge about policies and practices in developing countries, along with a better understanding of some of the major challenges facing these countries. Furthermore, involvement in IM4DC activities has allowed staff to produce research outcomes, some already resulting in journal publications, book chapters and conference presentations. Financially, IM4DC activities allowed staff to conduct research that would have been difficult otherwise, and several staff were able to leverage the learning and outputs from IM4DC activities to apply and obtain further funding. Socially, staff built and formed new collaborations with those from government, industry and other academic institutions. Overall, IM4DC involvement brought positive and visible benefits for program deliverers.

Finding 5: Broader-level impact. In terms of the broader impact that has been achieved, we considered the impact that IM4DC activities has attained for universities where program deliverers were from, for Australia as a whole, and for program deliverers' community of practice. First, staff members believed that universities were able to enhance their reputation, expand international collaboration, attract higher quality staff/students and improve their education. Second, they believed that Australia also benefited in the sense of enhanced national reputation and national

capacity. Third, the learning from IM4DC activities can feed to the broader community, which could potentially improve collective knowledge and industry practice. Taken together, observations from program deliverers suggest that IM4DC activities can produce significant impact not only for developing nations, but also contribute to social, political and economic development for Australia.

Finding 6: Universities' unique strength in delivering IM4DC activities. Lastly we investigated program deliverers' perspective about the unique strength that universities have in terms of delivering IM4DC activities. There was a general agreement in terms of the multidisciplinary expertise, objectivity, credibility and integrity of universities, and the genuine long-term commitment towards providing better education and research. These are the areas that placed the university in a unique and advantageous position in delivering IM4DC activities.

Overall, we have observed active engagement from staff members in the IM4DC activities out of genuine motivations to improve education, research and practice. Their engagement has led to positive outcomes not only for themselves, but also broader-level impact including, improving teaching, research and reputation for the universities, generating knowledge for the community of practice, and building reputation, relationship and capacity for Australia as a whole.

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7. APPENDIX

Appendix 1: Online Survey Questionnaire

This survey has been designed by the Accelerated Learning Laboratory @ University of Western Australia, who has been commissioned by IM4DC to conduct an internal study with the aim of understanding the unique values of the partnerships between IM4DC, University of Western Australia and University of Queensland. The results from this survey will form part of the annual evaluation that IM4DC is engaged in and will be reported back to key stakeholders.

We invite all academics, facilitators, researchers, professionals, students at UWA and UQ who have been involved in training, capacity building and research activities for IM4DC, to participate in the survey.

If some of the questions do not apply to you or you do not know the answers, please skip that question and move on.

This survey should take about 10-15 minutes of your time.

Section 1: Your involvement with IM4DC

1. Since when have you been involved in IM4DC (e.g. Jan 2013): ____
2. The program / schemes / initiatives you have been involved with IM4DC (tick as many as applicable):
    a. Educational Programs (on-shore) (please indicate how many?)
    b. Educational Programs (off-shore) (please indicate how many?)
    c. Action Research Programs (please indicate how many?)
    d. Fellowship (please indicate how many?)
    e. Other

Section 2: Overall benefit of participating in IM4DC Programs

One of the key areas we are interested to know is how people perceive the unique value propositions of running IM4DC programs through a university model. In particular, we would like to know the benefits that IM4DC brings to you and to your university, as well as the values and advantages that universities bring to IM4DC. The two questions below were informed by the feedback during the 2nd IM4DC Annual Reflection Workshop (July, 2014). Please take a look at the choices in each question and answer to what extent you agree with them, based on your personal experienced by engaging in IM4DC programs.

3. What are the benefits for you and/or your university by being involved in IM4DC educational programs? The IM4DC programs has allowed me to:
    a. Develop relationships with overseas government and /or industry
    b. Build linkages with overseas universities

c. Develop relationships with Australian government and /or industry
d. Build linkages with colleagues in other Australian universities
e. Generate new research collaborations
f. Build international profile for myself and/or my team and/or my university
g. Strengthen the existing research for myself and/or my team (e.g. obtaining data from previously inaccessible regions)
h. Develop original and new research areas
i. Develop better understanding of other cultures
j. Enrich and improve my teaching by drawing on knowledge from IM4DC programs
k. Gain personal satisfaction from being involved
l. Other ____

4. On this question we have also collated feedback from the reflection workshop and have summarised people's feedback into some broad categories as below. Pleas tick to what extent you agree with each of the characteristic as below.

    a. Universities have the ability to tap into different disciplines as needed
    b. Universities are able to share and disseminate the body of knowledge broadly, and generate innovative knowledge
    c. University's ethical standard providing safeguarded environment
    d. The credibility and objectivity of a university provider (i.e. university as an impartial provider of knowledge and steps away from policy directions of government)
    e. Universities can be seen as ambassador of Australia
    f. Universities can build ongoing linkage with the alumni, network and partner institutions beyond the life of activities/programs
    g. Universities are able to leverage other funds (e.g. apply for ARC and other funding) to better achieve the mission / vision of IM4DC
    h. Other ____

Section 3: Your involvement following on from IM4DC activities

Below we will ask you a series of questions that concern the details about your involvement in IM4DC activities, and the follow-on activities, financial outcomes, collaborations that emerge from your involvement in IM4DC.

If you do not know the answers please simply enter "do not know" and move onto the next question.

Overall values by participating in IM4DC activities

5. First, would you please indicate the value for you personally by being involved in each of the IM4DC activities? (It can be financial value, opportunity to do more research, opportunity to know people, among others)

   Educational programs (on-shore): _____

   Educational programs (off-shore): _____

   Action Research project: _____

   Fellowship: _____

Part 1: Intellectual

Knowledge sharing and development

6. What existing knowledge have you drawn in delivering IM4DC activities? (E.g. your expertise area, your industry knowledge, etc.). We would appreciate if you could elaborate.

_____

7. What new knowledge have you developed by being involved in IM4DC activities? (E.g. learning in your specific area, new research method, new technology, cultural understanding, among others). We would appreciate if you could elaborate.

_____

Dissemination knowledge

8. Some of you have engaged in disseminating the work you have been doing with IM4DC in various forums. Please tick if you have involved in the following dissemination activities. Tick all that applies.
   a. Academic journal/book publication
   b. Practitioner-oriented publication
   c. Academic conference presentations
   d. Industry/Practitioner conference presentations
   e. Media coverage
   f. Internal presentation (seminar, workshop, colloquium)
   g. Talking to colleagues and other stakeholders to raise their general awareness about IM4DC initiatives
   h. Other

As you have suggested that you disseminated your work in academic journal/books, can you please provide details about these publications, including the authors, date, title of publication/presentation and which outlet your work has appeared on? _____

a. As you have suggested that you disseminated your work in practitioner-oriented publication, can you please provide details about these publications, including the authors, date, title of publication/presentation and which outlet your work has appeared on? _____
b. As you have suggested that you presented your work in academic conferences, can you please provide details about this presentation, including the authors, date, title of presentation and name of the conference? _____
c. As you have suggested that you presented your work in industry/practitioner conference, can you please provide details about this presentation, including the authors, date, title of presentation and name of the conference? _____
d. As you have suggested that you have disseminated your work in media, can you please provide details about this? _____
e. As you have suggested that you have disseminated your work internally (e.g. colloquium/seminar/workshop, etc.), can you provide more details? _____

Part 2: Financial

Other funding leveraged

9. Some of you who have been involved in IM4DC programs suggested that such involvement has led to leveraging other funding opportunities to support IM4DC activities and/or to collaborate with IM4DC alumni.

   If you have leveraged your existing funding from elsewhere (non-IM4DC activities) to support the IM4DC projects, can you please provide more details, including what funding have you leveraged and how much roughly this involved?

   _____

   If you have acquired additional funding from other sources (e.g. ARC) for projects related to IM4DC activities, can you please provide more details, including what funding you have obtained and how much roughly this involved?

   _____

   If you have applied for additional funding or are currently waiting for decisions, can you please provide more details, including what funding you have obtained and how much roughly this involved?

   _____

Providing in-kind contribution to IM4DC:

10. Some of you have provided various in-kind contributions to IM4DC (including the support to the program alumni). In-kind support refers to the additional contribution that is not covered by the project grant you obtained from IM4DC.

    Please indicate if you have been involved in the following capacity in terms of providing in-kind support. Tick all that applies.

    a. Senior staff's time in providing supervision and quality assurance
    b. Staff and students' time to provide support (e.g. advice, coaching, helping alumni completing their projects, etc.)
    c. Share developed curriculum and course materials to alumni in support of their teaching and research
    d. Leverage your own network and connections (academically and industry-wise) to support the delivery of IM4DC programs
    e. Invest time to interact with IM4DC and/or program alumni (e.g. keeping in touch via emails, attending workshops, conferences etc.)
    f. Collaborators' time in completing IM4DC programs
    g. Project participants' (e.g. interviewee's) time in contributing to IM4DC programs
    h. Provide accommodation, meals, space, facility and other on-site logistics support
    i. IT support (e.g. software, hosting service)
    j. Translation / interpreting service
    k. Other

Can you please tell us more details about the in-kind support you have provided? For instance, if you have shared your teaching materials with program alumni, can you please tell us more about what this involves?

_____

Part 3: Collaboration and network

Network used for delivering IM4DC activities

11. We would like to know if you have used your professional networks to design and deliver IM4DC activities. Please think about the IM4DC programs/projects you have delivered, and tick if you have involved below people from your networks to deliver the IM4DC program/projects:
    a. Colleagues in my own school/department
    b. Colleagues in other schools/faculties in the same university
    c. Colleagues from other Australian universities
    d. Colleagues from non-Australian universities
    e. Industry partners and contacts
    f. Government contacts

g. Contacts from not-for-profit organisations
h. Others

12. We would also like to know if your involvement in IM4DC activities have led to new collaboration opportunities. Please tick if new collaborations have been formed with people from below because of your IM4DC involvement:
    i. Colleagues in my own school/department
    j. Colleagues in other schools/faculties in the same university
    k. Colleagues from other Australian universities
    l. Colleagues from non-Australian universities
    m. Industry partners and contacts
    n. Government contacts
    o. Contacts from not-for-profit organisations
    p. Others

13. We would appreciate if you have any further details about the collaborations or network that have been newly developed because of your participation in IM4DC activities.

_____

14. If you have been involved in IM4DC educational programs, we are also interested in knowing your ongoing contact with IM4DC program alumni after delivering the initial educational programs. Please tick to what capacity you have been kept in touch with alumni (tick all that apply):
    a. Collaborated in research or consulting projects
    b. Provided ongoing support (e.g. coaching, answer their inquiries)
    c. Visited the alumni in their country (e.g. for teaching, research or others)
    d. Met with alumni again in conferences
    e. General maintenance of contact via emails and phones calls
    f. Other

Section 4: Demographics

We ask these questions so that we could better understand your responses in the broader context. Please rest reassured your responses are anonymous (unless you are happy for us to follow you up with an interview) and that data in this survey will only be reported in group averaged scores.

1. Your age: ____
2. Your gender:
    a. male
    b. female
3. The university you work with:
    a. UWA

   b. UQ
   c. Other (e.g. across universities, independent institute)
4. The discipline you work within: ____
5. Your job title that best describes your work: _____
6. What is the nature of your work with your employer:
   a. Academic (e.g. who has both teaching and research requirement)
   b. Research-only academics
   c. Teaching-only academics
   d. Student
   e. Adjunct / associate appointment
   f. Professional staff (e.g. program manager, training coordinator, etc.)
   g. Other

In addition to collecting your feedback through this online survey, we are also aiming to conduct some interviews to get more detailed insights about how you perceive the involvement in IM4DC activities. The purpose of these interviews is to collate case studies that could demonstrate to the government the unique value propositions of running IM4DC programs at universities.

The interviews will last for about 45 minutes, and can be conducted either face to face or by phone call.

If you are happy for us to contact you for follow-up interviews, please provide your name and contact details as below. We really appreciate your generous sharing of your time.

Name: _____

Email: _____

Phone: _____

Thank you. This is the end of the questionnaire.

Appendix 2: Interview Schedule

Introduction to participants:

We will ask you a series of questions that concerns your involvement in IM4DC, including the reason of being involved, the details about your involvement, and the impact your involvement has generated both for yourself, your team and your university as a whole.

This project has received ethical clearance. Data gathered from this interview will be kept completely confidential and your name will NOT appear on any of the report or publication generated from this project.

As we hope to provide detailed analysis of your data, we hope you don't mind us audio-recording the interview. Please let us know if you have concerns.

Questions to be asked:

<u>Motivation/needs of involvement:</u>

1. Please describe your current role and responsibilities. For instance:
    - If you are an academic, can you describe the nature of your appointment and the % of your role being research, teaching or services?
    - If you are a professional staff, can you describe the nature and the objective of your job?

2. Please described how you got involved with IM4DC? What was the circumstance? E.g. anyone introduced you to IM4DC? [To interviewer: find out the participant's details from the survey results, e.g. when were they started the involvement, and adapt accordingly]

3. What made you interested in getting involved with IM4DC? We know you have many other commitments, why did you choose to engage with IM4DC activities, but not other activities? (cost-benefit analysis)
4. Have your motivation changed during your engagement with IM4DC? In what way? [Change of motivation compared to first get involved] if you have engaged in more than one activity, what motivated you to engage further?

<u>Involvement with IM4DC (input & engagement):</u>

5. How many IM4DC activities have you been involved and what are they? [To interviewer: recap from survey results]
6. The next question is about the resources you have brought in to conduct the IM4DC activities? [To interviewer: clarify if questions]
    - Intellectually, what are the unique knowledge, skills and expertise you have brought in? How important are these knowledge and expertise in conducting the IM4DC activities?
    - Have you brought in any of your personal and professional networks, to deliver these activities? If so, what are they? Please elaborate.
    - Have you drawn your other financial resources (e.g. other funding) to deliver these activities? If so, what are these other financial resources?
    - Any other of your personal resources that you have used / leveraged?

IM4DC's value to you or your team (output/outcome):

7. What are the main benefits for you by being involved? [To interviewer: clarify if questions].
    - Any new or strengthened professional or academic networks developed by participating in IM4DC activities? Please elaborate. What the benefits of these strengthened professional networks? Any specific example?
    - [To interviewer: recap] What's the main financial benefit to you? Have you obtained any grant or have applied for any grant following on your involvement with IM4DC activities? Why is this important?
    - [To interviewer: recap] What's the main intellectual benefit to you? What new knowledge have you gained? Why is this important?
    - [To interviewer: recap] What's the benefit for you in terms of marketing and disseminating your work? Any publications/presentation from the IM4DC activities? Or anything under preparation? Why is this important?
8. What's your overall perception about the benefits by being involved with IM4DC? Are these benefits expected or unexpected?
    - How do you feel about being involved in the IM4DC?
        - If it has been a successful and rewarding journey, what are the factors that have made it so successful?
        - If it has not been highly successful, why do you think this was the case? What are the things that made it less successful? What can be improved?
9. What has been a peak moment for you? What was one of the most rewarding and meaningful time in the IM4DC activities that you were involved in?

Overall impact:

10. In your observations, how have IM4DC activities contributed to your university?
11. How have IM4DC activities contributed to the Australian education system as a whole?
12. How have IM4DC activities contributed to your community of practice (e.g. associated professional bodies, industry affiliations, forums, academia, etc.)?

Universities' value to IM4DC:

13. What do you see as the unique strengths of universities to conduct IM4DC activities? [try to probe as many as possible; and try to probe people to compare universities as private training providers]
14. What do you see as the main challenges for universities to conduct IM4DC activities?
15. What can be done more by the universities to enhance the impact of IM4DC activities? What else could make a difference?

Appendix 3: Publication / Dissemination Emerged from IM4DC Involvement (Section 3.4.2)

In this appendix we report the details of the publication/dissemination outputs produced by the staff involved in the IM4DC activities.

Not all staff provided details of their dissemination. We have included here all details that have been reported.

Academic journal/book publication (N=10)	o Paper submitted to *Water International: Special Issue: Mining and Water Resource Management* (under review) o Sustainable water management in developing mining economies: Capacity building needs o Sustainable Livelihoods and Regional Development in Mining Economies, *Extractive Industries and Society Journal* (accepted for publication Dec 2014) o An article has been published on the *National Geographic* blog o Submitted papers on opportunities and challenges for local food procurement by mining companies in Mozambique and Tanzania and Social Water Assessment Protocol in the mining region of Ghana
Practitioner-oriented publication (N=9)	o Australian Centre for Geomechanics newsletter o World Bank published Source Book o Australian Institute of Mining and Metallurgy (AusIMM) community and environment newsletter volume 3, 2014 o Enabling people-centred extraction: Engaging the private sector for inclusive extractive industries in Africa. UNDP African Facility for Inclusive Markets (2015). o Getting to the Table. See: https://www.csrm.uq.edu.au/publications/getting-to-the-table / (Also in Spanish at the same URL)
Academic conference presentations (N=12)	o 25th Colloquium of African Geology at Dar es Salaam, entitled "Mineral Resources and African Development: Prospects, Opportunities, and Challenges" , 14th August, 2014 o Conference: Water in Mining, Chile, May 201, Title: Artisanal Mining in Colombia: Water management challenges o SEG invited presentation in 2015 o The other side of the river: conflict and cumulative impacts of mining in Tete, Mozambique", Australian Political Science Association (APSA) Conference o "Opportunities and challenges for local food procurement by mining companies in Mozambique and Tanzania" at conference of the Institute for Social and Economic Studies (IESE) in Maputo in August 2014. o International Mining Conference in Tarkwa Ghana and ISEM in Peru. o Institutional and political frameworks of mining environmental

	approvals in Peru: Conga and Tia Maria. Presented at the ANU conference Latin America and the Shifting Sands of Global Power.
Industry/Practitioner conference presentations (N = 13)	o A Successful African Australian Training Partnership for Skilling the Zambian Mines Safety Department; Africa Australia Technical Mining Conference 2015 o MCA SD 2014 conference in Adelaide in November 2014 - Focus on social license o Highlighted the role of IM4DC at The African Australian Research Forum 2014, o Africa Down Under, 2014 o Conference: Managing the Water-Energy-Food Nexus; Title: Responsible governance of natural resources o Opportunities in Mineral Commodity Markets - Discovery to Development to Nation-Building. IMARC conference o Title - Extractive Industry, Religious Identities and Conflict: A Case of Thar Coal Development. Presentation at Leadership for Environment and Development (LEAD) o Work on dialogue in the Latin American region, part of a project funded by IM4DC. I was also a panel commentator in the presentation provided by the High Commissioner for Dialogue and Sustainability.
Media coverage (N= 8)	o This has been done through the IM4DC website plus through the IM4DC explorer website and our newsletter o MiningNews miningnews.net o During study tours, we work with the local media representatives in coordination with groups such as the Chambers of Commerce to provide information about the course and the participants.
Internal presentation (seminar, workshop, colloquium) (N=27)	o Seminar Presentation at University of Mines and Technology, Ghana on Title: Now is the time to choose Real Options over Discounted Cash Flow. A case of strategic decision making in the Ghanaian investment climate. o Centre for Mined Land Rehabilitation weekly meeting - we gave a presentation on the project fieldwork and workshop we ran after the fieldwork o Two seminars held at the Sustainable Minerals Institute o Im4DC work is highlighted at our corporate newsletter and sponsors day o Part of the results of my fieldwork have been presented at the Mid-candidature thesis session. o Planning days at UWA Law School o Presentation delivered to UQ partners at UWA o Centre for Exploration Targeting (CET) annual strategy meeting 2014 o IM4DC workshops for the Indonesian audience both in Perth and Indonesia o I presented findings to the SMI Seminar Series titled "Opportunities and challenges for local food procurement by mining companies in Mozambique and Tanzania

	o Providing my thoughts/ideas in internal meetings with the Indonesian counterparts o Presented the IM4DC funded work on the political and institutional frameworks of environmental licensing processes to a senior delegation of the Colombian government. I also presented it to a delegation of the government of Uruguay.
Talking to colleagues and other stakeholders to raise their general awareness about IM4DC initiatives (N=36)	N/A
Other (N = 4)	o I am working on an animation about one of the projects. o I was invited to give a seminar at Copperbelt University Zambia to a class of post-graduate Masters students o academic journal articles in preparation o AusIMM newsletter article of the Community and Environment Society