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Colombia Dairy Value Chain Project Evaluation Report



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Prepared by: Warwick Thomson, Monitoring and Evaluation expert, Team Leader and Santiago Jaramillo Mosquera, National Dairy Specialist.

Introduction of Authors

Now resident in New Zealand, **Warwick Thomson**, *Monitoring and Evaluation expert, Team Leader* for this mid-term evaluation, has over 25 years of experience in the development, management and measurement of development undertakings, primarily in the fields of agriculture, agribusiness, trade and competitiveness and private sector development. Warwick has also led the design and management of tourism, fisheries and post-conflict economic recovery interventions and has worked as a development professional in Asia, Africa and the Pacific. Warwick is a certified company director and independent consultant whose development partner clients have recently included New Zealand Ministry of Foreign Affairs and Trade (MFAT), Department for International Development of the United Kingdom (DFID), Finnish International Development Agency (FINNIDA) and the Danish International Development Agency (DANIDA).

As an advisor, programme manager, development partner representative, in governance roles and as a consultant and practitioner, Warwick has led and managed development interventions – small, large and complex – in all phases of the project cycle, from policy, strategy, identification and formulation, to implementation, reviews and evaluations.

Santiago Jaramillo Mosquera, *National Dairy Specialist* for this mid-term evaluation, is a Colombian national and veterinarian by training. He has studied and worked in the USA. Santiago owns and manages his own dairy farms as well as consulting to farmers and to the industry. For a number of years he worked for the National Cattle Farmers Federation as an extensionist and farm management advisor and has held similar positions in the industry while also working for dairy farmers associations.

Santiago's professional interests are primarily around livestock production and providing specialist services to Colombia's dairy farmers. From June 2017, Santiago will be at Lincoln University in New Zealand undertaking post-graduate work.

Map of Colombia



Figure 1. Map of Colombia showing the three Departments in which the Activity is working: Nariño, Boyacá and Cundinamarca

Acronyms

ADD	Activity ¹ Design Document
ANALAC	Asociación Nacional de Productores de Leche [National Association of Milk Producers]
APC	Agencia Presidencial de Cooperación Internacional de Colombia [Agency for International Cooperation]
CNL	Consejo Nacional Lácteo [National Dairy Council]
CONPES	Consejo Nacional de Política Económica y Social [National Council of Economic and Social Policy]
COP	Colombian Pesos
CORPOICA	Corporación Colombiana de Investigación Agropecuaria [The Colombian Agricultural Research Corporation]
DNP	Departamento Nacional de Planeación [National Planning Department]
EU	European Union
FARC	Fuerzas Armadas Revolucionarias de Colombia [The Revolutionary Armed Forces of Colombia]
FEDEGAN	Federación Colombiana de Ganaderos [The Federation of Colombian Livestock Farmers]
FTA	Free Trade Agreement
GPGs	Good Practice Guidelines (sometimes also referred to as Best Practice Guidelines)
MADR	Ministerio de Agricultura y Desarrollo Rural [The Ministry of Agriculture and Rural Development]
MCIT	Ministerio de Comercio, Industria y Turismo [Ministry of Commerce, Trade and Tourism]
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MoU	Memorandum of Understanding
MPI	Ministry of Primary Industries
MSC	Management Services Contractor (TAG)
NZ	New Zealand
NZAP	New Zealand Aid Programme
RF	Results Framework
SAGAN	La Sociedad de Agricultores y Ganaderos de Nariño [The Livestock Farmers' Society of Nariño]
<u>SENA</u>	<u>Servicio Nacional de Aprendizaje</u> [The National Training Service]

¹ In its documentation and by the parties involved, The Colombian Dairy Value Chain intervention is referred to sometimes as the Project and sometimes as the Activity, the latter most by MFAT. The terms are also used interchangeably in this document.

SME	Small and Medium Enterprise
TAG	The Agribusiness Group
UMATA	Unidades Municipales de Asistencia Técnica [Municipal Technical Assistance Units]

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1. Abstract

Colombia's 400,000 dairy farmers' productivity is low and they struggle to compete with imported products, but dairying livelihoods are important, also for re-integrating demobilised FARC fighters. This dairy value chain project is a four year and five million dollar undertaking with small holders in the high altitude, tropical zone regions of Nariño, Boyacá and Cundinamarca, where New Zealand and Colombian dairy experiences will be adapted to develop an integrated research-training-extension model.

This evaluation of the Activity was undertaken in February-April 2017. The project has started well and has established a strong programme of work with the four dairy associations and their 40 target farmers, generating impressive production and profitability gains for them in the first year. The roadmap to institutionalising the integrated model is less clear and requires attention. At present, proof of concept for this model of an integrated agricultural knowledge system for dairy in Colombia is only partial.

It is time for the project to take stock of its achievements, to review its logic and to improve its planning and reporting procedures. Using the results and experience being generated to make a business case for the integrated model will support the Colombia Government's decision making to scaling up the programme.

2. Executive Summary

This evaluation of the Colombia Dairy Value Chain Project sought to draw out key lessons to: inform the future shape, direction of and support to the project; identify what is working, and what is not, and why; and, to account to MFAT, Colombian partners, and other stakeholders for the resources used and the difference they are likely to make.

The aim of the project is to develop a model for a profitable and competitive Colombian dairy farming sector through the adoption of improved farm management systems and techniques developed and adapted from New Zealand and Colombian dairy experiences, and, the development of farmer associations and training, extension and research capabilities.

The evaluation scope included coverage of the period from the commencement of the activity to present date (circa 18 months) and was focussed on the Boyacá, Cundinamarca and Nariño regions the project is working in, also with consideration of additional regions suitable for scale-up.

The evaluation reviewed project documentation and related literature, visited and interviewed the implementing partners, key institutional and industry stakeholders, farmers and business service organisations and, held a debriefing workshop with the partners.

KEY FINDINGS

The project has started well, reflecting its relevance to the Colombian dairy sector, the attention given to it by Government, and of the goodwill held between the partners. The Management Services Contractor (MSC) have established their management and administration systems satisfactorily and the Governance and Advisory Groups have been formed and held their first meetings. The study tours to New Zealand for partners and stakeholders have had a very apparent impact in terms of informing the participants and building their understanding and ownership of the project's objectives.

Good and transparent choices have been made in the selection of the four dairy farmers' association and their target farmers. The four extensionists have been employed and having received their first trainings are now each running full programmes of work with their farmers and associations. The team of New Zealand specialists have made their first visits and having made their preliminary assessments, have established programmes of work. The baseline situation for the target farms has been documented and they have been led through a business and activity planning process that identifies what needs to be done to improve production, productivity and profitability by increasing milk volumes and quality, cost effectively.

The analysis and development work that has been facilitated by the New Zealand specialists has led to a series of pragmatic opening interventions that have generated tangible quick-wins for the target farmers in a short time. Those include correcting soil pH, pasture development and management, improving record-keeping, farm business planning and activity planning, and milk quality assurance. There are already early indications of spontaneous adoption by neighbouring farmers. Examples of results that the project has produced to-date under Output 1 include the following²:

² Figures taken from the Six Month Progress Report (October 2016).

Indicator:

1 = Milk production: a) average per day litres/Ha; b) litres/cow)

2 = Average farm profit (net of finance costs (COP) per Ha. Baseline = COP 170,000

3 =Fertiliser inputs based on soil tests recommendations (% of area)

4 = Pregnancy %

Table 1. Selection of results to-date.

	Baseline	Y1 Target (April '16)	Oct '16 Actual
1.	a) baseline/Ha b) 8 litres/cow	+10% 8	+17% 9.56
2.	Baseline	up	37%
3.	6%	20%	37%
4.	59%	59%	79%

Validation of some good practices requires several seasons, for example, the introduction of new pasture species mixes, while others -such as elements of the strategies to enhance pasture quality and quantity and milk quality improvement- can be disseminated to extensionists and farmers now. The Evaluation's opinion is that the Project is prudent and mindful in their processes of validation and dissemination and this is important.

The Good Practice Guidelines (GPGs) and other means of communications are needed to package these recommendations in formats that can readily be disseminated, understood and adopted.

The programme of field trials, demonstrations, development of GPGs and trainings that the New Zealand specialists support is ongoing and in a dynamic state of adaptive management.

The second output that deals with improving the performance of the farmers' associations, each of which is centred around a small milk collection centre, is also progressing and generally beginning to generate positive business results, primarily because their milk quality management is improving and the volumes of milk they are receiving is increasing. The planning for these associations is less structured; for example, business performance targets and budgets are not apparent.

The third output is to systematise and institutionalise this integrated, farmer-facing research-training-extension approach in a manner that can be scaled up and rolled out by Colombia. Progress here is less apparent with the pathways for doing this less well defined, but it is important to view this process of institutionalisation in the context of public investment planning and budget cycles.

The project's institutional environment is complex, with many stakeholders and interested institutions needing to function in a carefully orchestrated, coordinated and adequately resourced manner for this notion of an integrated public sector driven and sponsored dairy extension system to work. The policy environment is generally supportive but the political economies of central and local government, other priorities they need to attend to, and the human and financial resource constraints they face, complicate implementation in practice.

Particularly considering the duration and size of this project, an alternative design might have applied a market systems development³ point of departure, where motivating economic drivers and prospects for sustainability are more apparent. In this case, most obviously that would have involved partnering with a firm that has existing dairy extension interests, supporting them to build their smallholder collection network by co-developing the same kinds of farmer and association good practices and their extension of those. Reflecting the need to not be seen to distort markets, those would subsequently be put into the public domain. This does not exclude organisations like Corpoica. Rather, they are more clearly identified as service providers to the sector, which is their true role, and the prospects for their research and development (R&D) outputs being adopted at scale are improved.

The project design should not be changed at this stage, but adopting recommendations (1 and 3) for stronger inclusion of industry -broadly interpreted as being all value-chain functions beyond farm gate/primary collection centres- will improve the likelihood of positive and sustainable outcomes. This needs to be planned for and not expected as an organic outcome of the project.

Dairy sector development is also challenged by a minimum price imposition, competitiveness issues and the free trade agreements, and, an informal market that accounts for about 40% of the milk produced.

At four years, the project period is short, both in terms of developing and validating good practice and the farm and association level extension models, but also to establish with some level of confidence the multi-institutional partnerships that will deliver the various elements of an integrated extension system.

Now that the project is established and has done its primary analysis and set its course of implementation, results management, planning and reporting need to be firmed up. The Results Framework (RF) needs elaboration, targets and indicators need reviewing and the framework needs to be populated with baseline data. The Framework needs to be improved to reflect the pathway to the systemic changes that are the outcomes and impact ambitions of the project, for example in particular, measuring: the adoption of the GPGs and use of project outputs in areas beyond the project's four associations and their farmers; and, tracking public investment planning and execution of the integrated systems approach. Also of industry and service providing institution up-take, as possible and practical. Using the RF more actively will support governance and ownership. Plans and reports can also be improved to this end.

The Evaluation finds that evidence of proof of concept is only partial at present. Farm and association level productivity and profitability can be improved by adopting the

³ Making Markets Work for the Poor (or M4P) or Market Systems Development approaches are built on a global acknowledgement that market systems failures are a root cause of rural development programming that aspires to help transition farmers and their communities to being better included in economic development processes. That historically, agricultural development investment has focussed disproportionately on supply driven service provision, and that public goods and services are needed but that investments in them have frequently produced disappointing results, and/or not been efficient. A reflection on, for example, NZ's agricultural development history would draw many of the same conclusions. There are no silver bullets here; rather, a quest for improving development investment efficiency and impact. Plenty is written on this. A good place to start is the Donor Community for Enterprise Development (DCED). <http://www.enterprise-development.org/what-works-and-why/evaluations-of-agency-psd-work/> [accessed 5 April 2017]

technologies and management practices being developed and validated and which will be described in the GPGs, but those developments are not static and the models of institutionalising and sustaining that research, development, training and extension effort in a cost-efficient manner and at scale, remain to be identified. In the meantime though, the project is generating an array of learning and tools that can be used in whole or in part, by the many institutions and industry who support dairy development.

SUMMARY OF RECOMMENDATIONS

1. Broaden the membership of the **Advisory Groups** to include more participation by industry, hold more frequent meetings and –as the project develops its GPGs, tools and other collateral- increasingly use the Groups as a means of communicating the project's R&D achievements.
2. To outline a **plan of action** to roll out and scale-up the integrated dairy extension model, including a public investment plan, responsibilities, milestones and indicators, establish a working group that includes the National Planning Department, Propais, Corpoica, SENA - The National Training Service, and MADR - The Ministry of Agriculture and Rural Development. This work needs to define the implementation of Output 3 (Research, extension and vocational training systems developed to enhance delivery capability) and the RF will need to reflect that.
3. Develop a **communications plan** for the project where there are clear targets and indicators for the development and dissemination of the project's GPGs, other management and training tools, and of the analysis, research findings and learnings. These should be made available to the sector to use as they see fit.
4. Establish an **extensionist intern programme** for graduates as a means of developing an opening cadre of young professionals who are familiar and have basic skills in the outcome oriented, farmer-facing extension approach that the project is promoting.
5. **Extensionist development and performance.** Based on the integrated extension model, develop, trial and refine a competency framework for dairy extensionists, along with performance appraisal tools. This is a valuable tool for employers of extensionists.
6. Elaborate in more detail a **strategy, implementation plan and budget** for the remainder of the project and its many work streams, paying particular attention to the work programmes of the New Zealand (NZ) specialists, assuring their coherence also with national priorities and undertakings (e.g. Corpoica's programmes) and also ensuring that local staff and counterparts are available and able to work alongside the specialists when they visit. For the extension model, decision making processes are as important as the decisions that are made.
7. In a participatory manner that strengthens ownership and commitment to the project, reviews and improves the **Results Framework**, populating that with baseline and progress data, revisiting the target, indicators and means of verification for their relevance and adequacy, and, developing Output 3.
8. Review the **NZ specialist team** list with a view to reducing the number of experts and increasing the length of their visits. Ensure that their programmes of work are understood and agreed by their Colombian counterparts, that this is reflected in the annual programme of work for the project and that their work is clearly aligned with the RF, and, that they report against plans and agreed terms of reference.
9. Acknowledging that the life of the project is short and also that the Government of Colombia have an ambition to expand the scope of the project to: a) **review the project's budget** with a view to identifying cost savings that would not compromise the project's work and its outcomes but which might support a no-cost

extension; and, b) discuss with **MADR the increasing of their contribution** to in-country costs for years three, four and beyond, and (optionally) also allowing the project's "quick-wins" to be disseminated and applied more broadly. This could relieve some of the grant's use on in-country expenditures, allowing an extension of the MSC's inputs.

10. Satisfactorily conclude the **Evaluation of Social and Environmental impact**. The draft sighted is very weighted to environmental science. The finalised version needs to include basic standards and guidelines for management and extension practitioners to use to ensure social and environmental safeguards are in place and how to measure those. The Evaluation needs to include a presentation that has real utility for project implementation. It is expected that this study will be concluded and presented to stakeholders by the time of the second Governance Group meeting of 2017.

3. Background

THE ACTIVITY

The dairy sector⁴ is important to Colombia; the country's 400,000 dairy farmers produce between 4.5 and 6.5 billion litres of milk annually, of which about 40% is processed and consumed "informally"; that is, without regulatory oversight and control, usually close to where it is produced, and, as part of the informal economy. The dairy sector's share of national gross domestic product (GDP) is close to 2.3%, generating around 618,000 jobs in milk production and more than 15,000 in the dairy processing industry, but milk productivity is low and variable in different regions of the country, ranging from around 15 litres per cow per day in the most productive regions, to around 4 litres in the least productive areas. Dairy development is a priority for Government; in particular because of the opportunities it presents for improving rural, smallholder livelihoods and because of its potential role in re-integrating demobilised Revolutionary Armed Forces of Colombia (FARC) fighters.

The country's exports of dairy products are modest and with imports reported at 51.7 thousand tonnes in 2016, there is a significant trade imbalance. Colombia has free trade agreements for dairy with Chile, Peru, the USA, European Free Trade Association countries (Norway, Switzerland, Iceland and Liechtenstein) and the European Union but low competitiveness makes it difficult for the nation to benefit from these free trade agreements.

Government imposes a minimum price on processors milk purchases from farmers and their associations and there is also a 0.75% (of the value of a litre of milk) levy collected which is used to finance a market stabilisation fund, monitoring and various research, training, demonstration and development activities for the sector.

In 2013 MFAT prepared a concept note for supporting dairy development in Colombia and since late-2015 New Zealand and Colombia have been collaborating on the development and implementation of the Colombia Dairy Value Chain Project. The activity aims to develop a model for a profitable and competitive Colombian dairy farming sector through the adoption of improved farm management systems and techniques developed and adapted from New Zealand and Colombian dairy experiences, and, the development of farmer associations and training, extension and research capabilities. The activity focuses primarily on Colombia's small and medium-scale farmers in three regions of the Colombian high altitude, tropical zone (Nariño, Boyacá and Cundinamarca). The concept is for the **adaptation** of New Zealand dairy farming systems and industry knowledge into a Colombian context and then the **validation** of those systems, providing a foundation for the subsequent **extension** of the resulting models for dairy industry development throughout the Tropical Highland regions in Colombia. Colombia intends to roll out the project model more widely if early results prove promising as expected.

New Zealand's investment of approximately NZ\$4m over four years, via MFAT, is to be complemented by Colombia's investment of approximately NZ\$1m in funding and in-kind. The Agribusiness Group (TAG) leads a consortium providing specialist expertise and management services. The Colombian Ministry of Agriculture and Rural Development direct the Colombian institutions in the partnership, where Corpoica (the Colombian Agriculture Research Corporation) is the main research and development institutional partner.

⁴ The reporting of dairy statistics for Colombia is variable. This evaluation draws its facts and data from a number of sources. A list of the reference documents accessed is included in appendix three.

The **goal** of this activity is *to develop a profitable and competitive Colombian dairy farming sector (high tropical zone) through the widespread adoption of integrated management systems, developed and adapted from NZ and Colombian dairy experiences and validated under Colombian conditions*. The Outputs of the activity are:

1. Network of target farms established that demonstrate adapted and validated Colombian/NZ dairy farming systems;
2. Farmer Associations provided with business development support; and
3. Research, extension, and vocational training systems developed to enhance delivery capability.

More information on the Activity is found in the Activity Design Document (ADD).

EVALUATION PURPOSE AND DESIGN

MFAT commissioned FCG ANZDEC to undertake this evaluation and this was carried out in the period February-April 2017.

PURPOSE

The purpose of this evaluation is:

- **Decision-making:** to inform the future shape, direction of and support for the Colombia Dairy Value Chain Project.
- **Learning:** to identify what is working, and what is not, and why, and to apply lessons learnt to continuously improve the delivery of the Colombia Dairy Value Chain Project.
- **Accountability:** to account to MFAT, Colombian partners, and other stakeholders for the resources used and the difference they are likely to make.

Specifically, this evaluation is to be used by MFAT and its Colombian partners to:

- evaluate the first period of implementation; and
- provide suggestions for changes and improvements for the remainder of the activity.

SCOPE

The scope of the evaluation included:

- coverage of the period from the commencement of the activity to present date (approximately 18 months); and
- a geographical focus centred primarily on the three administrative departments⁵ in which the project is working: Boyacá, Cundinamarca and Nariño.

Key stakeholders

The Evaluation engaged a broad range of stakeholders, including:

- the MFAT Activity manager and other relevant MFAT staff;
- New Zealand's Ambassador to Colombia accompanied by (NZ) Ministry of Primary Industry (MPI) staff from Mexico;
- Colombia's MADR who are the lead Colombian institution in the partnership;

⁵ Colombia is a republic formed by thirty-two departments and a Capital District. Each department has a Governor and a Department Assembly, elected by popular vote for a four-year period.

- development and implementing partners, including: TAG, who lead the NZ consortium contracted to deliver management services and Corpoica (Colombian Corporation of Agricultural Research); SENA; the National Milk Producers Association (ANALAC) Colombia's Ministry of Foreign Affairs, including the DNP, and the National University;
- other business service organisations (CNL, the National Dairy Council Federation of Cooperatives of Milk Producers and SAGAN, the Livestock Farmers' Society of Nariño) and dairy industry leaders Alpina SA and Alqueria;
- local government in Boyaca, Cundinamarca and Nariño Departments as well as participating farmers' associations (PROLENN, Las Playas, ASOHATORURH) and the target farmers of those associations.

A complete list of those met and consulted is included in appendix one.

DESIGN

This is the "mid-term" evaluation of this four-year duration Activity. It is a little less than 18 months or so since implementation began and the Evaluation has been moved forward in order that it might inform, amongst others, the Colombian government's budget process for fiscal year 2018 and decisions that New Zealand might make about supporting the peace process in Colombia.

Existing documentation was reviewed including: the ADD and the partnership agreements/contract; progress reports from the partners and MFAT staff reports; Advisory and Governance Group minutes; annual reviews; analysis, technical documents, guidelines and manuals produced by the Project; other documentation and analysis that inform the context for the sector and this Project. A list of the documentation accessed is included in appendix three.

The **Results Framework** was a central focus of the Evaluation's enquiries. That included an assessment of: the adequacy of its logic; the completeness of its baseline data; its targets, indicators and their means of verification and reporting; the programming of delivery and resource allocations to that; the adequacy of the monitoring and evaluation functions; and, the identification, understanding and management of the risk environment.

A practitioner's **assessment of the theory of change** for the Activity, notably of the assumptions made about production, productivity, profitability and competitiveness and the adequacy of incentives to drive behaviour change, adoption and the likelihood of the integrated dairy extension model being sustained, was made.

An **assessment of whether results to date provide sufficient "proof of concept"** that the Activity goal is likely to be met was made and where evidence for that was absent, the requirements to address that in Years 3 and 4 are discussed.

An **assessment of the potential to scale-up and/or roll-out the activity** to additional farmer associations and departments in Colombia in Years 3 and 4 and beyond, to be implemented **using predominantly Colombian resources** was made, including: how that could best be done and what the resource implications might be; what a roadmap to scaling up/rolling out might look like; and, what significant risks are involved and what their mitigation options might be.

Consultations and interviews began in New Zealand with a briefing with MFAT where the general satisfaction with the project's implementation, administration, governance, reporting, communications and contractual arrangements were discussed. Then, the evaluators spent 17 days in Colombia consulting implementing partners and otherwise associated stakeholders. On arrival, the evaluators briefed with the Colombia's Agency for International Development (APC), Ministry of Foreign Affairs and MADR. Whilst in Bogota, the National University, SENA, DNP, Corpoica, CNL and ANALAC, were met.

Industry leaders Colanta, Alqueria and Alpina were also met, as was Propais, the parastatal coordinating the implementation of the EU's support to CONPES 3675, the dairy competitiveness policy. Individual members of the Governance and Advisory groups were met.

The evaluators then visited each of the departments the project is working in, meeting and interviewing local government officials and their technical assistance staff (UMATA), farmers and three of the four farmers' associations engaged in the project. The project's four extension staff were interviewed. The Director and staff of Corpoica's research centre at Pasto (Nariño) were met and interviewed. SAGAN and Trevino farms - both dairy/livestock farmers business organisations - were met. For several days of the field work, the evaluators were accompanied by NZ's ambassador to Chile, Colombia, Peru, Ecuador and Bolivia as well as MPI staff from the Mexico offices.

The evaluation visited the farm with the MSC, and Corpoica Staff (including Executive Director Juan Lucas Restrepo). Dairy research requires an off-farm facility to trial and test new technologies and practices before they can reasonably be trialled with farmers and an argument can also be made for the farm as a resource for training researchers, farm managers and extensionists. The project's use of the Obonuco farm is not foreseen in the ADD.

The evaluators were accompanied throughout by MSC staff.

At the end of the Colombia visit, members of the Governance Group were invited to a debriefing and this was attended by MADR, APC and Corpoica.

The inclusion of **women, youth and minorities was assessed**, as was the responsiveness of the Activity's design and implementation to their needs and circumstances.

The Activity is proposing changes to traditional pastoral systems and an intensification of dairy production and these may **impact the environment**. The Evaluation reports its observations on effluent and soil and water management, also from a practitioner's perspective of what represents good practice.

LIMITATIONS

The Evaluation was not resourced or planned to include primary data collection through formal surveys and so triangulation of information provided by the Project has been limited.

An evaluation of outcome, effectiveness, impact, attribution and contribution has not been possible as the project is too early in its development for that. However, the Evaluators provide an opinion on the likely trajectories for development outcome and impact.

The socio-economic survey and other baseline information was not at hand, which also imposed limitations on the Evaluation.

4. Findings and Recommendations

#1. Broaden the membership of the Advisory Groups to include more participation by industry, hold more frequent meetings and – as the project develops its GPGs, tools and other collateral - increasingly use the Groups as a means of communicating the project's R&D achievements.

The MSC should present a proposal to expand and enliven the Advisory Groups to the second Governance Group meeting. This should include revised objectives and performance indicators for these groups and the Project's management of them, where those focus on increasing the uptake of the project's learning, knowledge and tools.

The Project has a Governance Group responsible for oversight of the project and Advisory Groups established in each of the three departments the project is working in. The ADD prescribed a single Advisory Group and to ensure functional strategic engagement at regional level, the project has established a further two groups. This should be appreciated as being an astute response.

Membership of the Advisory Groups is flexible, allowing special technical expertise to be brought in when required. Generally, the suggested membership is: Co-Chairs from Representatives from MADR and Corpoica; and, stakeholder representatives from Corpoica, SENA, a University, FEDEGAN/SAGAN or alternative, a processor and Farmer Associations. The MSC provides the secretariat. The groups have met infrequently and the minutes reflect fairly perfunctory proceedings, but that should also be seen in the context that the project is relatively recently established and that Management felt they didn't have validated results to share. But, these groups have an advisory function and so listening to their advice about priorities and giving them a say in what they think is most needed and how to go about that—as well as sharing already validated results—is a strong means of securing ownership and accentuating the likelihood of their organisations' adoption.

The evaluation has talked to members of the advisory groups and has read the minutes of their meetings. The members were generally informed about the project, but not to a particularly high level of detail, with the exception of MADR and Corpoica. Our observation is that now that the project has achievements to show, the scope and mandate of the Groups could be broadened to invite more representation from industry and to use the fora to introduce the project and its work and outputs to a broader range of stakeholders, inviting them to use these as they see fit and to participate in prioritising the ongoing work programme. If DNP and Propais were invited to attend meetings, this would also help their understanding of the project and perhaps assist their support for the scaling up of the model as part of their investment programmes. The UMATAs also need to be routinely invited to the meetings. This broadened participation would also be part of a strategy of communicating, packaging and commoditising the information the project generates.

It is important that these meetings are made interesting and stimulating to the participants and so the project should also be encouraged to hold their meetings in association with field visits or field days.

#2. To outline a plan of action to roll out and scale-up the integrated dairy extension model, including a public investment plan (that meets existing investment return criteria), responsibilities, milestones and indicators, and establish a working group

that includes the DNP, Propais (mandated to develop and coordinate the EU support to CONPES 3765 implementation), Corpoica, SENA and MADR. This work needs to define the implementation of Output 3 (Research, extension and vocational training systems developed to enhance delivery capability) and the Results Framework will need to reflect that.

The MSC and their Corpoica counterpart should present a proposal for this to the second Governance Group meeting of 2017.

The design of the Project does not demonstrate an adequate understanding of the pathway to deliver its longer term outcomes or its goal: *to develop a profitable and competitive Colombian dairy farming sector (high tropical zone) through the widespread adoption of integrated management systems, developed and adapted from New Zealand and Colombian dairy experiences and validated under Colombian conditions.*

It is a well-coordinated, multi-institutional programme of sustained public investment and partnerships with producers and industry that will deliver an integrated extension programme and that requires strong leadership, new governance structures, institutional policies and investment programmes that are aligned and a re-engineering of the way research, training and extension agencies do their work and measure their performance. Whatever is proposed as a plan for roll out and scale-up needs to align and be informed by National Dairy Council, MADR and other existing dairy industry development strategies; a fairly complex but necessary undertaking.

Beyond the regular public budgetary allocations to MADR, Corpoica and local government and the programmes financed from the milk levy, there are several investment programmes that might be accessed to support the scale-up of the project and they include CONPES 3675, the (World Bank supported) Productive Alliances and the EU Peace Trust Fund. The Evaluation was specifically asked to look at opportunities under the CONPES 3675 which is Colombia's public policy instrument for dairy development and competitiveness. The public budget to support CONPES 3675 is reported as about NZD 225 million for dairy value chain development and as part of their policy support programme associated with the terms of the Economic Partnership Agreement (trade) with Colombia, the EU is to provide –though linked to trade values- NZD 31 million of this⁶. The development and management of this programme is outsourced to Propais' Dairy Policy Support Unit. They have six work streams of support under the programme, one of which is Sustainable Milk Production Systems. Evaluative work being initiated by them –and which will include the Project- is expected to be completed in November 2017 and this will inform future programming and investments. This may be an opportunity to finance scaling up and rolling out of the project and the partners should follow this closely. It is not possible for this Evaluation to second-guess Propais' evaluation process or to understand the other competing priorities for the CONPES 3675 funding; all we have been able to identify is a potential funding mechanism for the future. Implementing Recommendation 2 could strengthen the case for this.

The public policy environment for this is amenable (see Section 5 under Relevance) and several agencies (Propais, MADR, DNP and Corpoica) are looking at how they can improve their investments in dairy development, but there is apparently no multi-agency work group tasked with developing the coordinated approach that is needed. This should

⁶ Note that Propais did note that actual disbursements to the CONPES 3675 fluctuate significantly year-on-year and that this lack of predictability challenges the type and implementation of programmes supported.

be initiated and the project should look at how to support that, perhaps by re-purposing some of its technical assistance for the deployment of an experienced specialist. This work will also help to define Output 3, something the partners need to firm up.

#3. Develop a communications plan for the project where there are clear targets and indicators for the development and dissemination of the project's GPGs, other management and training tools and of the analysis, research findings and learning. These should be made available to the sector to use as they see fit.

A communications strategy that elaborates a pro-active packaging and dissemination of the project's knowledge and tools should be presented to the second Governance Group meeting of 2017. In the third year of the project, the communications strategy needs to be seen to be implemented at scale and as a core project activity.

The project has begun to develop and deliver a stream of products to support dairy farmers and their associations' business. These include formats and guidelines for farm record-keeping, business and activity planning and monitoring, GPGs for pasture management and the management of fodder surpluses, milk quality guidelines, and soil fertility management. Discussions with industry revealed that they are interested and curious about the work of the project and see that as supportive to their work with farmers.

As the project proceeds, there will be an on ongoing stream of these deliverables and (in marketing parlance) they form the collateral of the project. This knowledge and these tools are invaluable to the sector, whether or not delivered as part of an integrated system; they should be packaged and put into the public domain as they become available. There are multiple options for this communication and they should all be considered. They include: expanding the advisory group and field days, web-based publication, paper-based production available on demand or by subscription, SMS, radio, TV, a helpdesk facility.

Commoditising the project's collateral is also a means of managing the risks of delay, resourcing and complexity associated with institutionalising the integrated research, training and extension model.

#4. Establish an extensionist intern programme for graduates as a means of developing an opening cadre of young professionals who are familiar and have basic skills in the outcome oriented, farmer-facing extension approach that the project is promoting.

The MSC should present the second Governance Group meeting of 2017 with a costed plan for offering six-month internships to young, qualifying graduates, where each of the four extensionists would always have one intern assigned to them.

The project has employed four extensionists and they have received intensive training, which is ongoing. They act as counterparts and support the NZ specialists in the field and are also fortunate enough to receive ongoing mentoring and personal development from the national coordinator. But, they are only four and that makes their development as extension professionals very expensive. The project is also exposed to the risk of one or more of them leaving, with no apparent back-up plan in place. At the same time, it is acknowledged that there is a need to train and orient a new cadre of contemporary dairy extension professionals.

The notion of initiating an internship programme was informally discussed with the MSC and several key stakeholders and was well received. Its costs should be modest: field

and living allowances and a modest stipend. Such a programme can exist for the life-of-project and need not be formalised beyond that. It is the equivalent of work placements offered by firms and institutions to students as part of their course requirement, or immediately after graduation to give them work experience. If this initiative provided inspiration to industry or to training institutions to continue such an arrangement post-project, then that would be an additional outcome.

#5. Extensionist development and performance. Based on the integrated extension model, support the development of and trial and refine the human resource management tools necessary to recruit, deploy, manage and retain a motivated, adequately resourced cadre of dairy extensionists.

This work would best be done by Colombian human resources (HR) specialists working closely with MADR and Corpoica HR staff and should be initiated in the 3rd year of the project. The MSC should deliver their proposal for this to the 2nd Governance Group meeting of 2017.

The principles are that agricultural extension receives relevant information from the agricultural education system and feeds back field observations to this system. Extension is also linked to the agricultural vocational and higher education systems; these systems produce the agents who work in extension systems. The relationship between agricultural extension and agricultural research needs to be even closer, because the knowledge that agricultural

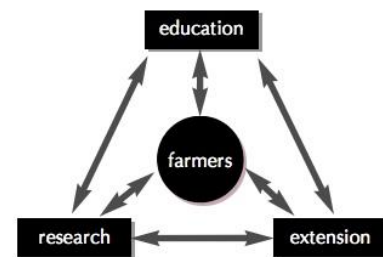


Figure 2. Generic Agriculture Knowledge System

extension transfers is usually generated by agricultural research through applied and adaptive agricultural research development. Figure 2 illustrates this generic Agriculture Knowledge System. Broadly interpreted, as the Project does, the purpose of agricultural extension is not only to advance production knowledge and profitability, but the whole range of agricultural development tasks, such as credit, supplies, marketing and markets. This is a complex model to optimise, with many “moving parts” that all need to function together and clearly, to work it requires skilled, well led and motivated professionals.

The traditional Government dairy extension services were commented on by stakeholders interviewed as being task oriented and without sufficient attention being paid to learning, knowledge management and farm outcomes. **The quality of an extension system is determined to a high degree by the quality of its extensionists.** In the context of the extension model the project is developing, extensionists need to be knowledgeable and experienced, empathetic, self-starters who are able to work independently and to function as go-betweens to bring knowledge and services to the farmer and to communicate farmers needs and concerns. They need to have well developed skills as adult educators, coaches and group facilitators. As the project develops its methodologies and its extension staff, one of the services it could perform, and which will sooner or later need to be done for the model to be institutionalised, is to work up the basic HR Management tools that will be needed to develop and manage the cadre of extensionists: job descriptions and competence frameworks; recruiting procedures and criteria; orientation and ongoing personal development guidelines; performance review processes; outline career paths; etc.

The evaluation did not access the existing HR systems and tools but discussions with institutional stakeholders indicated that they were dated, not particularly enabling or reflective of the manner in which a contemporary extensionist needs to be able to work, and that adopting more contemporary HR practices would be appropriate.

#6. Detail the strategy, implementation plan and budget for the remainder of the project and its many work streams, paying particular attention to the work programmes of the NZ specialists, assuring their coherence also with national priorities and undertakings (e.g. Corpoica's programmes) and also ensuring that local staff and counterparts are available and able to work alongside the specialists when they visit. Review and revise the risk assessment paying particular attention to institutionalisation and public investment assumptions.

The Project's implementation so far has followed the generalised mandate provided by the ADD. For the first year or so, management, specialists and counterparts did their detailed diagnostics, built their networks of target farmers and collaborators and associates, developed the approaches and methodologies and prioritised their opening interventions. This flexible approach was appropriate. Now in full implementation and with multiple work streams underway and being supported, the evaluation found it difficult to establish an oversight of what the plans for these undertakings were, what their deliverables and indicators of success will be, and what progress is being made.

The specialists' reports are by and large in the format of a back-to-office briefing documenting the specialists' trip experience and learning. The six-monthly reports present what was done, but don't contrast that against the plan, except for budget performance. And, so far there has not been a stocktake of cumulative progress and delivery against the plan. All-in-all, this frustrates both the assessment of the project's trajectory and also of its value-for-money.

The evaluation has reasonable confidence that the MSC has this oversight, but for example, MADR articulated some degree of frustration in this regard. Several of the extensionists also mentioned a lack of understanding of the decision making processes and plans and there was also some tension with Corpoica's Obonuco research station management that might be eased by there being more clarity. There is a generally high level of respect articulated for the project and the expertise it brings but this goodwill may not last if counterparts and the Governance group experience an increasing frustration at being unable to understand the project's trajectory, undertakings and achievements, the issues being faced and what is required of them, when.

#7. In a participatory manner that strengthens ownership and commitment to the project, review and improve the Results Framework, populating that with baseline and progress data, revisiting the target, indicators and means of verification for their relevance and adequacy, and, developing Output 3.

The MSC should present a thorough review and updating of the RF to the 2nd Governance Group meeting of 2017 and this should be in the format of a discussion that builds the confidence of the partners in the project's business case. The same exercise should be iterated at Advisory Group meetings, pitched at a level most appropriate for those fora.

The evaluation reviewed (Appendix 4) the RF and presented that to the MSC⁷ who have appreciated the feedback on this.

There is a tendency for project managers to use their RFs in a perfunctory manner, treating them as a necessary evil of project administration and reporting. The evaluation's experience is that the RF can be valuable for team building and stakeholder engagement, to support governance and oversight, provide transparency, and, to enable adaptive project management. A well prepared and maintained RF can constitute the basis of an evidence-based business case for ex-project investments to sustain the intervention.

A review and update of the RF is a good and pragmatic way of giving the project a periodic health check, typically along the themes:

- **Is this pathway to the outcomes and goals really how things will work?**

Elsewhere in this document the evaluation team note the lack of a Theory of Change. A key long-term indicator has as its indicator "Improved competitiveness of Colombian dairy farming in the High Tropics" and suggests productivity and costs of production as measures of that. But this ignores that competitiveness is relative also to what others in the market do, and if they make strides in their productivity or otherwise improve their pricing and reliability of delivery to the market, the High Tropics farmers won't be more competitive. Other investments are also needed, such as an improved milk-collection infrastructure and reduced costs of transport. So a better measure would identify the relative advantage of milk produced in the high tropics, at factory gate.

The pathway for this project is the notion of integrated research-training and extension systems and at outcome level a key indicator is "Integrated research, extension programme linking applied research and extension processes", where the number of these models established will be measured. But what constitutes that integration, and is their establishment a sign of success? Definition is needed.

- **Do we understand and factor in the external influences and what will need to happen for the project to be successful and that we are not in control of?**

The RF doesn't have indicators specifically to track the changes in the institutional landscape that need to happen to make the adoption of an integrated extension system happen and this is discussed throughout this document. Elaborating Output 3 will need to address this. Public policy, programming and investment in the context of the project need to be monitored, as does industry and service provider take-up of the project's outputs.

- **Do we know what our starting point (baseline) really looks like?**

Since the ADD was approved, the MSC have populated the RF with important output level baseline information and set targets, such as for farm

⁷ Thomson's 20/2/2017 email and attached review of RF to Manhire and his response of 21/2/17.

productivity and for hectares under improvement. Other information, especially at outcome level remains missing and/or remains to be defined. Example 1; the baseline for the outcome indicator “proportion of milk meeting milk safety” is described as “very variable” and the targets are to improve that by 80 and then 100%. But what is to be measured? 100% less variability will tell us there is no variability in milk quality, but we still don’t know how much of the milk is compliant. Example 2; targets for Output 3 are missing. Example 3; baselines for dairy productivity in the Departments where the project is working, and wishes to compare its farmers’ performance against, is missing. Example 4; the outcome “improved capability of the Colombian dairy farming sector” is to be measured by the staff resources committed to that, but there is no baseline or target and anyway, a headcount is a poor measure of capability. Example 5; higher level outcome measures of productivity, production, farmer incomes and quality are without either baselines or targets and the means of verification are not confident.

- **Do we know what interim and final success looks like and how we will measure it?**

There needs to be better and stronger interim measurement of adoption by farmers and associations and of uptake by industry and stakeholders of the outputs of the project. Adoption survey methodology is fairly standard and those surveys need to be iterative to track that behaviour change persists and becomes embedded.

- **How will we attribute success to the project, in an environment where lots of other factors that we don’t have anything to do with, influence change?**

At output and early-outcome stage the project is fairly clear about how it will measure attribution; by comparing target farms and associations with their nearby, unsupported peers. But there are plenty of other dynamics in the sector that will also influence change in the sector and being able to identify (for example ex-post) what role this project played in broader and longer term change will become difficult, unless an initiative is taken to establish a counterfactual now. That could be a panel of farmers and their associations distributed across the Tropical Highlands and that are not target farmers. A return to them in three and five or so years’ time would give some understanding of whether they had benefitted from the project’s outputs and what the role of those had been.

- **Are our targets realistic and do they need adjustment based on the experience to-date?**

Where targets are set, for example for farm productivity, it is not particularly clear what the basis of assumption is and with the first years’ experience at hand, it would be valuable to validate those targets with evidence at hand or that has been reliably generated elsewhere.

- **Is our timing realistic?**

Basically, when working with Government, their budget cycles determine their ability to significantly engage in new or additional work and the budget preparation starts six months or so ahead of the budget year. In addition, for development work like this project, there may be programme cycles and funding that determine the ability to participate or contribute. The Evaluation

thinks that the project is a bit naïve in its understanding of this and is over ambitious in its expectations of how nimble public administration can be. A review of the RF should consider the reality of this and adjust its expectations accordingly. Corporates often have more flexibility within their budget cycles, but not always and they also often are more demanding of needing to see the value proposition before they engage.

The MSC has made some adjustments and updates to the version of the RF in the ADD but they are not complete.

Finally, and this relates to Recommendation #3, (communicating the project and making its collateral available), indicators and targets for that should be included at output and outcome level. The evaluation's opinion is that if this recommendation is followed, industry and other agencies' use of this information and these tools may generate considerable performance gains for the sector, even if that is not delivered as part of an integrated systems approach.

#8. Review the NZ specialist team list with a view to reducing the number of experts and increasing the length of their visits. Ensure that their programmes of work are understood and agreed by their Colombian counterparts, that this is reflected in the annual programme of work for the project, that their work is clearly aligned with the Results Framework, and, that they report against plans and agreed terms of reference.

The MSC should present a review of the NZ specialist team and their deployment plan to the second Governance Group meeting of 2017.

In addition to the project director, there are 12 specialists from New Zealand who will deliver inputs. They include: two pasture specialists, two agribusiness specialists, two milk quality specialists, two research and innovation specialists and milk processing, extension, training and dairy husbandry specialists. None of these specialists had any particular Colombia experience and so each of them, with their own working styles and philosophies, has had to orient themselves to the project and the Colombian dairy farming and industry context, identify a set of priorities to address and initiate a plan of work for that. They all rely on the small cadre of project extensionists and co-opted Corpoica staff to support them with this and also to maintain trials in their absence. There are apparent counterpart absorption, coordination and decision making and planning issues associated with effectively deploying such a large and diverse team and the evaluation observed symptoms of that, also receiving comments to this effect from Colombia staff and from the specialists themselves:

- NZ Specialist: "I'm not sure where Output 3 is heading and I need that information", and, "we need the Team to be driving in the same direction"
- The extension officers are from time to time conflicted: they have a fairly full workload with their farmers and associations but find they need to put this on hold to accompany and service the NZ specialists when they visit
- Corpoica senior staff: "Output 3 is blurred and its role is unclear"
- MADR senior staff complain about a lack of reporting

The Evaluation suggests that with the above in mind, a rationalisation of NZ specialist team might look like:

- Farm management specialist with experience in smallholder dairy farming systems

- Dairy husbandry and nutrition specialist
- Pasture and feeds R&D and management specialist
- Milk quality, processing and compliance specialist
- Dairy economist/business development/finance specialist
- Agriculture knowledge management systems specialist
- A results measurement and results management specialist

Public sector investment planning/management inputs are needed to help bring together Output 3 (Recommendation 2), but the use of local specialists need to be prioritised and there are competent staff in DNP and Propais, for example. Skills to support the communications (Recommendation 3) functionality of the project should be available locally, as should training and HR development (Recommendation 5). On the use of additional local skills and staff needed to implement the recommendations of this Evaluation, it is recommended that this be identified and agreed as Government of Colombia contribution; that is also part of the institutionalisation process.

The evaluation also felt that the project had many “moving-parts” (organisations whose participation/support is expected, many NZ specialists and their work programmes, needs to align with existing undertakings and public budget cycles, etc.), making it difficult to clearly understand the strategies, plans and pathways being followed and creating an impression that the project’s management and the NZ specialists are running faster than their partners are able to keep up with and that perhaps their planning and decision making processes need to be given more time and be more inclusive. Further, that the NZ specialists’ reporting is not firmly enough against plan or clearly enough aligned to agreed and articulated strategies.

The evaluation is not questioning or criticising the knowledge and skills of the NZ specialists but they are many and visit for short periods of intensive activity, pushing ahead with what they see as needing to be done. We are of the opinion that a smaller core team of strong generalists supplemented by just two or three specialists and where visits are longer, would be a more efficient use of the technical assistance. Cost savings might also be generated.

#9. Acknowledging that the life of the project is short and also that Government of Colombia have an ambition to expand the scope of the project:

- a) Review the project’s budget with a view to identifying cost savings that would not compromise the project’s work and its outcomes but which might support a no-cost extension.
- b) Discuss with MADR the opportunity for them to increase their contribution to in-country costs for years 3, 4 and beyond, and (optionally) also allowing the project’s “quick-wins” to be disseminated and applied more broadly. This could relieve some of the grant’s use on in-country expenditures, allowing an extension of the MSC’s inputs.

Preparatory work should be initiated immediately, with a view to MADR and Corpoica provisioning for the project in their 2018 budgets. The MSC’s budget review should offer three scenarios: (i) no change in MADR/Corpoica contribution but efficiencies realised in the NZ budget; (ii) MADR/Corpoica increase their contribution, supporting an expansion and/or extension of the project and the existing NZ grant allocation budget is reallocated accordingly; (iii) no change on status-quo; the project will include exit and wind-up activities for its conclusion as per the ADD’s timing.

The project is 18 months into its four-year life and it is clear that in the context of initiating a shift in the dairy extension, this is simply not long enough. Efforts need to be made to see how the life of the project can be extended. Additionally, the Colombian partners are considering expanding the scope and scale of the project, which would require their financing of that. The evaluation has noted that the proof-of-concept is not yet secured with confidence, but there are elements of the project (e.g. the first quick-wins for farm production such as soil pH correction, pasture management, record keeping and farm planning) that could be applied broadly, albeit not as part of a systems based approach. The first GPGs will also be available shortly.

The evaluation understands that the New Zealand Aid programme (NZAP) has no new funds to commit to development assistance in Colombia but that question should be asked anyway, though also with an understanding that this would also be contingent on a stronger Colombian financial commitment. Not to find a means of continuing support to this project risks compromising the investments made so far.

#10. Satisfactorily conclude the Evaluation of Social and Environmental impact. The draft sighted is very weighted to environmental science. The finalised version needs to include basic standards and guidelines for management and extension practitioners to use to ensure social and environmental safeguards are in place and how to measure those. The Evaluation needs to include a presentation that has real utility for project implementation.

It is expected that this study will be concluded and presented to stakeholders by the time of the second Governance Group meeting of 2017.

The Evaluation of Social and Environmental Impact was an undertaking scheduled for the beginning period of project implementation. It was delayed due to issues around procuring a local provider. The first draft was sighted by the evaluation during their visit to Colombia. The work has been undertaken by environmental engineering firm Ambiental Mente SA. The draft is substantial and reflecting the pedigree of the team, is very environmental science based. Management now needs to respond to the draft and amongst others should require the consultants' final version to include basic standards and guidelines for management and extension practitioners to use to ensure social and environmental safeguards are in place and how to measure those.

5. Evaluation Conclusions - Summarising Against the DAC Criteria

Relevance: The Activity addresses Colombian Government, dairy industry and farmers' priorities. It is well aligned to public policy, for example: the CONPES 3675 which deals with dairy competitiveness; and, the forthcoming National Agricultural Innovation Systems Law, which we understand has been informed by the Project. Senior staff interviewed from the NPD, MADR, Alqueria, the National University, local government, Propais and Corpoica all noted the relevance of the project, appeared informed about its work with farmers and appreciated the ambition of project. That said, there was no particular clarity articulated about how an integrated dairy extension system could be run or resourced by the public-sector and several senior staff indicated the difficulty of sustaining public investment programmes that required long term commitment and investment, because of a lack of budget predictability and constrained public finances.

In terms of Colombia's overall ambitions for its dairy sector, anecdotally at least there is some acknowledgement that becoming a competitive exporter is not the first priority, or the most realistic pathway. Rather, improving productivity and domestic competitiveness as a means of displacing imports, and improving rural livelihoods, food safety and nutrition are the priorities and the latter in particular align well with New Zealand's development assistance policies.

As part of the Peace Process, Colombian agencies and their partners are preparing rural development programmes to support demobilised FARC fighters and their communities and small-holder dairy development has been identified as a priority intervention. In this context, the opportunities to adopt the project's models, learning and tools were mentioned by the NPD, MADR, local government officials and the APC, though the discussions were conceptual rather than identifying specific pathways or means of moving forward with this.

Several⁸ of the industry partners met offer elements of extension and outreach to the farmers and associations they buy from and they are clearly interested in selectively using the projects results, tools and GPGs. Their business-based motivation for this interest is also obvious.

Effectiveness: The project completed its six-month Establishment Phase according to plan. The project's administration, management and governance structures and procedures were established, four extensionists and a Project Coordinator recruited, the four associations and ten target farmers for each selected, and the operational partnership with the Corpoica, the primary operational counterpart was established. The New Zealand specialists made their first visits which were primarily about orienting themselves to the Colombian situation and making their initial diagnostics and workplans with their partners.

For Outputs 1 ("Network of Target Farms established that demonstrate adapted and validated Colombian/New Zealand dairy farming systems") and 2 ("Farmers Associations provided with business development support") progress at 18 months, against the ADD's implementation plan and subsequent adjustments to that, is satisfactory although documentation detailing strategies and plans for this work is not at hand and there is an

⁸ Alpina and Alqueria who respectively process about 1.2 million and 700,000 tonnes of milk annually.

appearance that the specialists have been “making it up as they go along”, according to what they felt were priorities at the time: understandable at the outset, but going forward, structured approaches are important. The project has only been working on-farm for one full annual cycle and so it is too early to assess the resilience of the technical and farm management interventions and the work with the associations is still very early-stage.

Output 3 (“Research, Extension and Vocational Training systems developed to enhance delivery capability enhanced”) is about seeing Corpoica, MADR, SENA, local government and industry collaborate to adopt and institutionalise the integrated, farmer-facing, outcome focussed extension model that the project develops. It is too early to make a judgement about whether or not that is on course. The activities and their targets are only vaguely described and the Evaluation was not able to assess the achievements that have been reported as being adequate but notes that the Project has:

- Shared the vision and value of an integrated farmer facing outcome focused research and extension model.
- Clarified the needs of key stakeholders in relation to the development of this model i.e. Corpoica/SENA – and the gaps in capability that the project can address.
- Socialised NZ models for addressing the above needs, for example: (i) Corpoica training on impact design basis for research, co-innovation processes, monitoring and evaluation, farm systems research approaches, where Corpoica is introducing this knowledge in other projects; (ii) SENA training and models for capability analysis and learning processes, consultations to define training programmes, qualification models and frameworks; and, (iii) training of the project Extension Officers, developing associated resources for them and development of extension training courses with SENA.

The Evaluation finds that this element of the project is not well articulated in terms of understanding what policy and institutional arrangements or allocations of human and financial resources are needed. To have the “extension system’s”, managers and their staff change the way they work, from being task focussed and prescriptive, to being farmer-facing and outcome minded, requires a major shift in organisational cultures and mindsets; one that has taken years of iteration in New Zealand.

The Evaluation reviewed the Results Framework and having presented the MSC with a comprehensive set of comments and suggestions, it should now be a priority for them to attend to those so that future assessments of progress and performance can more readily be made.

The evaluators were impressed by the levels of interest being shown in the project, also by those not directly associated with it.

Efficiency: At this stage of the Project’s development, and in the absence of exercises to define, cost and identify the financial and economic feasibilities, the efficiency of an integrated system built on the outputs and outcomes of the Project cannot be commented on by the Evaluation. Professor Juan Carulla⁹ (in conversation) estimates

⁹ Pasture Management and Livestock Nutrition Professor and smallholder dairy project coordinator at the National University.

that the dairy levy would need to increase fourfold to 3% to finance an efficient extension system.

This appears to be an expensive project, especially if the outcomes of scale are not or only partially achieved, or if complimentary strategies to disseminate the project's learnings are not adopted (Recommendation 3):

- Four extensionists, costing about NZD 32,000 each per year, provide extension and farm advisory services to 10-16 farmers, where each of those farmers produce 50-150 litres of milk a day that is sold at about NZD 0.45c/litre

The project calculates that an extensionist running the present model of farmer and association support can service 16 farmers and that annual farm productivity can double from its baseline of (ex-debt) COP170,000/ha (approx. NZD 80). With each extensionist expected to service in the order of 130ha of dairy farms, that is an increase in dairy productivity of COP 22.1 mil. or NZD 10,600 from this cost of NZD 32,000 annually, per extensionist. On the face of it, the extension model is too expensive and doesn't represent value-for-money. But, this crude calculation doesn't factor in that: civil servant extensionists would be paid less; that there will be some degree of spontaneous adoption by other farmers; that more profitable farmers' associations will repatriate increasing revenues to their members; that there are other incremental extension technologies – such as discussion groups- that can increase the effective outreach of the extensionist; and, that the project's extensionists also perform a range of other duties such as supporting the NZ visiting specialists and maintaining the field trials. Still, the impression is that the extension model being used is intensive and expensive.

Significant investments in dairy extension are already made¹⁰ by government and industry, through a multitude of programmes and organisational functions and so a totally new extension system is not needed. Government's re-engineering and alignment of existing functionalities to build an integrated system and change the way people work would be the basis. A modelling of proposed structures, functions, costs, and the feasibility of the integrated model remains to be proposed and (Recommendation 2 refers) this is critical, particularly if public investments are expected to institutionalise and support the integrated systems approach. The business case needs to be made. The actual processes of reform are by and large beyond the scope of the project but need to happen for the intervention to ultimately be deemed as having been an efficient and effective investment. Output 3 needs to identify the pathway for this.

Historically, developing and sustaining efficient smallholder farmer extension models – integrated or otherwise- challenge the state, industry and producers, particularly where the farm and commodity values and competitiveness are marginal. The Evaluation is not aware of any (developing or middle-income) country where these complex issues have been entirely resolved, but the National Federation Coffee Growers extension system¹¹ is acknowledged as being exceptional and may provide inspiration and lessons.

- 12 New Zealand Specialists will make visits to the project during the four years and the costs associated with them and the Management Services Contract

¹⁰ For example: MADR, levy funded service providers processes (Fedegan in the past), UMATAs and industry (e.g. Alqueria), CONPES financed programmes and historically also, development partner financed project interventions (e.g. USAID)

¹¹ <http://www.meas-extension.org/meas-offers/program-evaluation/national-coffee-growers-federation-fnc-colombia> [accessed 5 April 2017]
https://www.federaciondecafeteros.org/clientes/en/quienes_somos/fnc_en_cifras/ [accessed 5 April 2017]

amount to NZD 2.98 million. Seen in the context of the four target associations and their farmers, this is hugely expensive.

But, seen in the context of a national production of 400,000 mostly small dairy farmers producing 6 billion litres annually, it is just 1/10th of a percent of the farm gate value of that milk and so even modest levels of adoption of the quick-win technologies would quickly justify that investment, if they are disseminated (Recommendation 3).

At 12 identified individuals, the size of the NZ specialist cadre supporting the project is large and the evaluation doubts this is the most efficient means of delivery, or the most sympathetic to their counterpart hosts.

For the NZ specialists' inputs to the project, this first period has been characterised by their orientation to Colombian dairy farming and milk handling, diagnostics, a series of back-to-office progress reports that are narrative and show an intent to do what appears most needed, and the initiation of a series of field trials, investigations and the establishment of farm and milk management procedures and protocols. Going forward, it is important, also for the credibility of the specialists, to establish a framework that makes it quite clear what their programme of work will be, when that will be delivered and what the key performance indicators for their work is; all responding clearly to the project's Results Framework. Their reporting also needs to be more clearly against their TORs and plan, and the project's management needs to improve its collation of the information in these reports. Senior staff of MADR and several of the extensionists voiced frustration over a lack of predictability around the specialists' visits and their reporting and the evaluation also notes the apparent lack of clearly articulated plans.

It is also very important that the decision-making processes for the model being developed are clearly articulated and understood. R&D and extension systems are very much about adaptive management in constantly changing environments and with usually constrained financial and human resources: decisions need to be made transparently and objectively. With the experience of the first seasons of implementation in hand, it is time for the project to begin structuring these processes.

In terms of **budget adequacy and performance**, the New Zealand contribution appears adequate in size and distribution for the programme of work. The MSC have not requested any reallocations or indicated stress points in the budget. The first year was underspent by 30% or so and though it was anticipated that this second year of implementation would catch up on that, the first half-year results indicate that might not be the case. To address the various recommendations made by this evaluation, a budget review would be required. Operationally, Corpoica demonstrate commitment to the Project and the impression is that they are fulfilling their contributions, which are by and large in-kind.

Sustainability: It is too early to assess whether the benefits of the project are likely to continue after donor funding has concluded, though initial results and the enthusiasm being shown by Target Farmers is impressive and encouraging. Farm record examples show year-on-year¹² doubling of milk production, pasture development and management trials show very clear results and the associations' members are actively engaged in the process. In terms of the agronomic and farm management practices being introduced to farmers, it remains to be seen whether farmers continue these practices and how resilient they are, for example to variable weather or market conditions.

¹² Year-on-year comparisons are not always helpful. Baselines should better be multi-year averages as it is not clear if the year being compared against was exceptional in any way. At the time of the Evaluation, only one year's farm and association data was available.

Institutional sustainability cannot at all be assessed because the institutionalisation of the project's outputs by and large remains to be initiated. The promulgation of the National Agricultural Innovation Systems Law is expected to provide a legislative instrument enabling the institutionalisation of an integrated research-training-extension system and that is a very important point of departure for a sustained, institutionalised effort.

It is also noted that the intention –which reflects the adoption of an adapted NZ-Colombian model– is that an integrated approach is not solely a public sector undertaking; industry, farmers organisations and service providers also have important roles to play. This intent is important, but making it work efficiently and responsively is challenging and must be expected to take time. The Evaluation's opinion is that what is most likely in the short to medium term, if inclusion (see Recommendation #1) and communications (see Recommendation #3) are actively pursued, is that stakeholders will selectively use the findings, recommendations, GPGs and tools generated by the project, as is determined by their needs and priorities.

The **social and environmental** baseline study was not finalised in time for this evaluation. The draft sighted was very environmental science based and provided a fair screening of the project for any significant issues but was not very supportive to monitoring or managing social and environmental issues and opportunities. The programme is expected to actively manage for gender equity, good governance and environmental sustainability and needs to be more proactive in establishing how it will do this. In the meantime, no problematic issues have been identified.

In discussions, the project staff appear mindful of the needs for social (including Gender) and environmental protection but has not initiated any specific undertakings to understand, monitor or proactively address these issues, apart from:

- that one of the associations (Las Playas –) is an “Indigenous” association
- that farms supported respect the altitude limits imposed by law for the purpose of protecting high-altitude ecosystems
- soil testing has been done for the target farms and it is understood that nutrient budgets for each of the farms will be done and used to inform fertilizer recommendations

The ADD goes to some length to talk about women in dairy farming, and the role of this in protecting and enhancing family values and life quality and it would be appropriate now for the project to demonstrate more insight; for example to monitor family indebtedness, demands placed on women's' time and labour, and changes in family consumption and expenditure.

Each of the associations' milk collection centres generates water effluent and, albeit generally modest, that needs to be managed and this should be done in a manner that is not only compliant with regulatory requirements but which also exemplifies good practice. Our assessment is that only modest investments will be required for each of the associations.

From a **human rights** perspective, apart from the grassroots governance capacity building that is implicit in working with communities, farmers and their associations, it is positive to note the interest in the project's modalities that is being shown by government agencies and partners who are preparing their peace-process rural development programmes. Economic empowerment, participation and access to services are valuable and important measures for addressing post-conflict human rights' needs. The project does not have a mandate to directly support any of these programmes but what it can do is to share its learnings, GPGs and the other collateral it develops.

Climate change mitigation and adaption is mentioned in the ADD and there is a passing acknowledgement of what that means for the project. The evaluation's opinion is that the

most important actions that can be taken by the project are to be mindful of the need to promote resilient farming solutions, where those most obviously need to prioritise drought tolerance criteria for the pasture mixes and management regimes, and adequate water storage and reticulation. Also, and insofar as this is possible, to avoid capitalisation that cannot be serviced during period of extended drought. The evaluation noted that these issues are being attended too, though the need to do so could be more strongly articulated in decision making processes.

The evaluation's opinion is that the **best opportunities for sustaining** the investments in this project lie in packaging the GPGs, agronomic and farm management recommendations for general use, actively communicating those to industry, government agencies and other partners supporting farmers. This requires that the project is more inclusive and prioritises communication and dissemination. The ambition of having Government adopt and run an integrated research-extension-training programme is grand and worthy, but under the best of circumstances likely to take much longer than anticipated.

6. Risk

The Evaluation has reviewed the Project's Risk Matrix as being generally adequate in terms of its understanding of risk in the context of implementation and the realisation of its outputs, which are confined to the target farmers and their associations.

There is very little discussion in the ADD and its risk matrix of the challenges and complexities of the broader adoption of the project's outputs –the medium term outcomes- and of the institutionalisation of the approach. Comments and recommendations made earlier in this document about public investment, programming, alignment, coordination and feasibility refer to this. The ADD does not propose a theory of change and it would be a good idea for the stakeholders to go through that exercise as an exploration of just what it is that needs to happen to realise the ambition of successfully institutionalising an integrated knowledge management system that causes dairy farming production, productivity and profitability to increase in the High Tropical regions, beyond the project's operational geography. That exercise should have happened at the time of conceptualisation or design.

It is noted elsewhere that the Results Framework remains to be populated with baseline information, targets, improved indicators and credible data/information sources at outcome level. This needs to be addressed and logically would be early in the implementation of Recommendation 2 which is about planning for the institutionalisation, scale up and roll out (Output 3). At the moment, not having clarity on these matters is, amongst others, a risk to being able to ex-post ascertain value for money and impact; information that will also be important to inform post-project investments by Government and stakeholders and to make the business case for the integrated systems approach. The Evaluation acknowledges that there are issues around the availability of reliable dairy sector statistics but there are also contemporary evaluative tools and methodologies that could alleviate those, for this project.

Regardless of the good work being done by the project, its promising results and the commitments to it by MADR and Corpoica, it is important to understand that from a higher-level sector policy and investment perspective, extension for dairy sector development in the tropical highlands competes with a host of other pressing requirements, in a complex environment, during a period of constrained public financing and where trade policy is working against the competitiveness of local dairy production. From a public and industry investment perspective, the concept should be accepted as being early-stage and beyond the farms and associations supported, still not proven to a degree that would justify significant public investment. And that will really be the case until there is evidence that the institutions start to reallocate funds that they can already make available, prioritising activities associated with further developing and institutionalising the project in new geographies and as the mainstreamed way they support extension. Hence Recommendations 1, 2 and 9.

If progress is not made against these recommendations, beginning fairly shortly, the Evaluation rates the risk of not realising the medium term and longer term outcomes of the Project as being high. Implementing Recommendation 3 on active communications provides an option to at least ensure that the evidence, tools and GPGs generated by the project are available to the sector, regardless of achieving longer term systemic change.

Elsewhere in this document the option of using a Market Systems Development approach in the design is discussed. That would also have acknowledged the partnership risk. Public sector performance is seen to constrain Colombia's competitiveness and economic

performance and the reforms required are beyond the scope and influence of this project.¹³

If the recommendations of this Evaluation are implemented, extending the life of the Project will also give some much needed time to develop a more complete and convincing proof of concept and the business case for public and industry investment; also a mitigant of the risk of not realising the project's outcomes. How much time is needed is difficult to assess and any extension of project-life would need to be made with negotiated milestones focussed on institutionalisation and Colombian investments increasing. In the first instance, a two year extension is probably the minimum necessary.

¹³ <http://reports.weforum.org/global-competitiveness-report-2015-2016/economies/#economy=COL> [accessed 5 April 2017]: "Other areas for improvement are the country's institutional framework, especially public institutions (125th), with corruption (126th) and security (134th) remaining dire". Rankings out of 140 countries included in the World Economic Forum's annual competitiveness report 2015-16.

7. Lessons Learned

Core lessons that can be drawn from this evaluation and which can inform this project's future and the design and implementation of other projects are:

1. New Zealand's position in the World as a successful dairy producer and exporter is respected and the country has considerable expertise to offer emerging dairy economies, particularly for pasture based farming. But, when deploying NZ dairy specialists, it is important that they take the time needed to understand the local context; farming and production systems, markets, the support service functions and most importantly, the prevailing socio-economic, political and institutional environments¹⁴. There is always a history behind prevailing circumstances and it is important to understand what it is. They must also understand what motivates their counterparts, what they are capable of and of the other demands there are on their time, adjusting their work with them accordingly. **Mobilisation of specialist New Zealand technical assistance should be tailored to local circumstance and there should be a process of pre-departure orientation and briefing. Technical Assistance should always be mobilised against agreed terms of reference that clearly spell out what is to be done and why, how performance is to be measured and what reporting is required.** The Colombia Dairy Value Chain Project generally rates well against most of these criteria. Being able to employ a Colombian national who is a dairy development specialist and also has a strong New Zealand background has been important to the initial success of the project and to introducing short-term NZ specialists to the country and their work, but it is the evaluation's opinion that: the team it fields is too large and that (at least for the short to medium term) better outcomes might be generated by **fielding a small number of strong generalists supplemented by a few specialists**; that planning and decision making is not always sufficiently inclusive of local counterparts; and, that reporting needs to be better structured.
2. The point of departure for this project is to improve farm and association production, productivity and profitability, where business plans for that will be prepared for the farmers and their associations. Many agricultural development programmes underestimate or don't understand the capacities of farmers and agri-SMEs to manage their enterprises and their interest in being better at that. They ignore the importance of treating the undertakings as businesses that can grow, be sustained and be managed, focussing instead on crude measures of livelihood, production and productivity. **This project sets an example in treating and supporting farmers as small business operators**, even though they are semi-subsistence. This should be the norm for all of MFAT's development assistance that supports farmers' development.
3. For New Zealand's private sector focussed agricultural development activities, when they are modestly sized and of a 3-5 year duration, **to have industry and business as primary partners**, leveraging their own performance improving activities and investments. The primary drivers of business are profitability, competitiveness and market position and the best of them invest in their suppliers who are the farmers, primary processors and traders and associated communities that are NZAP's ultimate

¹⁴ For example, Colombia's coffee extension (also high altitude and small-holder focussed) is the largest privately run extension system in the World and it is globally recognised as being exemplary. The success of the Colombian coffee industry demonstrates that, but nowhere in the NZ fact-finding or ADD design literature is it apparent that there was an effort made to understand this success and how it could inform the development of a better dairy extension model.

beneficiaries. This is the market-systems development approach¹⁵ which is widely acknowledged as representing best-practice. NZ's agricultural diplomacy and trade agendas are acknowledged as being important and this approach does not get in the way of that. On the contrary, development partners are usually able to agree with Government that although their project is partnering the private sector, this is a direct and efficient route to realising policy objectives such as increasing agricultural output or exports, or creating jobs and livelihoods. The concept of "crowding in" by making the experience that the partnership generates publicly available, avoids favouring select business partners. In the Colombia context, the evaluation considers that **an industry partnership based design could have been more efficient for this size and duration of funding.**

4. **Developing a Theory of Change is a critical element of project conceptualisation and then design;** it forces the logic of causality, recognises what needs to happen beyond the scope of the project for it to be a success, and identifies risk. A strong and honest theory of change development exercise also provides clarity for the stakeholders and improves ownership. Contemporary approaches to project management revisit their Theory of Change periodically as a health check of the validity of the design, making adjustments as needs be.
5. **Outcomes need to be realistically set and short and medium term outcomes should be able to be substantially realised during the life of the project.** The narrative that describes what needs to happen in the external environment for the project's outcomes to be realised needs to be complete, frank and recognise the complexity of economic development. For the Colombia Dairy Value Chain project, the ADD does not articulate an understanding of the political economy or of the challenges involved in bringing about and financing fundamental changes in the way government agencies support the dairy sector. No effort was made to **understand the prevailing public investment and public financial management context.**
6. **Results Frameworks are important tools and they need to be used actively and reviewed frequently by the partners. MFAT should critically review and assess these annually, insisting that the Results Framework is the focus for reporting.** Frameworks developed during the design phases of projects generally require elaboration and adjustment during the inception phase. It is easy and common to ignore the utility of the results framework. Using the Results Framework actively challenges the project implementers to question the intervention logic and the prevailing environment. The Colombia Dairy Value Chain Project's use of its Results Framework as a management and reporting tool was only fair.
7. Where there is risk associated with the likelihood of bringing about systemic institutional change (in this case, the institutionalisation of a farmer-facing integrated dairy extension system), **consider commoditising the knowledge, lessons and tools** that the project will generate, making those publicly available through mass media or packaged and delivered to agencies and industry working with dairy development, and by more generally including these stakeholders in field days, meetings and promotional events. This may be a more efficient and secure means of bringing about quantum improvements in productivity and profitability in the short to medium term. The public health sector offers valuable examples and lessons of this approach in action.
8. Seek to **incrementally increase the contribution from the partners receiving NZ development assistance.** For a project like this where new ideas and concepts

¹⁵ For more information, see for example: <http://www.enterprise-development.org/implementing-psd/market-systems/>

are being developed and much of the budget pays for NZ experts, it is reasonable that at the outset the local contribution is modest. But as the project begins to show its worth, with a view to sustaining and scaling up the intervention and as a demonstration of commitment and willingness to share risk, it is reasonable to expect the host to begin to make an increasing contribution, at least to in-country costs. Time needs to be allowed for the host to get this on-budget. If the notion is that the model developed is to be institutionalised (as is the case for this project), then it is invaluable to begin that process sooner rather than later. For partners who are not classified as low-income, and always for business partnerships, this should become the norm. The onus should be on the project to articulate the business case for the intervention and this is an important tool to support partners' investment decisions.

8. Appendices

APPENDIX ONE: Persons Consulted

APPENDIX TWO: Stakeholders

APPENDIX THREE: Documents Reviewed

APPENDIX FOUR: Evaluator's Results Framework review – working documents.

APPENDIX ONE: PERSONS CONSULTED

Industry and Business Service Organisations

Alpina SA	<ul style="list-style-type: none">• Nelson Guerrero: Director of institutional affairs
Alqueria	<ul style="list-style-type: none">• Ana Maria Gomez: Milk Marketing Manager• Jaime Albarracin: Livestock development infrastructure manager• Carlos Silva: Supply livestock development manager•
ANALAC (National Association of Dairy Producers)	
ASOHATORUHR (Dairy Farmers Association – Cucunuba)	<ul style="list-style-type: none">• Farmers
CNL (National Dairy Council)	<ul style="list-style-type: none">• Jesica Beltran: Technical Secretary
Fedecoleche (Federation of Cooperatives of Milk Producers)	<ul style="list-style-type: none">• Reinaldo Vazquez: Executive Director (Colanta's representative on CNL)
Las Playas Dairy Farmers Association, Nariño	<ul style="list-style-type: none">• Farmers
PROLENN (Dairy Farmers Association Santa Barbara, Nariño)	<ul style="list-style-type: none">• Farmers
SAGAN – Nariño Farmers and Livestock Association	<ul style="list-style-type: none">• Fabio Trujillo
Trivino Farm (Cucunuba)	<ul style="list-style-type: none">• Henry Trevino – Sheep Breeders' Association

Central and Local Government Agencies Colombia

APC (Presidential Agency for International Cooperation)	<ul style="list-style-type: none">• Luz Emérita López : Official Development Aid Office
Corpoica (Colombian Corporation of Agricultural Research)	<ul style="list-style-type: none">• Juan Lucas Restrepo: Executive Director• Margaret Pasquini: Director, Obonuco Research Center, Pasto• Tatiana Rivero: Planning and Institutional Cooperation Director• Gustavo Garcia: Innovation Manager - Minor species and cattle• Xiomara Pulido: Head of department of Technology Transfer• Fernando Rodriguez: PhD Researcher• Edwin Castro: PhD Researcher• David Dorado: Business Development• Maria Fernanda Garrido: Support Coordinator, Agricultural Technical Assistance
Department of Boyaca (local government)	<ul style="list-style-type: none">• Nubia Lopez: University Professor• Jorge Ivan Londoño: Secretary of Agricultural Development
Department of Nariño (local government)	<ul style="list-style-type: none">• Richard Fuelantala: Sub-secretary of Agriculture
Ministry of Agriculture and Rural Development (MADR)	<ul style="list-style-type: none">• Gerardo Ramirez: University Professor• German Rodriguez: Livestock Group Coordinator - Dairy Coordinator
Ministry of Commerce	<ul style="list-style-type: none">• Humberto Garcia: Livestock Value Chains Director• Edith Urrego: Specialist

Ministry of Foreign Affairs (Colombia) National Planning Department	<ul style="list-style-type: none"> • Melisa Murcia: New Zealand Affairs
National University	<ul style="list-style-type: none"> • Julian Garcia: Deputy Director Commercialization and Rural Agricultural Financing • Santiago Flores: Adviser • Juan Carulla: Pasture Management and Livestock Nutrition Professor and smallholder dairy project coordinator
Propais (a public policy development and implementation parastatal) Sena (National Learning Service – vocational training)	<ul style="list-style-type: none"> • Pedro Valderrama: Director Complementary Support CONPES 3675: Dairy Sector Competitiveness • Claudia Duarte: Livestock Instructor • Edgar Zambrano: International Relations Coordinator • Miguel Pardo: Advisor - Agriculture network

Government Agencies New Zealand

NZ Ministry of Foreign Affairs and Trade (NZ MFAT)	<ul style="list-style-type: none"> • Jacqui Caine (and accompanying staff): Ambassador to Chile, Colombia, Peru, Ecuador and Bolivia • Charlotte McElwee: Activity Manager, Wellington • Jessica Bensemman: Agriculture Team, Wellington • Mandy Stark: Activity Manager, Wellington (from 20 Feb, 2017) • Tony Brenton-Rule: Principal Manager • Alex Lennox Marwick: Policy, Latin America • Terry Meikle: Agriculture Counsellor, Mexico
NZ Ministry of Primary Industries	

NZ Management Services and Project Staff

Extension Officers	<ul style="list-style-type: none"> • Jesus Diaz: Extension Officer Prolenn (Santa Barbara, Nariño) • Giovanna Benavides: Extension Officer Las Playas • Sebastian Carrillo: Extension Officer Boyaca • Camilo Gomez: Asohatoruhr - Cuncunuba
The Agribusiness Group (TAG)	<ul style="list-style-type: none"> • Juan Fernando Vela: Project Coordinator - Colombia • Jonathan Bruce Manhire: Executive Director • Miranda Hunter: Husbandry Specialist • Maria Elena Duter: Pasture Management Specialist • Bernardo Balladares: Milk quality training and continued support to the Farmer Associations (QCONZ)

APPENDIX TWO: STAKEHOLDERS

Stakeholder	Relevant roles in project
Industry and Business Service Organisations	
Alpina, Alqueria	<ul style="list-style-type: none"> • Extension needs and systems • Project rollout possibility • Advisory Group
ANALAC (National Association of Dairy Producers)	<ul style="list-style-type: none"> • Advocacy for the dairy sector • Advisory group
CNL (National Dairy Council)	<ul style="list-style-type: none"> • Policy advice • Project advisory group • Project rollout possibility • Extension needs and systems • Advisory Group
SAGAN, FEDEGAN, etc.	<ul style="list-style-type: none"> • Business service organisations and advocacy for the dairy sector • FEDEGAN previously managed the milk levy revenues to collate industry statistics and run development project
Other National Agencies	
CORPOICA (Colombian Corporation for Agricultural Research)	<ul style="list-style-type: none"> • Field research, assist with the design and development of the extension model and processes. • Validate NZ inputs • Project coordinator (COL), operational lead for implementation • Project oversight • Governance Group • Advisory Group • Obonuco farm as one of its agribusinesses
APC (Presidential Agency for International Cooperation)	<ul style="list-style-type: none"> • International relations • Project rollout possibility • Governance Group
DNP (National Planning Department)	<ul style="list-style-type: none"> • Policy analysis and development and legal issues • Public investment programming and budgets
SENA (National Learning System)	<ul style="list-style-type: none"> • Extension needs and systems

<p>Propais (a public policy development and implementation parastatal)</p> <p>National University</p> <p>UMATAS/Secretary of agriculture (Regional Government)</p> <p>MADR (Colombia Ministry of Agriculture and Rural Development)</p>	<ul style="list-style-type: none"> • Training needs and systems • Project advisory group • Farmer training • Advisory Group • Project rollout possibility using CONPES 3675 support programme • Agricultural research, including extension needs and systems • Graduate education • Advisory Group • Extension officer support • Farm association support • Project oversight (Regional) • Budget for project rollout possibility • Sector policy development and management. • Oversees and directs the various agencies in its mandate, incl. Corpoica • Project oversight • Project governance group • Governance Group • Contribution to budget; largely in-kind
Target Farmers and their Associations	
<p>ASOHATORUHR Dairy Farmers Association, Cucunuba</p> <p>Las Playas Dairy Farmers Association, Nariño</p> <p>PROLENN Dairy Farmers Association Santa Barbara, Nariño</p> <p>ASOGABEL Dairy Farmers Association, Belen, Boyaca (discontinued support)</p> <p>ASPROLECHE Dairy Farmers Association, Santa Rosa, Boyaca (replaced ASOGABEL in the activity)</p>	<ul style="list-style-type: none"> • +/- 10 participating small holder target farmers in each association: training, development and adaptation of good practice • development of the Associations' business models and support to their management, focus on managing milk quality and decision making for best use of milk • demonstration to neighbouring farmers and associations
Government Agencies New Zealand	
NZ Ministry of Foreign Affairs and Trade (NZ MFAT)	<ul style="list-style-type: none"> • Project oversight • Governance Group • Grant finance • Contract the Management Services

	Contractor (TAG) <ul style="list-style-type: none"> Embassy in Colombia to be established
Ministry of Primary Industries (MPI)	<ul style="list-style-type: none"> Promotion of bilateral relationships for agricultural trade
NZ Management Services and Project Staff	
Extension Officers	<ul style="list-style-type: none"> Manage the daily operations with target farmers and associations: training and extension; farm management advisory Counterpart NZ specialists when they visit and maintain trials/demos in their absence Facilitate community, farmer group and association meetings Field-level monitoring and reporting Liaison with local government
The Agribusiness Group (TAG)	<ul style="list-style-type: none"> Management Services Contractor Project development, oversight, and administration. Results management and reporting Project coordinator (NZ), operational lead for implementation Mobilisation and direction of NZ specialist team Governance Group Advisory Group

APPENDIX THREE: DOCUMENTS REVIEWED

PROJECT DOCUMENTATION

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APPENDIX FOUR: EVALUATOR'S RESULTS FRAMEWORK REVIEW – WORKING DOCUMENTS.

During the Evaluation Team's 9-26 February 2017 work in Colombia, the Results Management Table (RMT) was discussed. A constructive dialogue followed. Below are: (i) extracts from the 20 February email sent to the MSC of the observations made by the Evaluation: (ii) comments edited into the RMT.

Since this exchange, as a process of this evaluation and according to how the recommendations made are adopted and operationalised, the requirements to adjust the RMT have also changed. This Appendix does not attempt to second guess that, rather leaving it to the partners to internalise and operationalise those; - replete with targets, indicators and means of verification.

Included below is a copy of the RMT October '16 with Evaluators' comments on it. Now is the time to really firm it up. To populate it with baseline data; make targets projections based on the evidence and experience from this first phase of the project; include some important intermediate measures to track uptake; be more specific on what Output 3 is actually going to do; and, monitor closely the commitments made to changing the way extension is done, beyond "agreeing on strategies". There is quite a lot of process and work to do to knock this into shape and it might be a valuable opportunity to use the occasion to "workshop" the RMT with the most central of the project's partners, to get everyone on the same page and "owning" this logic and ambition.

Key takeaway from a review of the RMT, and from which Evaluators' other comments by-and-large flow, is: One of the Outcomes for this project should have been that "Dairy sector development in Colombia is supported by affordable, efficient, integrated research-training-extension systems" (or similar wording). Ultimately, this is what this project is basically about and has a measure of control over. Much of what else is required to develop the dairy sector is beyond the control and influence of the project.

The Evaluator has quickly reviewed the 6 month reports produced so far. It is not easy to assess performance from that reading because the narrative does not contrast results against plan for the period (except for financially). The output annexes are generally back-to-office reports by the specialists and it is also not clear what plan they are following. It is not difficult to get the impression that on their visits they do what they think needs doing, but maybe are not following a specific game-plan. Perhaps this is also because it was necessary to "make it up" as you went along in the beginning, but that now a firmer implementation plan and the management and monitoring of that it necessary.

The RMT refers to Annual Reports from the project, but you are generating 6 monthly progress reports. Maybe only semantics, but it can be a good idea to make a more comprehensive report at the end of the year, where a full stocktake of progress against deliverables is presented as well as an analysis of risks and assumptions and any recommendations for change to accommodate those.

Any attention the project is making to cross-cutting themes of gender, environmental sustainability or resilience to climate change, is not apparent.

See Appendix 4 - ***7.3 Revised Results Measurement Table***