

Knowledge Transfer and Exchange Guidance

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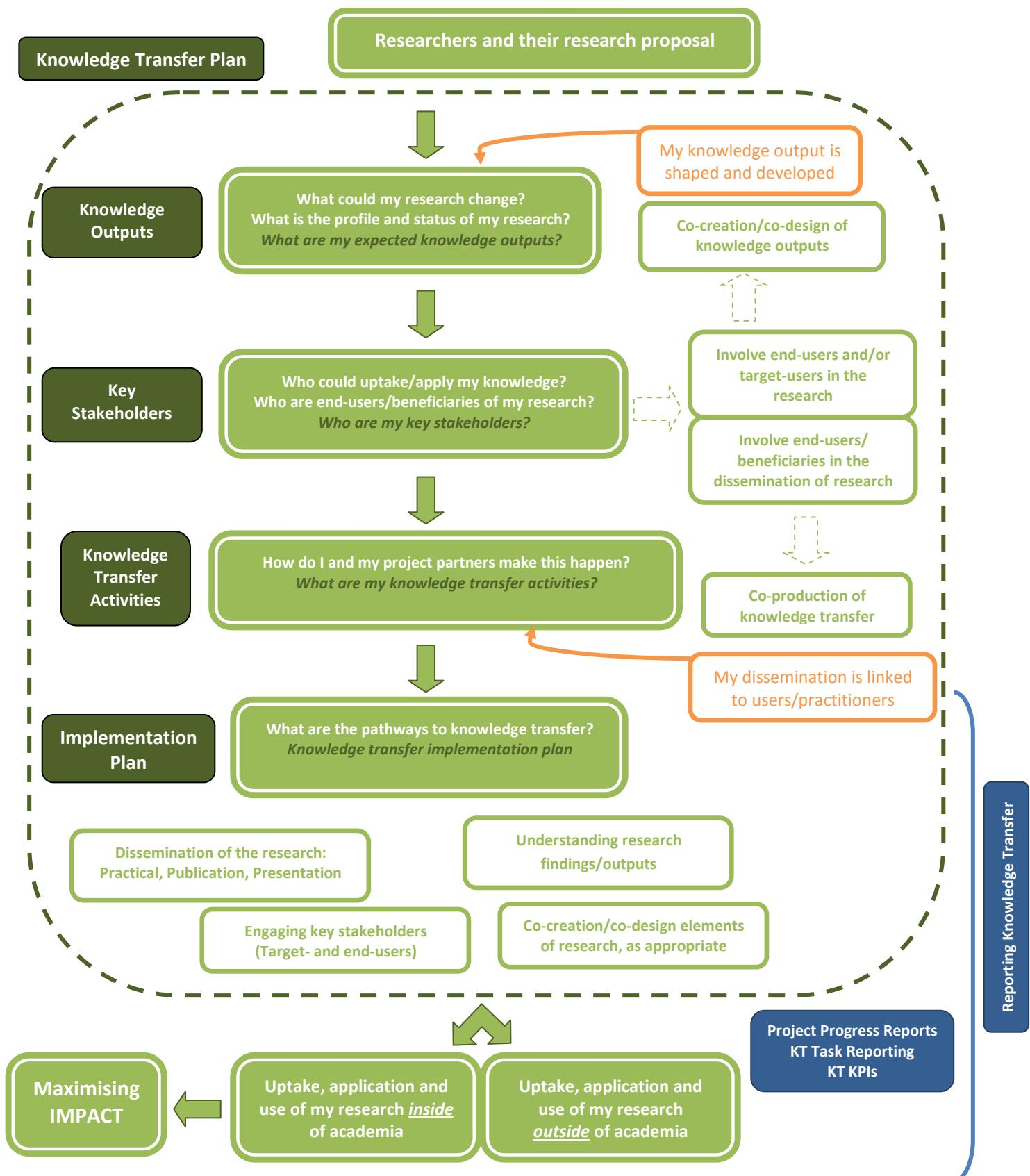
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Document History

Version	Comment	Date
1.0	First Edition	December 2020

Knowledge Transfer Summary

The schematic below provides a summary of knowledge transfer in the research process and the DAFM Knowledge Transfer Plan as outlined in this document.



1.0 Introduction

1.1 What is Knowledge Transfer?

The aim of Knowledge Transfer (KT)¹ or exchange in the research process is to **maximise the two-way flow of knowledge**, such as ideas, concepts, technology, processes and/or intellectual property, between researchers, the users of that knowledge and the final end-users or beneficiaries of the research. The process of KT enables various organisations, such as companies or other non-academic organisations (existing and new), community groups and the public sector, to **drive innovation leading to economic, environmental and social impacts** for the benefit of end-user stakeholders in society, policy and industry. It also enables publicly-funded research performing organisations (RPOs) to advance research and teaching.

Knowledge transfer can be defined as describing how **knowledge and ideas move between knowledge sources, potential users of the knowledge, and end-users or beneficiaries**. It **consists of a variety of activities** which aim to capture, pass on and generate knowledge, skills and competences between those who generate them and those who can use them.²

Therefore, research **KT is seen as essential for innovation, as a mechanism for the dissemination of research results, communication with stakeholders and the maximisation of impact**. As such, KT is considered as a recognised activity in which RPOs are expected to engage in alongside or as an integral part of their teaching and research activities. Indeed, these activities within the research process normally go hand-in-hand with each other as the outputs, results or knowledge of research projects are disseminated and communicated. How they fit into the programme logic of a research project are presented in the figure below.

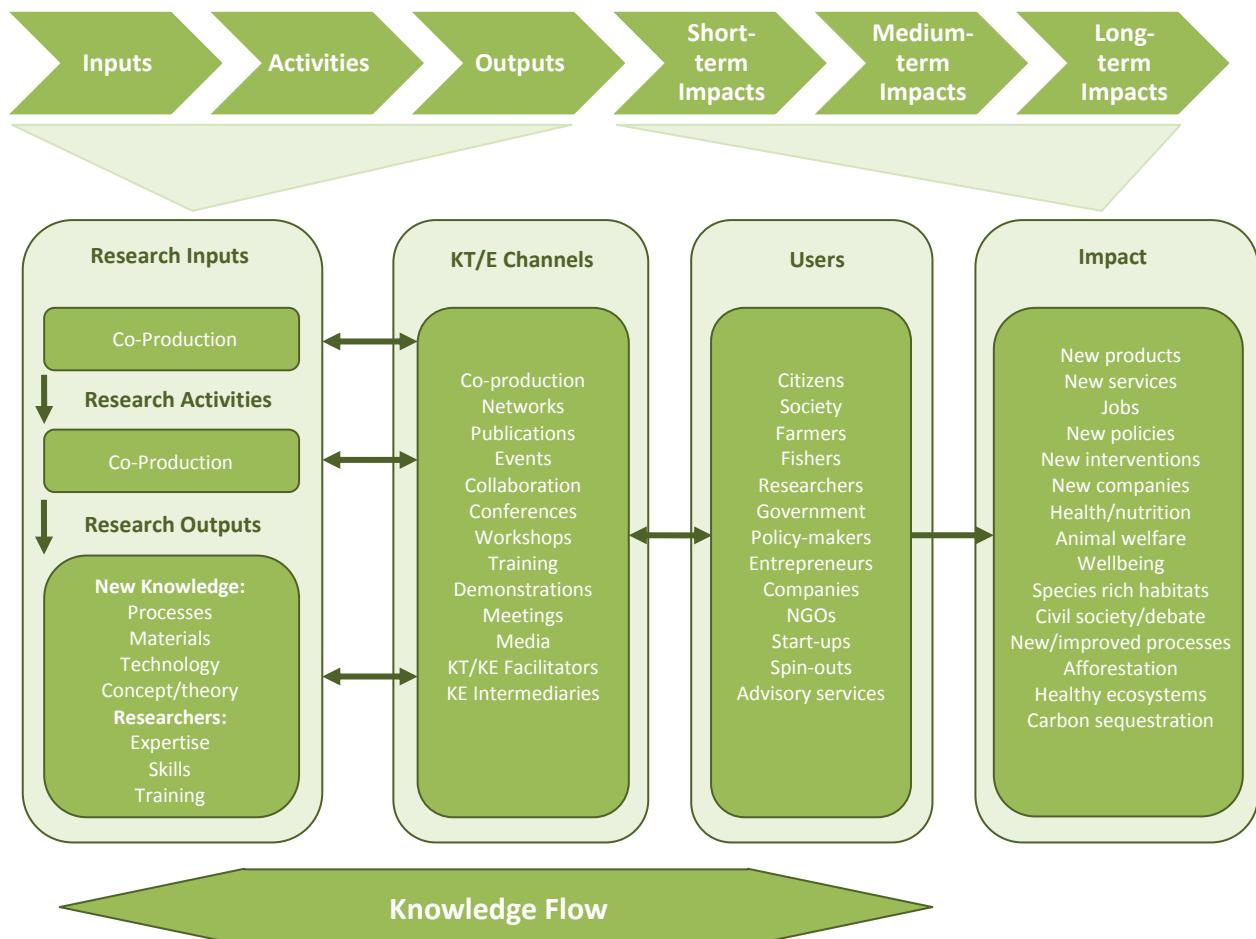
However, it is important to highlight that KT may facilitate a one-to-one, one-to-many or many-to-many relationships and interactions between stakeholders in the dissemination and communication of research. As such, the research process can incorporate linear concepts of transfer, such as "**producer push**" or "**user pull models**" (see Section 2.1.5), where researchers are responsible for transferring and facilitating the uptake of research knowledge, i.e. to push knowledge towards audiences they identify as needing to know about the specific knowledge; or where the user is responsible for identifying and using research knowledge, i.e. to pull knowledge from sources they identify as producing research useful to their own decision-making process or situation. KT can also include more rounded concepts of transfer, such as "**exchange model**" (see Section 2.1.5), where researchers and multiple stakeholders are jointly responsible for knowledge through the development, dissemination, uptake and use of research to improve research outputs and impacts. Together these approaches can support:

- Research through to commercialisation, monetisation, professionalisation or skills of research output such as through **training or knowledge technology transfer (KTT)**, and/or
- The **dissemination and communication** of research **results with academics** that progress the ideas, concepts, methodologies along the technology readiness levels, and/or research results with, and to, **non-academic third parties**, such as policy-makers, community or regional groups, etc. and/or
- The joint contribution to knowledge creation (i.e. **co-creation or co-production**) by stakeholders to research projects, this can include joint dissemination and communication of research results/output. It

¹ There are several terms in use to describe the valorisation of knowledge. Knowledge Exchange (KE), Knowledge Transfer (KT) and Knowledge & Technology Transfer (KTT) are often used interchangeably, but Technology Transfer (TT) tends to refer to research commercialisation and may be considered a subset of a wider set of KT processes. This guidance uses the wider KT terminology as described in the introduction.

² Modified based on definition in EPA Report Series, Bridging the Gap between Science and Policy. A Knowledge Transfer Guide for Researchers. Report Series No. 133

can also include input into the research proposal ideas or design and contributions to and/or feedback into initial/final research findings of a research project.



The **co-production approach to knowledge transfer** (as well as to knowledge generation) can allow stakeholders, especially end-user stakeholders (e.g. farmers, fishers, companies, community groups), to have a more active role in the dissemination of research to their peers and communities. Indeed, the transfer or exchange of different forms of knowledge and experience can be developed, tested and shared in the research activities of a project through focus groups, networking, knowledge exchange groups, living labs, communities of practice, incubators, specialist hubs and cooperation and co-operative activities. These approaches are usually more heavily involved for researchers, since it is embedded within the research. It frequently involves **dealing with tacit knowledge** that is more challenging to share or pass along through writing or verbalisation, since it is developed through the experiences, observations, and insights of a person, and it requires shared activities to impart that knowledge.

As such, **not all research proposals may require a joint, co-production approach** to the topics, challenges or opportunities under investigation and use of this approach should reflect the nature, scope, size and objectives of the research proposal being undertaken. For example, research in the TRL³ range 1-3 more often than not will require knowledge transfer through established academic routes (such as conferences, symposiums, peer-reviewed articles) to other researchers for either verification purposes or for further development; it may also include initial knowledge transfer to industry or policy stakeholders to raise

³ Technology Readiness Level

awareness of new research thinking. While research in the TRL range 7-9 will likely require knowledge transfer routes (such as prototype or *in situ* demonstrations, “Living-labs”, stakeholder training/workshops, or thematic network engagement) that are more expansive, diverse and involve co-production with both academic and non-academic stakeholders as the idea and research becomes closer to deployment as a policy, scheme, technology, product or service.

Where this approach is used **innovation intermediaries (or brokers)** may also need to be considered. Innovation intermediaries or brokers are persons or organizations that, from a relatively **impartial third-party position, purposefully catalyze innovation through bringing together actors and facilitating their interaction**. These include primarily, but are not limited to, primary producer advisory and extension services. Such services must be suitably qualified and hold the appropriate requirements and/or qualifications. Their role should also not be limited to agronomic, technical and financial aspects of research results but should also cover environmental and climate performance, innovation and digitalisation from research. Overall, KT supported by an intermediary can help expand the role of research extension to facilitate and connect multiple stakeholders. As an organisation and function in the research project, such brokering differs from traditional extension of research and development because it represents the institutionalisation of the facilitation role, with a broad systemic, multi-actor, innovation systems perspective.

1.2 Why is Knowledge Transfer Important?

The transfer or exchange of knowledge from researchers to other colleagues within academia and to wider stakeholders can provide positive benefits in a whole range of areas and to wider society. The interaction between the researchers in academia can assist with the progress of scientific research leading to discoveries, new theories or scientific methodologies. The interaction between researchers and non-academic stakeholders in society can add significantly to help convert research results or outputs from projects into practical applications, sustainable jobs, solutions to climate and environmental challenges and social progress.

A co-production approach to dissemination and exploitation can provide different perspectives to the research and can be the more revealing type of approach which brings unique inputs, outputs and impacts to a research problem or issue, through its engagement with tacit types of knowledge and connection to a wider set of stakeholders. It may also be suited to “bottom-up” approaches to research that can be described as more open to knowledge creation and its dissemination through multi-actor partnerships and their involvement in specific research challenges.

Increasingly, research funding bodies are challenging researchers to demonstrate the wider relevance of their research. Funders and recipients of public research funding alike recognise the need to demonstrate, in the broadest sense, in order to improve competitiveness of the research process, maximise the potential for impact from the project in the economy, society and the environment, and to ensure a measurable value return from such investments from the public sector. Therefore, KT is especially important for awarding bodies, such as DAFM, in order to demonstrate to government and citizens the importance, value and impact of public funded research. In this context DAFM is updating the framework to evaluate knowledge transfer based on the work carried out by Intrigo/AquaTT for the EPA in the “Knowledge Transfer Resource Kit”⁴.

⁴ EPA Report Series, Bridging the Gap between Science and Policy. A Knowledge Transfer Guide for Researchers. Report Series No. 133

1.3 Purpose of the Document

This document provides guidance on knowledge transfer and exchange for applicants to the DAFM competitive research calls and for annual reporting of successful DAFM-funded research projects, specifically it provides guidance on:

- Describing the knowledge transfer/exchange activities of a research proposal in the application form.
 - Intended for applicants applying for funding of research proposals through the competitive DAFM research calls.
- Reporting on knowledge transfer/exchange over the duration of a research project.
 - Intended for project coordinators of successful research proposals awarded funding by DAFM.

This document covers the following as described in the table below.

Section	
2.1.1	Contains a general outline of the main structure of the Knowledge Transfer Plan required from the application form and the general considerations required in the relevant sections. The characteristics of good KT Plans are also provided in this section.
2.1.2	Covers the detailed considerations and requirements for the two sections of the Knowledge Transfer Plan in the application form. <ul style="list-style-type: none">• Section 3 (Project Information): The first part in the “Knowledge Transfer Plan” section of the application form explains what considerations and information are required for detailing the following elements of the Knowledge Transfer Plan of the proposed research project:<ul style="list-style-type: none">○ Knowledge Outputs○ Key Stakeholders○ Dissemination and Communication Activities• Section 4 (Work Plan): The second part in the “Knowledge Transfer Implementation” task section of the application form provides the considerations and information required to detail how knowledge transfer will be implemented with respect to knowledge transfer milestones and deliverables for the project.
2.1.3	“Evaluation of Knowledge Transfer” provides an indication of the relevant area and criteria that will be applied by the expert evaluation panel in determining the quality of the proposals submitted in relation to knowledge transfer.
2.1.4	“Changes to the Knowledge Transfer Plan” provides a brief summary of how project coordinators of successful research proposals may update or change the Knowledge Transfer Plan during the project lifetime.
2.1.5	Contains supporting information that outlines the different models of knowledge transfer and exchange that can be utilised for identifying the relevant knowledge transfer model that fits with the specific nature, scope and size of the research proposal in the application form.
2.1.6	Covers supporting information for applicants on what knowledge outputs are, how in the application form they can be profiled and categorised. It also provides information as to why they are important for knowledge transfer.
2.1.7	Supporting information that describes the broad key stakeholders that should be included in the knowledge transfer plan. It also provides examples of sub-groups that need to be distinguished by applicants for each of the relevant key stakeholder types.
2.1.8	Contains supporting information for applicants to assist with completing the dissemination/communication activities.
2.1.9	Provides a broad distinction on different types of knowledge that should be considered, in particular around tacit knowledge.

Section	
2.2	Provides an overview of the reporting requirements for knowledge transfer.
2.2.1	Covers the detailed requirements for annual reporting on knowledge transfer for research proposals awarded funding. <ul style="list-style-type: none">• Contains information in respect to reporting on milestones, deliverables and issues with respect to the implementation plan task for the knowledge transfer plan.• Contains information on the selection of KT activity indicator in Section 13 of the PPR and also covers the requirement to justify the selection in each associated text box.
Annex A	Provides a template for summarising the Implementation Plan for knowledge transfer delivery.

2.0 Knowledge Transfer Framework

DAFM's Knowledge Transfer Framework requires consideration of the Knowledge Transfer activities to be used in a research project across the lifetime of a research project. However, specifically these need to be described in two stages:

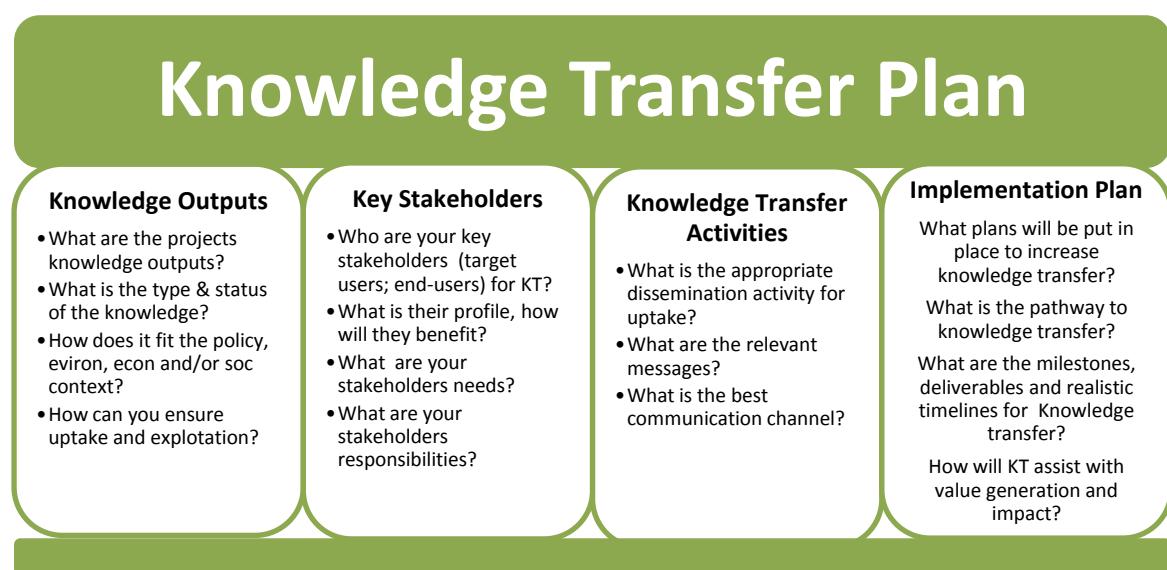
- At the **application stage** applicants must prepare a **Knowledge Transfer Plan** that is relevant and appropriate to the proposed project.
- At the **reporting stage** - project coordinators, of successful projects, must report on **knowledge transfer and exchange activities** undertaken to deliver impact, value and benefits from the project.

2.1 Knowledge Transfer Plan and Application Form

2.1.1 The Knowledge Transfer Plan

The knowledge transfer plan in the application form for research proposals submitted to a DAFM research call is completed in both Section 3 and Section 4 of the application form as a specific Knowledge Transfer requirement. The knowledge transfer plan is structured into the following sections:

- Section 3 (Project Information) - requires a detailed outline and description of the Knowledge Transfer Plan that consists of 3 main sections:
 - A detailed outline and description of the **expected knowledge outputs to be transferred**.
 - A detailed outline and description of the **key stakeholders** of knowledge dissemination.
 - A detailed outline and description of the **knowledge transfer activities**.
- Section 4 (Work Plan) - requires a detailed outline and description of the milestones and deliverables for the implementation plan for your Knowledge Transfer Plan.



Characteristics of effective knowledge transfer include:

- Begin planning your knowledge transfer with a set of objectives that are clear, simple and measurable; and building in some simple evaluation measures at the start to track and demonstrate if and how you have succeeded in meeting your KT objectives.
- Understanding the findings or outputs from the proposed research and how these best connect to and/or impact stakeholders.

- Understand and prioritise your key stakeholders and end-user groups according to their importance and influence relative to your objectives. Consider the wider audience or unique stakeholders that may be included for enlarged stakeholder groups. A comprehensive stakeholder analysis may be required.
- Involvement and where appropriate embedding stakeholders from the outset in the research project. This can help to better understand the issues and opportunities of the research area and uptake/exploitation by stakeholders.
- Experimentation of new ideas for KT activities out on people you know. This will help you find the most effective way of presenting them.
- Allowing sufficient time and resources in project proposals to carry out KT activities. Use of specialist resources, such as innovation intermediaries, where it's necessary and appropriate to support knowledge transfer throughout the project
- Allowing space for serendipitous connections and events to take place at any stage during or after your research.

Guidance on completing the Knowledge transfer plan is provided in the next section.

Further supporting information on knowledge transfer is provided in Sections 2.1.5 to 2.1.9.

2.1.2 Research Proposal Application Form

To complete the research proposal application, applicants are asked to **provide a Knowledge Transfer Plan in Section 3 (Project Information) and Section 4 (Work Plan)** of the application form in the Flexi®Grant system.

The knowledge transfer plan should be proportionate and appropriate to the research proposal, depending on the nature of the research project, its scope, size and TRL level.

Where co-production stakeholders or innovation intermediaries are included in the research proposal, applicants must indicate this and provide the necessary additional details in the knowledge transfer plan.

Indeed, **innovative and creative approaches to engaging stakeholders and knowledge transfer are strongly encouraged**. Where feasible, research projects should seek to involve individual farms, farmers and agricultural advisors as this has been shown to result in better knowledge dissemination.

The knowledge transfer plan should be as specific as possible and provide information that reviewers will find helpful in assessing the potential or expected engagement of stakeholders, dissemination, communication and exploitation of the proposed research activity. Thought should be given to ways of maximising transfer from the research project. It should be written primarily in lay non-technical language.

Supporting documents may be appended to both sections as required by the application.

NB: Further guidance on completion of the application form in the Flexi®Grant system is provided in the [Call Guidelines](#) for applicants.

The knowledge transfer plan in the application form is comprised of:

Knowledge Transfer Plan

Please describe **what plans will be put in place by the proposed research project to undertake knowledge transfer through describing the expected knowledge created from the project, identifying and engaging key stakeholders and undertake knowledge transfer activities** to increase the chances of uptake and use of findings from the proposal, be as specific and comprehensive as possible.

A credible implementation plan **must also be provided and contain an outline of the pathway(s) of Knowledge Transfer** via the series of steps that include the actors and activities that connect the research to key stakeholders (target users and end-users) that lead to value creation and impact. The implementation plan is to be included in Section 4 (Work Plan) of the application form as a dedicated Knowledge Transfer Task – use Task 1 for this purpose.

- Identify an outline of the appropriate knowledge transfer pathway or road map both during and beyond this research proposal. In **Section 3** identify the knowledge output, who is the key relevant stakeholder(s), what are the activities or tasks required to transfer knowledge that will help enable and maximise impact from the application or use by the key stakeholder of the resulting transfer. Reference can be made to the Impact Statement.
- Any relevant documentation can be annexed to support your proposal.

Section 3 – Project Information

Knowledge Outputs (max 400 words)

- Describe the expected knowledge outputs of the proposed research project.
 - What are the expected knowledge output(s) from the research? Identify and describe the key results and messages that will be disseminated.
 - Knowledge output types include (but are not limited to): de-novo knowledge, novel technology, novel process, RTD methodology, report/study/review, case study, conceptual model, guidelines/standards, training activity/learning module, software/modelling tools, database, product, prototype, services/tools.
 - What is/are the key messages from the research results and how does that connect with wider societal, environmental or economic challenges or opportunities?
 - What is the status of the knowledge?
 - Not all knowledge is ready for uptake or application: Is more research required for validation? Is there corroborating information? Is the knowledge conclusive enough to provide evidence to or be actionable by a stakeholder?
 - How will the knowledge outputs from the research be managed during the research and what access will be made for stakeholders, describe any data systems or repositories that might be utilised? What, if any, IP considerations need to be included?
 - If relevant to the research proposal, how will co-producers feed into the knowledge outputs?
 - What knowledge do they bring to the research project and how will that add to the research results/outputs and impacts? Is it easily shared and transferred through writing or speaking? Or is it developed through the experiences, observations, and insights of a person or community?
 - What specific parts of the knowledge inputs will they be involved in? Will they contribute to joint design and scoping of the research proposal (co-creation)? Is the contribution a one-off engagement or is it throughout the research project? Will they be involved in research dissemination of results/outputs from research?

Key Stakeholders (max 300 words)

- Describe the key stakeholders of knowledge transfer that are proposed for the research project.
 - Who are your target audience that are relevant for knowledge transfer activities?
 - Who are the target-users that will take up the research project results and use it to bring about change? What area are they from policy, business, and/or society?
 - Are end-users or beneficiaries that are expected to use and benefit from the research being included, if so, please provide details on whom?

- Are primary producers or agricultural advisors included in the research and do they have a co-production role?
- What is the purpose of the knowledge outputs to your stakeholders?
 - How will the research results will be utilised and exploited, what possible applications may result and for which specific development stakeholder(s) will it be relevant?
 - What will the identified stakeholders do with the research results to bring about change? How do they enable knowledge transfer to deliver impact with end-users of the research?
 - How will the dissemination of results to the identified stakeholders be expected to change public policy or schemes, drive further research, generate discussion, change practices, educational/training and/or provide potential new products, services or technology in a sector?
- Are there other individuals, organisations or bodies who could be used to maximise your connection with the stakeholders?

Knowledge Transfer Activities (max 500 words)

- Describe the dissemination/communication/transfer activities, channels and measures of the proposed knowledge transfer that will be used in the research project.
 - What proposed dissemination measures will be used to transfer the research findings by the project during the period of funding? All forms of dissemination to key stakeholders should be included.
 - Is dissemination via publication in peer reviewed articles, technical publications, national reports or through social media? Should the dissemination be in scientific/technical or non-technical language?
 - Is dissemination via physical events at meetings, training events, workshops or seminars, prototype, demonstrations or “living labs” (e.g. real life best practice installations, organisations, farms)?
 - Consider if there are any existing science-to-policy, science-to-industry and/or science-to-society channels that you could use? Are there specific forums, events or consultations taking place?
 - Indicate, where relevant, dissemination measures that are proposed for the community/public/societal engagement related to the project.
 - Specifically, if dissemination is to be undertaken via a thematic network a summary of how this will be addressed is required.
 - The purpose of a thematic network would be to assist with the sharing of state-of-the-art knowledge and methodologies, between key development stakeholders with a view to speeding up discoveries and closing the gap between research and innovation.
 - How will the dissemination measures be tailored to the specific needs of different target audience and what messaging should accompany the dissemination?
 - Are the selected channels appropriate for the development stakeholder(s) and type of information to be transferred? What are the details and the rationale for the use of the selected channel(s)? Is the language employed appropriate for the stakeholder (i.e. technical or non-technical)?
 - When will the dissemination of research information and/or results take place?
 - At what milestones will the project results be disseminated and to which development stakeholders at the start of the project, different project stages, end of the project, or at specific times related to external factors?
 - What potential chains of transfer exist between different development stakeholders that need to be considered when disseminating research results along the knowledge transfer pathway?
 - Who is involved and what stakeholders need to be connected?

- How will the proposed dissemination measures help achieve knowledge transfer from the project and how will it contribute to the project's impact?

Section 4 – Work Plan

- Describe the appropriate milestones and deliverables linked to the relevant knowledge transfer activities as **Task 1 of Section 4 (Work Plan) in the application form**; be realistic in respect of timelines and resources required for knowledge transfer or exchange. The budget requirements for resources linked to the knowledge transfer activities of the project should be provided for in the relevant budget sections of the application form and identified for knowledge transfer.
- Any relevant documentation can be annexed to support your proposal.
 - For example, in Section 4, the knowledge transfer/exchange pathway and its milestones, deliverables and timelines may be provided in tabulated form. A template is provided in Annex A and can be used if relevant or required for completing the implementation plan in Section 4 of the application form.

Knowledge Transfer Implementation

- Please ensure Task 1 of the Work Plan relates to the Knowledge Transfer Implementation Plan that relate to your proposal.
- Describe the **implementation plan** of the proposed knowledge transfer that will be conducted in the research project.
 - Tasks: Label (e.g. T1) and give a title for the KT task in the work plan.
 - Objectives: The objectives of the task should be provided and these should be related to achieving the overall objectives of the project.
 - Lead Researcher, Institution & Other Institutions involved: Please indicate the lead institution for the KT task, the name of the lead researcher and the other Institutions involved in carrying out the task. Within the task description, the role of the various collaborators should be clear.
 - Start and Finish Months: The start and finish timing should be included as month numbers e.g. start month no. 1 and finish month no. 12.
 - Description: The description should provide an outline of the work to be done to achieve the objectives.
 - Milestones: Milestones denote when aspects of the work are complete and must be completed for each task. Each milestone should indicate the work that should be completed by a certain date. The dates should be given as month number. Each Milestone should be cross-referenced to its respective Task number throughout the application form in a sequential manner, i.e. by labelling for Task 1 as M1.1, M1.2, etc.
 - Deliverables: Deliverables should indicate what the outputs and impact of the task will be. The outputs and deliverables expected from the task as a whole should be described. They should be measurable / quantifiable. Dates for deliverables to be achieved should be indicated and given as month number. Each Deliverable should be cross-referenced to its respective Task number throughout the application form in a sequential manner, i.e. by labelling for Task 1 as D1.1, D1.2, etc.
 - Any relevant documentation can be uploaded to support your proposal. A template is provided in Annex A and can be used if relevant for completing the implementation plan in Section 4 of the application form.

2.1.3 Evaluation of the Knowledge Transfer

Project proposal application forms are evaluated for knowledge transfer and knowledge exchange (if applicable) by the Expert Evaluation Panel that assesses and reviews the research proposals. The panels established for this purpose will consist of relevant experts from a diversity of backgrounds which may

include overseas academia, the agri-food industry and the public service. In particular instances for specific call communication/dissemination experts may also be involved. The proposals at the Expert Evaluation Panel stage will be assessed according to the evaluation criteria. One of the three overarching criteria has aspects that relate to knowledge transfer and knowledge exchange. The criteria are:

- **Relevance & Impact (10 marks);**
 - Point 1: *Proposed measures to maximise, inter alia, economic, scientific, environmental, policy and socially important impacts. These measures should also consider:*
 - *Address industry and society collaboration in the development of the research and innovation, including through the co-creation of research with key stakeholders.*
 - Point 4: *"Enhance knowledge transfer/exchange of research proposals through the proposed measures in place for effective transfer of research outputs to exploit and disseminate the project results (including management of IP), to engage relevant key stakeholders, communicate the project and exchange knowledge, to manage research data where relevant and to integrate new knowledge."*
- Scientific Excellence (10 marks);
- Quality & Efficiency of Implementation (10 marks).

However, the quality of the plans and approaches to knowledge transfer and exchange will also feed into other criteria (such as the scientific excellence criteria (point 5) relating to the ambition of approaches to the research area and its potential to drive innovative) or the quality and efficiency of implementation of the activities linked to transfer/exchange activities. More detail on the evaluation criteria, specifically around impact is set out in the relevant sections of the **Call Guidelines** for applicants.

2.1.4 Changes to the Knowledge Transfer Plan

Where the **knowledge transfer plan of a successful research project requires updating or changing**, such as in relation to the implementation plan outlining deliverables and timelines, the proposed changes must be **notified to DAFM by submission of an “initial Request for Change” form** via the Flexi®Grant system.

Depending on the scope of the change made, and assuming the initial request is agreed and accepted with DAFM, a full “Request for Change” form will be issued through the Flexi®Grant system for completion and submission.

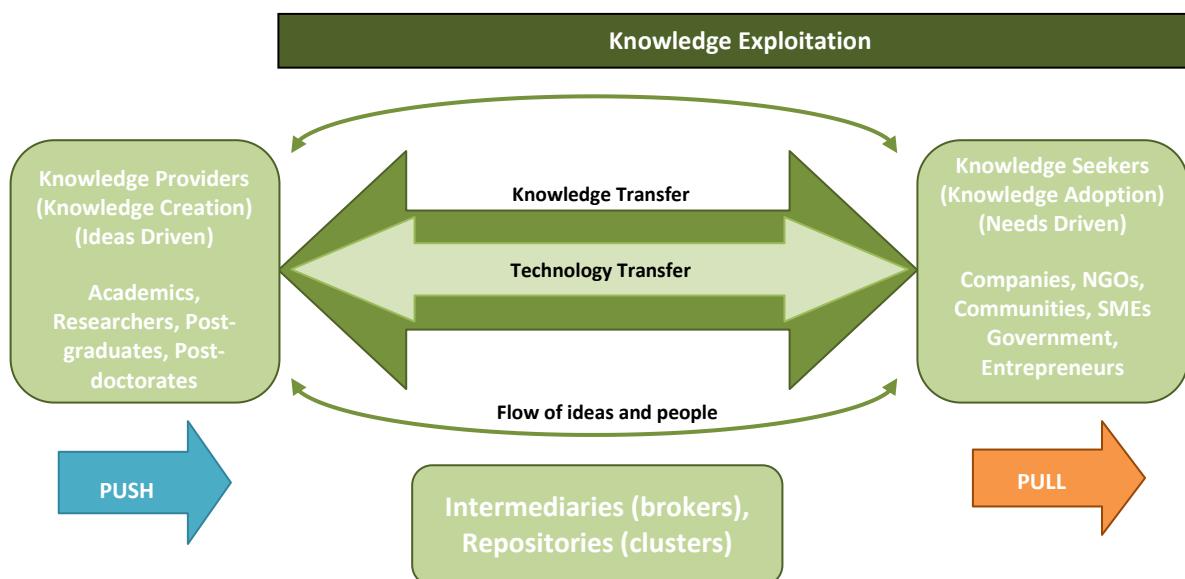
All changes must be agreed with DAFM before implementation.

Further information on making changes to the research project may be found in the [Project Management and Progress Reporting Guidance Document](#) on the DAFM website.

2.1.5 Supporting Information: Knowledge Transfer Models

Knowledge transfer in the research process may take a number of different forms. A linear approach has dominated through a knowledge transfer approach with a one-to-one or one-to-many relationships between researchers and stakeholders. In this approach the research results are transferred (or disseminated) on to identified different users of that knowledge or a potential user of knowledge identifies relevant knowledge/research results for their purposes. Knowledge transfer in academic settings is well established either from researcher-to-researcher through journal articles, seminars, conferences/symposiums or from researcher-to-commercialisation through the knowledge and technology transfer offices. These can be summarized as:

- **Producer Push and User Pull Models⁵** - where researchers are responsible for transferring and facilitating the uptake of research knowledge, i.e. to push knowledge towards audiences they identify as needing to know about the specific knowledge; and/or where the user is responsible for identifying and using research knowledge, i.e. to pull knowledge from sources they identify as producing research useful to their own decision-making process or situation.

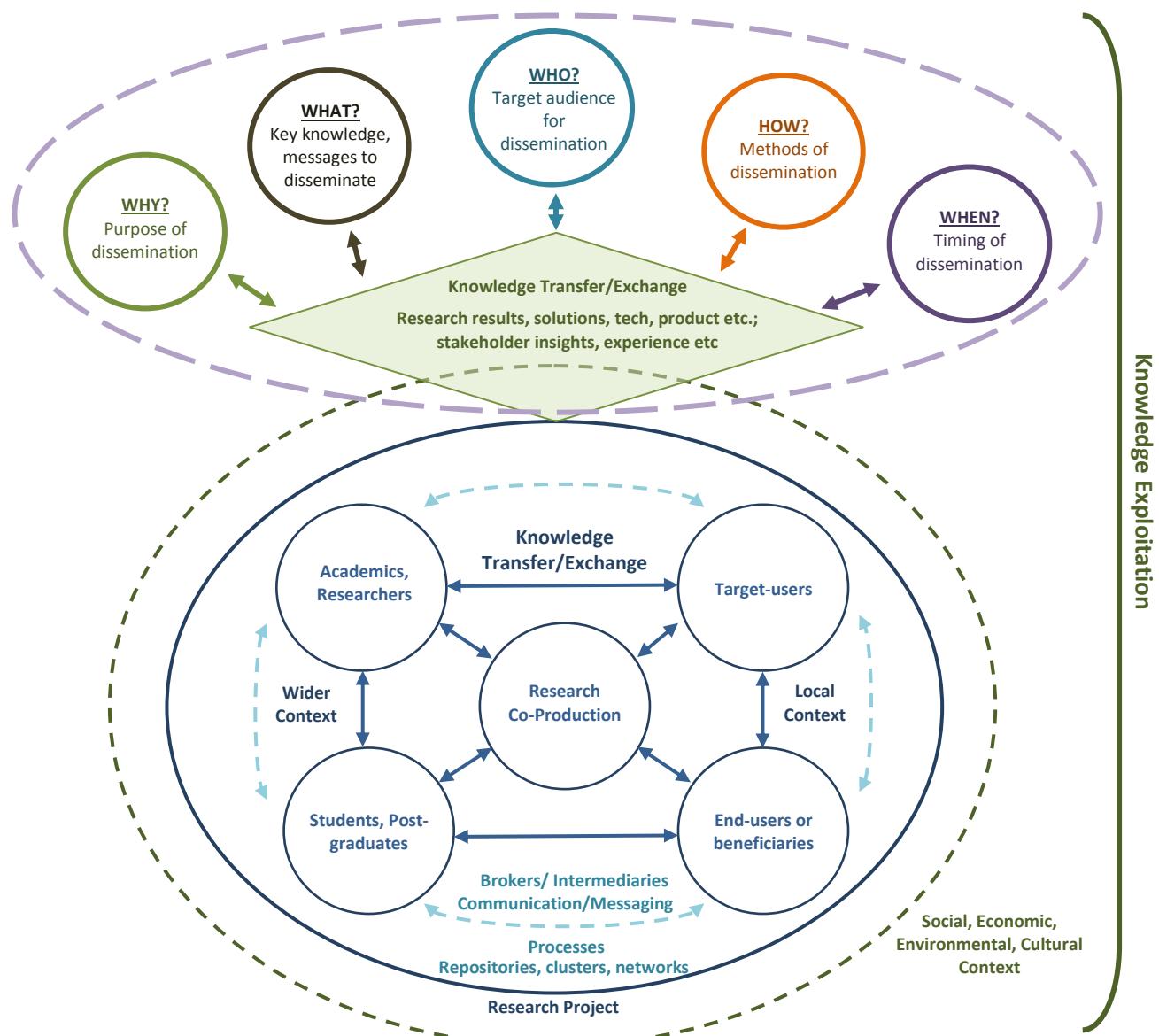


However, the knowledge exchange approach is about taking a systematic approach to sharing knowledge - to directly support the research project. It connects multiple-stakeholders or actors (in any field or discipline) in a many-to-many relationship with each other to discuss, share, learn from one another and ultimately co-produce knowledge to achieve improvements in the research results of projects. Sharing knowledge, especially experiential knowledge, is a key ingredient in innovation. To achieve these objectives, knowledge exchange makes use of specific tools and approaches. These include tools for fostering in-person (face-to-face) exchange, platforms and software tools that enable networking and knowledge sharing across geographic and organisational barriers, supporting communities of practice to grow, co-create solutions, share successes and key resources. A key function of knowledge exchange is to promote the uptake and use of research knowledge through the most effective knowledge exchange tools, the provision of guidance and standards, partnerships to support effective networks, and provision of training and advice to assist delivery of impact. This can be summarized as:

- **Exchange Model⁶** - where researchers and multiple stakeholders are jointly responsible for the development, dissemination, uptake and use of research by exchanging knowledge to improve research outputs and impacts.

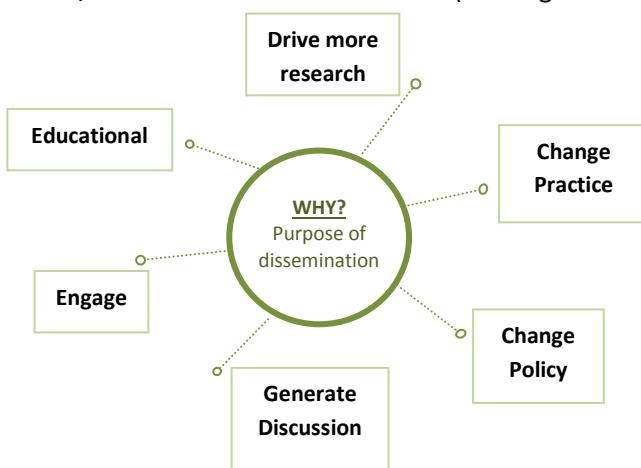
⁵ Knowledge Transfer (adapted from Lockett, 2006)

⁶ Based on Knowledge Transfer and Exchange model (EMTReK) by AIIHPC, UCD and UU (<http://www.professionalpalliativehub.com/research/knowledge-transfer-and-exchange>)



2.1.6 Supporting Information: Knowledge Outputs

In devising a Knowledge Transfer plan it is essential to have a proper in-depth and critical understanding of how your expected research findings and knowledge and how these could be potentially relevant to an application for uptake (such as a policy, product, service) that will be eventually used by a beneficiary or end-user stakeholder (such as by farmers, fishers, communities, public/private sector). In short, why is your research important to transfer/disseminate and for what end (bearing in mind the key stakeholders)?



A Knowledge Output is a key learning generated by or through a research activity. They are not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations/verification, insights, alternative applications of prior research finding/knowledge. Therefore, a full description of key information about each knowledge output coming out of your research project is essential.

A knowledge output should profile each key knowledge output from the research (type, detailed description, ownership, status, IP considerations) and there should be: initial consideration and identification of the potential key stakeholders relating to update and use; and initial consideration of the possible applications related to the key stakeholders. Knowledge outputs may include, *inter alia*:

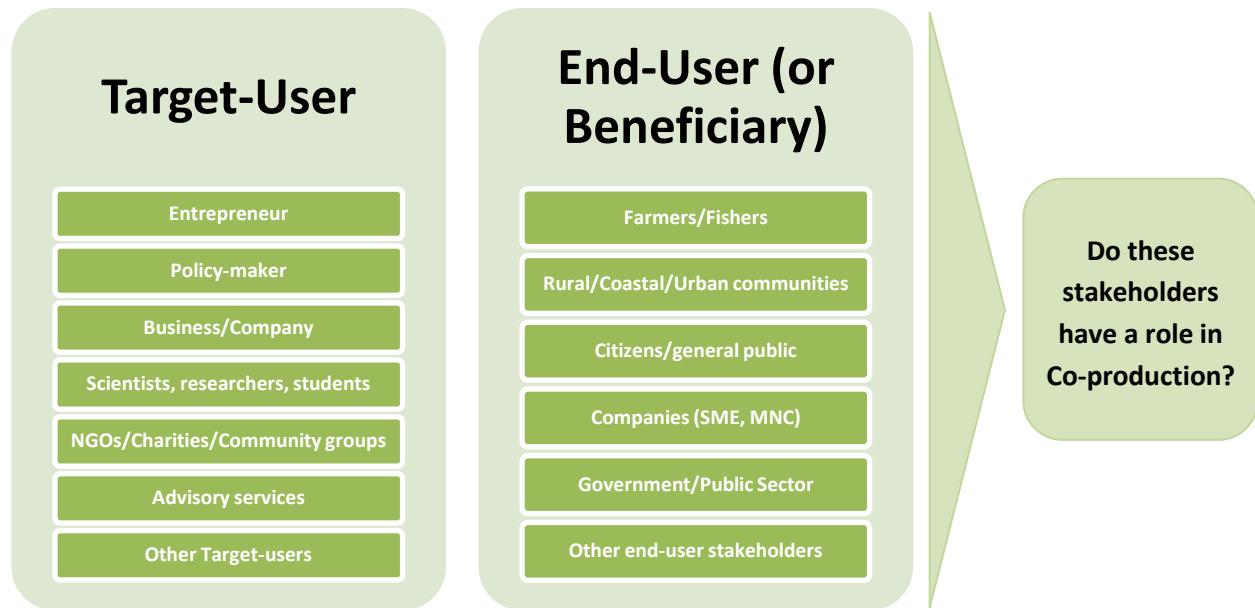
Peer-reviewed publication	Software or modeling tools
Conference/symposium paper	Product
Thesis or dissertation	Prototype or demonstrator
Case study	Living lab
Guidelines or standards	Patent
Training activity, learning module	Service or scheme
Seminar or workshop	Data
Technical manual or protocol	Material or technology
Book or article/section in an edited book or series	Verification or validation
National report/recommendations	Other...

2.1.7 Supporting Information: Key Stakeholders

Key stakeholders involved in knowledge transfer include people, groups, companies, and the public sector that will specifically take up the research project results and use it to bring about change that will lead to impact; they also include people, groups, communities, organisations (public and private) companies, and the public sector that will use and benefit from the impact of the research. Therefore, the type of stakeholder needs to be identified from the 2 main categories below:

- **Target User** – the users of research that will take up the research and transform it into a product, service, process, intervention/scheme, or policy. For example this may include an entrepreneur, a researcher, a start up or established company, policy-maker, NGO.
- **End-user (or beneficiary)** - Beneficiaries or end-user stakeholders that will use and benefit operationally from the research application.

Therefore, both types of stakeholders are implicated in the dissemination and exchange of knowledge from the research to promote uptake, exploitation and use. These stakeholders from these two categories may also be involved in the research activities and are jointly responsible for research inputs, development or dissemination and can be described as a co-producer of the research. For example this may be a farmer whose farm is used for research and/or is a working demonstrator or “best practice” farm as part of the dissemination and communication activities of the research project.



Under the 2 main categories applicants will need to identify specifically the relevant key stakeholders in the project that will be engaged to assist in the delivery of knowledge transfer or exchange. The two main steps to be considered under project proposals are:

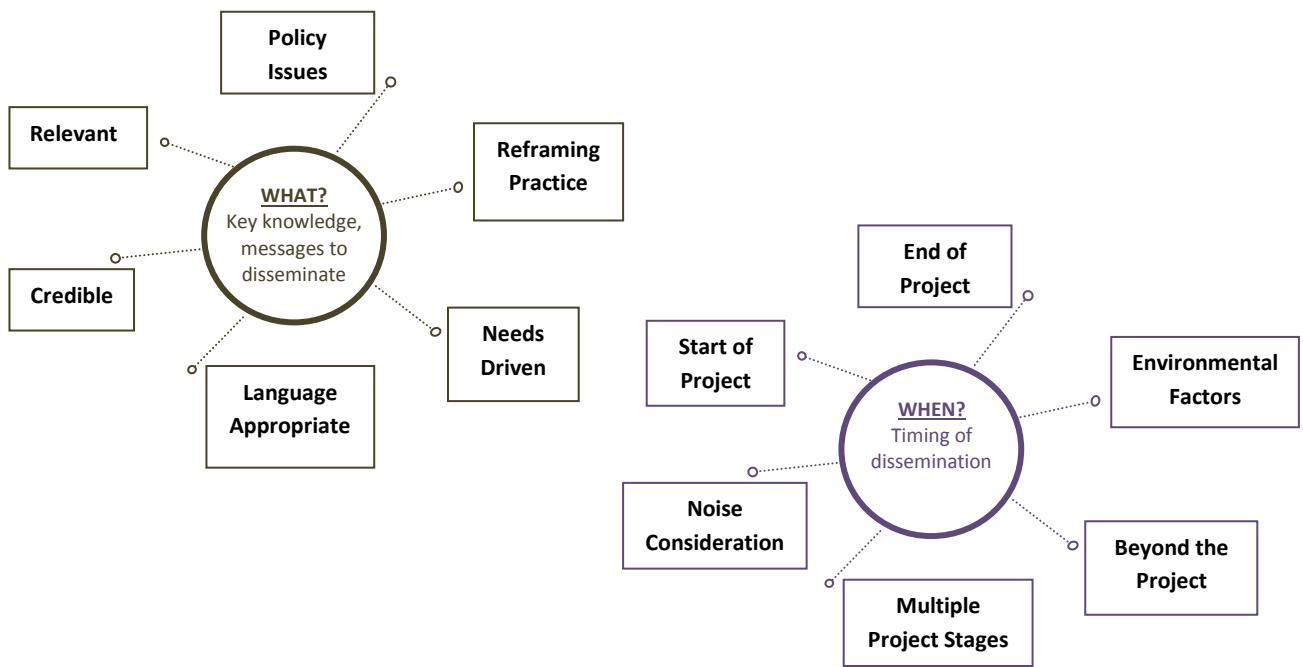
- Identify the broad category or categories of stakeholder – Target-User and/or End-user stakeholder – that would either transform the research results into a product, policy etc or would use and benefit from the expected impacts of the research. Do these stakeholders have co-production role in the research?
- Under the selected category(ies) identify the relevant, specific stakeholders that need to be engaged dissemination or transfer activities in order to increase the chances of uptake, use and the likelihood of the potential impact to be realised.
- Where relevant to the project any joint role in the co-production of the research project should be identified and described.

2.1.8 Supporting Information: Knowledge Transfer Activities

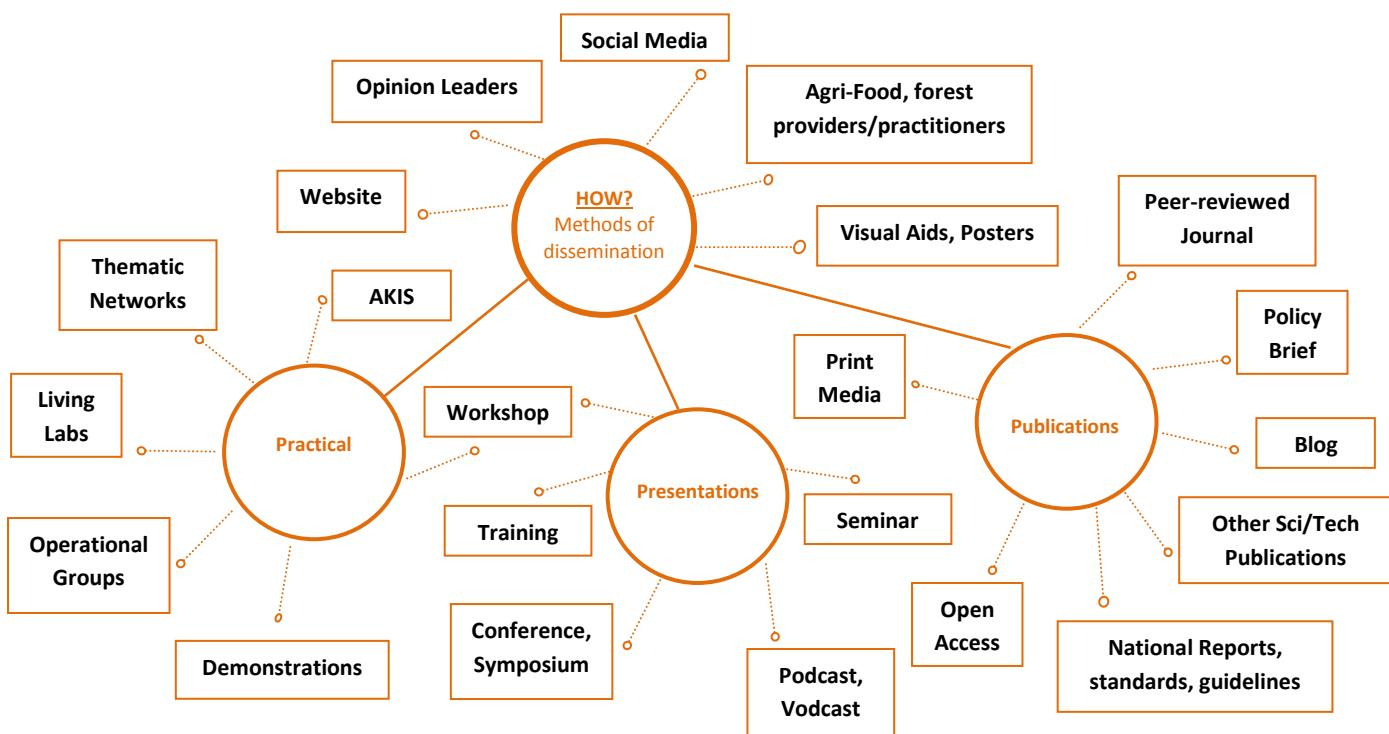
Knowledge transfer needs to be carried out in a way that addresses your key stakeholder's needs. It is important to consider what is the job or role of the stakeholder, is it an individual or group, what is his/her mandate, their interests, their motivations in order that the knowledge transfer, dissemination and message is relevant.

Consider:

- The technical level, depth of information needed, the style and language used (don't give a scientific paper to a lay person, don't give an outreach article to a scientific advisor to government).
- Their background knowledge of the issue.
- Their potential pre-conceived opinion of the issue.
- Familiar ways to relate the knowledge.
- The type of message they would want to receive – policy options, recommendations, evidence to confirm their current stance, etc.
- When is best to disseminate and communicate knowledge/findings of the project



How the information is disseminated or communicated is also critical, i.e. how do your key stakeholders like to receive and assimilate knowledge? The channels used can be diverse as schematically represented below, for example they could be practical (demonstration, workshop), by publication (peer-reviewed articles), through presentations (conferences) etc. The type of channel used will also be affected by the type of knowledge/information being transferred or by the type of message. Generally, channels that are able to reach a large number of stakeholders (e.g. social media) are typically lower cost and can be effective at raising awareness or initial engagement on a particular issue. Whereas channels targeting a small number of stakeholders are relatively more costly but can be more effective at imparting more detailed information, persuading change and they encourage further interaction and feedback.



2.1.9 Supporting Information: Knowledge Types

Knowledge can be broadly defined between two types:

- **Explicit knowledge** - knowledge that is easily shared and transferred through writing or speaking. It is information that can easily be picked up from talking to someone, reading a book, or looking something up online.
- **Tacit knowledge** - knowledge that is harder to share, exchange or pass along through writing or verbalisation. It is developed through the experiences, observations, and insights of a person, and it requires shared activities to impart that knowledge.

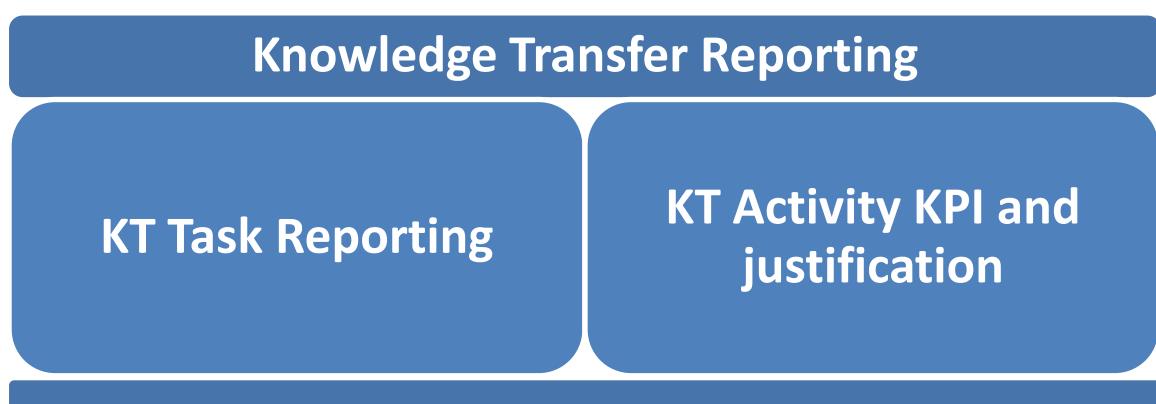
Both types of knowledge play a role in knowledge transfer. However, the more revealing type of knowledge that can be unique to a research problem or issue is tacit knowledge. It is usually more difficult to capture because it usually requires more effort and interaction to acquire within the research process, but it can provide novel insights that may lead to innovative developments and impact for a project.

2.2 Reporting Knowledge Transfer/Exchange Activities

DAFM's Knowledge Transfer Framework also requires that **successful projects awarded funding provide a self-assessment on the knowledge transfer activities and to measure the effectiveness of the activities** across the lifetime of the project as part of the annual Project Progress Reports (PPRs)⁷. These two steps allow the coordinator to provide both quantitative and qualitative information on the KT activities.

The annual PPR contains a section for each task of the work plan that includes for the specific knowledge transfer task where the project coordinator is required **to provide a self-assessment of the progress and results achieved for the KT task of the work plan**.

Section 13 of the PPR provides also provides reporting on outputs and impact for the project. In this section there is a **specific knowledge transfer activity key performance indicator (KPI)** to be reported by the project coordinator during the research. The project coordinators are also required **to provide quantifiable detail on the KT activity(ies) in the associated text box**.



⁷ Please note: Research coordinators will also be contacted approx. 12-months following the completion of the project for an update on research impact of the project funded by DAFM (e.g. post-completion staff destination, further leveraging or other impacts)

2.2.1 Research Project Reporting

As part of the annual reporting procedure, as well as for the final report, for successful research projects under the DAFM Research Programme, project coordinators are required to report on knowledge transfer activities of the project within both the relevant Task Section of the work plan and Section 13 of the Project Progress Report (PPR) in the Flexi®Grant system.

Knowledge transfer reporting is not required for the 6-month initial Project Progress Report (iPPR).

For the PPRs research project coordinators are required to:

Knowledge Transfer Task Reporting (Section x)

- Complete the reporting section for the knowledge transfer task of the Work Plan in the reporting boxes of this section. Report the status and progress of the milestones, deliverables and issues. Applicants may upload any supporting documents, tables, charts or other information as relevant.
 - **Milestones:** Milestones should be entered into the relevant sections with its number and title as stated in the approved proposal and select a milestone status from the drop-down menu. Under the heading “Summary of progress”, please enter the information **relating to the period under review**. Repeat this for each milestone; if there are more than six milestones in a task please add rows as necessary.
 - **Deliverables:** Please list the deliverable title as in the approved proposal and select a deliverable status from the drop-down menu.
 - **Issues:** If issues are encountered and a task is delayed or incomplete a full justification/explanation and proposed solution is expected in this section. Please list the milestone in question followed by the problem encountered and the proposed solution.

In the fields of this section specific attention should also be given to the following:

- The knowledge outputs generated during the reporting period
 - Include information on the number and type of knowledge outputs generated that can be actionable by stakeholders through dissemination/communication.
- The transfer activities or steps taken with key stakeholders to transfer the knowledge outputs
 - Included should be information about the uptake of the activity. Provide details on the number and type of stakeholders engaged. Also try to provide an indication of uptake by linking quantitative measures to specific messages that you transferred during a transfer activity, such as number of people attending an event or one-to-one activity.
 - Information about whether or not the activity had the intended result (i.e. was the knowledge applied by key stakeholders (target user or end-user/beneficiary)) in their areas, such as inclusion in policy recommendations, follow-up meeting, contract exchange. If there was no application of the findings by the relevant stakeholders what was the reason for this and are any changes required to the knowledge transfer plan. For example, was the correct stakeholder identified, was the appropriate dissemination/communication channel selected?
- The impact or value generated linked to knowledge transfer through the uptake and application of the research findings.
 - Included should also be an assessment of the indicators that demonstrate impact being generated through the knowledge transfer activities along the pathway. This could include: references to your knowledge (e.g. in policy documents/recommendations/national reports, debates, scientific journal citations, advisory groups, consultations), application of your findings by key stakeholders (e.g. policy-makers, NGOs, entrepreneurs, communities), pilots or additional funded research, changes in policy or legislation.

Section 13 – Outputs and Impact

- Complete the specific knowledge transfer activity KPI in Section 13.
 - Select the KT activity depending on the relevance to the dissemination/communication channel described in the knowledge transfer plan and input the number of times the selected activity was completed. This should provide evidence the activity was performed to stakeholders.
 - Complete each of the associated text boxes (max 200 words per box) with specific and quantifiable details of the activity(ies) undertaken to justify the KT selection/metric.
 - It is critical that the KT activities described in the text box is demonstrable and can be quantified.
 - Information or evidence should be provided that indicates that the stakeholder has applied the knowledge in some way, that there is progress of knowledge moving down the knowledge transfer pathway to the relevant stakeholders in the chain (e.g. further transfer activities/follow-up or impacts from the transfer).

3.0 Other References on Knowledge Transfer and Exchange

Campbell, A., Cavalade, C., Haunold, C., Karanikic, P., Piccaluga, A., [Knowledge Transfer Metrics. Towards a European-wide set of harmonised indicators](#), Karlsson Dinnetz, M. (Ed.), EUR 30218 EN, Publications Office of the European Union, Luxembourg, 2020.

EPA Report Series, [Bridging the Gap between Science and Policy. A Knowledge Transfer Guide for Researchers](#). Report Series No. 133

EPA Report Series, [AgImpact Project: Identifying Approaches to Improving Knowledge Exchange \(KE\) in the Irish AgriFood Sector using Expert Opinion](#). Report Series No. 75

Knowledge Transfer Ireland, A Resource for [Model Agreements and Practical Guides](#)

UK Research and Innovation (Economic and Social Research Council), [Tips for doing Knowledge Exchange](#)

Annex A – Template for Knowledge Transfer Implementation Plan

Type of Knowledge/ messages to disseminate	Key Stakeholder(s) for knowledge transfer	Knowledge transfer activity	Milestone(s) for knowledge transfer	Deliverable(s)	Measuring outputs and expected impact of KT