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# New Organisms Stakeholder Research

Findings & recommendations

Prepared for ERMA NZ

June 2002

# Outline

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- New Organisms & GMOs: Stakeholder awareness, perceptions & attitudes
  - Definitions and scope
  - Attitudes to New Organisms and GMOs
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- HSNO Act: Stakeholder awareness, perceptions & attitudes
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# Outline cont.

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- Approvals process: Stakeholder perceptions & attitudes
  - Difficulties and confusions
  - Involvement in process
- Conclusions
  - Awareness and understanding
  - Attitudes
  - Implications for communication
- Recommendations

# Background to the research

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- The research was undertaken to gauge stakeholder awareness and understanding of issues relating to new organisms
- It covered both new organisms and GMOs
- It was qualitative research involving 20 one-on-one interviews with individuals / organisations nominated by ERMA
- No statistical significance is therefore claimed for the results and caution should be taken when interpreting the results
- A related survey is underway to measure the general public's awareness of new organism issues.
- The overall aim of this research is to help ERMA NZ decide where it can best put its effort for future awareness programmes.

# Stakeholder Sample

20 one-on-one interviews conducted during May 2002 throughout NZ 8 stakeholder segments sampled in three group groupings:

## Potential Applicants

- Crop and Food Research
- New Zealand Fruitgrowers Fed.
- Horticulture Research
- New Zealand Aquaculture
- Federated Farmers
- New Zealand Tree Crop Assn.
- New Zealand Grain and Seed Assn.
- New Zealand Calla Council
- Canterbury Horticulture Society
- Assn. Zoos and Aviaries

## Government Agencies

- Customs New Zealand
- MAF
- DOC
- Wellington Regional Council

## Submitters / Interest Groups

- Landcare Research (Maori)
- Te Puni Kokiri
- New Zealand Plant Protection Society
- Nursery & Garden Assn.
- Bee Keepers Assn.
- Greenpeace NZ

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# Stakeholders' perceptions & understanding of New Organisms & Genetically Modified Organisms

# Definitions and Scope of New Organisms

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## Definition:

Majority define new organisms as any living matter new/not indigenous to NZ.  
Some include living matter potentially already in NZ that has not yet been identified

## Scope:

For most - anything capable of reproducing including: bacteria, plants, animals, - any genetic material  
Some less aware of scope of new organisms e.g. unsure whether it also includes chemicals

# New Organisms versus Genetically Modified Organisms

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Perceptions of difference:

Many perceive genetically modified organisms to be new organisms

*“Anything genetically modified is a new organism as it has been changed and has new behaviors and characteristics”*

For some: genetic modification is a natural evolution of traditional methods of plant and animal modification (e.g. cross-breeding)

For others: genetically modified organisms are different as are “artificial”, “manipulated”, “mutilated” & process is not naturally occurring.

# Attitudes Towards New Organisms (not GM) Being Introduced to NZ

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Most feel that introduction of new organisms are necessary

- For innovation and growth of agriculture, horticulture and other industries
- Many previous innovations have relied on introduction of new organisms
- Biological control/eradication of pests to environment (e.g. Rabbit CV)
- Less use of sprays that are harmful to environment/unappealing to consumers

But believe that introductions must be carefully managed to protect  
NZ's environment & industries

- Major mistakes have been made in past (e.g. rabbits, possums)

Some feel that unless new organisms make a significant contribution  
to our environment they should not be allowed in

# Attitudes Towards Genetically Modified Organisms Being Introduced to NZ

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Some feel that the introduction of genetically modified organisms in NZ are necessary for economic development and progress

- Potential applicants most likely to hold this view

Others feel personal aversion to genetically modified organisms being in NZ

- Differences between personal opinion and organisational viewpoint evident for some - confusion as to which position to speak from & concern at misrepresenting organisation expressed
- Poses cultural and ethical dilemma for some people

Some believe that potential environmental and economic risks are too high to consider having genetic modification in NZ

# Factors to take into account in decision whether to introduce NO (not GM)

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Weigh-up between:

Potential benefits

- Economic
- Environmental (especially pest control)

Potential Risks

- Environmental
- Economic
- To people
- To NZ's reputation - as a tourist destination and a producer of safe food

Spiritual/Cultural concerns

- Deemed “emotional factors” by some

Disagreement between weight given to “emotional concerns” versus “scientific analysis”

# Perceived benefits of NO (not GM)

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## Economic

- Innovation - new varieties of plants & animals = new markets
- Faster growth, greater yields, disease/virus resistant plants & animals
- Reliance on seed/stock from overseas as cost of NZ breeding programmes too high
- Biological control of pests to plants and animals - less use of sprays
- Outstanding exotic species increasing tourism

## Environmental

- Biological control/eradication of pests to environment (e.g. Rabbit Calici Virus)
- Less use of sprays that are harmful to environment

## Health

- Possibilities of new medications
- Possibility of increased production of chemicals for pharmaceuticals
- Biological control - Less use of sprays that are harmful to humans

## Social

- Pleasure of new varieties of food, plants, animals etc.

# Perceived risks of NOs (not GM)

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## Economic

- Potential negative effects on plants, animals, seafood industries  
e.g. guava moth on feijoas, Australian flies on animal health,

## Environmental

- Unpredictable, unintentional impact of flora & fauna
  - Getting out of control - becoming a pest (e.g. rabbits, possums, painted apple moth)
  - Destruction to the environment (e.g. pines in high country destroying tourism)
  - Eating native species, eating their food source

## Health

- Possibilities of poisonous/harmful insects/plants etc (e.g. Fire Ant, Black Widow Spider)

Climate changes could mean introduced organisms have greater negative impact over time

*“As NZ warms up through global warming potential new pests to human health are almost certainly going to happen”*

# Significance of Risks of NOs (not GM)

Differentiation made between deliberate (legal) and accidental / subversive introductions

Deliberate (legal) introduction

- Many feel that with tight regulations the risks associated with deliberate introductions are limited
- Some feel that risk level is unknowable or can only be evaluated on case-by-case basis
- Others feel that potential risks are still too high
  - concern that decisions may be overly influenced by potential profits or politics

Accidental / subversive introductions

- Strong awareness of risks and impact seen as potentially disastrous
- But see accidental or subversive introduction as more difficult now because of mix of risk management measures

# Risk Management of NOs (not GM)

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Most believe current risk management steps are effective

Many mention:

- Border control
- Approvals process for introducing new organisms (testing, research, consultation)

Some mention:

- Quarantine
- Assessment of risk/impact of new organism in other host countries (e.g. if it has already been introduced to Australia, what was the impact there?)

Few mention:

- Careful monitoring once released
- Testing public opinion (ensuring not strongly opposed)
- Public education (advertisements on TV)
- Taking NZ species to country where new organism already exists to test effect
- Cleaning boats, fumigating imports with insect risk

# Perceived Benefits of Genetically Modified Organisms

For many benefits are similar to those for new organisms

- Innovation and advancement of NZ industries
- Staying competitive with trading partners
- Ability to be very selective about organisms characteristics
- Resistance to diseases and viruses (especially when an organism can not be managed in its current state)
- Faster growing, higher yields, crops/animals more suited to our environment
- Less use of chemicals

Others mention

- To clean up pollution
- Advancements in medicine

Some feel that there are no clear proven benefits to introducing genetically modified organisms

- *“There are no proven benefits - it is all pie-in-the-sky promises”*

# Perceived risks of Genetically Modified Organisms

## For some the risks are similar to those for new organisms

Some believe the risks could be a lot greater as

- Little is yet known about genetic modification - lack of long-term, intergenerational data
- Process itself could be unstable or unpredictable  
e.g. damage of cross-pollination, horizontal gene transfer - research in infancy

*“GMOs are a Pandora’s box - we don’t know what is going to happen with them”*

For some there are also specific additional risks

- Impact of NZ image and tourism due to current negative public opinion of GM internationally  
*“People talk about our clean green image which is quite important off-shore, so I think there is potential for negative impact on that.”*
- Potential impact on organic & other non genetically modified industries
- Genetic modification could be used for short term gain without benefiting the community at large.

Staying competitive with trading parties

- Resistance to diseases and viruses (especially when an organism can not be managed in its current state)
- Faster growing, higher yields
- Less use of chemicals

Others mention

- To clean up pollution
- Advancements in medicine
  
- *Some feel that there are no clear proven benefits to introducing new organisms*

# Risk management of Genetically Modified Organisms

Less clarity amongst stakeholders as to how genetically modified organisms should be managed

- Some expect similar risk management procedures as for other new organisms
- Most expect tighter/more stringent procedures reflecting greater risk
  - More thorough testing of seed stocks to ensure contaminated seeds are not coming into NZ
  - Careful disposal procedures
- Some express preference for levels of risk management requirements to reflect different levels of associated risk
  - “the risk management should be lower for plants that don’t produce reproductive bodies as you can just pull them out.”*
- Some express concern over lack of legislation regarding liability in advent of mishap
  - “We need to establish who is responsible if something goes wrong”*
- Some express strong preference for genetically modified organisms to be kept in the lab

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# Stakeholders' perceptions & understanding of HSNO Act

# Awareness of HSNO Act

Vast majority are aware of HSNO Act (only one, in plant fanciers segment, was not)

- However some report that other relevant groups are less informed:
  - “People in the commercial community - importers, freight forwarders, retailers etc., don’t seem to have an understanding that the act is out there - or they know it’s there but the information hasn’t got through to them that it is going to have quite dramatic implications for them.”
- But acknowledge that it is difficult to ensure people read/take in information they are given

Most describe the intention of HSNO as to manage the introduction of new organism and hazardous substances

- Some are confused as to whether HSNO covers
  - only new organisms coming into NZ?
  - or also those potentially already here that have not yet been identified?
- Few mention “to establish ERMA”

Most see HSNO as covering all living organisms and hazardous substances in/coming into NZ

# Thoughts/Impressions of HSNO Act

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Almost all respondents saw advantages in HSNO Act

- All legislation under one Act - central point of information/reference
- Management with one organisation - easier for people to know where to go
- Protects NZ and NZers
- Thorough & comprehensive - appears not to have loopholes
- World leading
- Transparent
- Allows a wide range of views/perspectives to be taken into account  
*“Puts everybody on equal footing, no-one gets preferential treatment.”*
- Raises awareness amongst NZ public of potential risks of deliberate and accidental introduction of new organisms

# Thoughts/Impressions of HSNO Act

## Disadvantages of HSNO Act

- Most mentioned the Act was “cumbersome”, some adding “unwieldy”, “technical” and “complicated” - have to be reasonably well educated to use it
- Some feel it is not rigorous/stringent enough - should take a more precautionary approach -comment from one that all GMO trial applications so far have been approved
- Takes a long time to process the applications
- Lack of faith amongst some of commitment to environmental protection and respecting Maori cultural values

*“It is there as long as it is politically appropriate - once it steps on too many financial toes it will be scrubbed like an old sock.”*

*“Although it requires of ERMA that they have taken into account Maori cultural values, it doesn’t provide incentives or guidance to prove that that’s what they are doing.”*

- Some confusion regarding relationships and crossover between HSNO and Biosecurity and Resource Management Acts

# Thoughts / impressions of HSNO Act

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*“One thing that I don’t like about the new regime is that we still have a separate Agricultural Compounds and Veterinary Medicines Act which means we have to go through two approvals processes if we want to get an agri-chemical or veterinary medicine approved for use in NZ”*

However - some see HSNO as still in progress

## Suggestions

- Circulate list stating what is and is not covered by HSNO, Biosecurity Act and the Resource Management Act
- Create annotated flow chart to help people work out how to use the Act

# Perceived advantaged parties

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All respondents thought all New Zealanders benefit from HSNO providing:

- Protection to us
- Protection to our environment

Some feel that industries benefit as process is weighted towards perceived progress and profits and is so technical

Others feel that people wanting to object benefit as can do so without a lot of cost and “potentially without a lot of information”

- Public input/opinion not necessary based on facts and can be onerous on applicants

# Perceived disadvantaged parties

## Range of views on disadvantaged groups

- Maori - as it is difficult to participate in the process and/or their views are not given weight
  - *“The obviously disadvantaged group is Tangata Whenua and the inability of ERMA to in any meaningful way acknowledge the cultural or spiritual offence caused by the act of genetic engineering.”*
- People wanting to innovate - because of application cost
  - *“Because of the one size fits all approach it is more difficult for businesses and users to enter into business because of the costs and bureaucracy of the system.”*
  - *“NZ producers are hit with higher compliance costs so they can’t keep up with overseas competitors.”*
- People wanting to import new organism not-for-profit e.g. for local pest control
- Research organisations - costs and time delays
- As a positive outcome, unscrupulous businesses & individuals or “cowboys” were also mentioned as being disadvantaged as it is harder for them to operate under the tighter regulations

# Perceived relevance and importance of HSNO Act, and support for it

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## Relevance

Most feel HSNO is relevant to their organisation as they:

- deal with some aspect of new organisms in their role
- are concerned with the protection of NZ resources and environment

Some feel Act is going to become more relevant as it becomes more used over time

All claim Act is important as

- If we did not have it things would be much worse - dangerous behavior
- Means there is an awareness of what is being introduced and how it is being introduced

## Support

All claim to that their industry and they personally support intention of Act

But claim frustration with Act is common

But: little direct involvement and therefore views often 2nd hand / anecdotal

# HSNO Act versus previous legislation

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HSNO = one central act pulling all previous legislation together

- Tighter, more rigorous protection
- Clearer governance
- Greater transparency
- Puts greater measure of responsibility on importers to ensure safety
- Offers increased public input through consultation process

Previous Legislation - less knowledge/clarity of amongst stakeholders

- But perception that it was more relaxed and easier to get around
- A bit of a “mishmash”

As HSNO is new - lack of precedence on which to base decisions

# Organisations responsible for managing the introduction of New Organisms

All name ERMA

Many also mention

- MAF - biosecurity and border control, checking boats, looking for unintentional importation
- Customs - biosecurity and border control

Some also mention

- Regional Councils
- Stakeholder/industry groups
- Ministry of Health
- Ministry for the Environment
- OSH
- Civil Aviation
- NZ Police
- Te Puni Kokiri

One mention was also made of

- ANZFA
- Agriculture Chemicals Veterinary Medicines

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# Stakeholders' Perceptions of ERMA

*“They’ve got a big job and a difficult job”*

# Perceptions of ERMA

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Most see role as:

- Managing introductions of new organisms
- Protecting the environment
- But some confusion regarding role in enforcement

Less clarity amongst stakeholders regarding ERMAS' functions

Key things mentioned

- Risk assessment
- Providing information & advice to public, government agencies and potential applicants/submitters
- Link between different organisations/parties involved with hazardous substances and new organisms
- Facilitating scientific/expert input
- Representing NZ public - ensuring consultation is undertaken

# Thoughts & impressions of ERMA

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## Most comment positively

- Many stakeholders feel ERMA has a difficult role to play and are doing a good job
- Some see communication (newsletters, meetings, conferences) as a strength - especially govt agencies

*“They are head and shoulders above other organisations for dissemination of information to stakeholders.”*

- Some see ERMA as having a high level of transparency and accountability

*“They have a reasonably good approach with industry to work with them - they consult a lot, they’re quite inclusive and they are independent.”*

## Others comment negatively

- Criticisms of time delays in getting responses from ERMA
- Criticisms of reaction time in response to arrival of unwanted organisms - e.g. sea squirt at Whangamata (not just directed at ERMA)
- Perception that ERMA should be more publicly visible
- Perception that ERMA weighs scientific facts more highly than cultural/spiritual and public viewpoints

# Thoughts & impressions of ERMA

Others comment negatively cont.

- Criticism that feedback from Maori Advisory Committee is not seen as “expert” and does not have weight
  - “They [Maori] indicate that ERMA seems to regard their submissions as not being of sufficient technical quality to make a difference in the decision making process.”
- Some comment that ERMA lack practical experience of issues it is administrating
  - “Because they don’t have people on the ground it makes it more difficult for them to have an understanding of things that happen on a daily basis.”
- Perception that ERMA is set up to manage risks and does not have capacity to start by asking if risk is worth taking in the first place

Others would like more information made available about the HSNO Act & application & submission processes

Most see organisations such as ERMA as necessary to protect NZ and NZers

- But some lament level of bureaucracy

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# Stakeholders' Perceptions of the Approvals Process

# Thoughts & impressions of approvals process

Some comments acknowledged to be feedback heard “through the grapevine”

## Positive

- Thorough
- Transparent
- Managed by an independent/unbiased body

## Negative (some thought to be partly due to newness of the process)

- Amount of time required

*“I’d like to see ERMA become more predictable in what is going to be required as the time that scientists have to put in going through ERMA processes is absolutely horrendous and is absolutely nothing to do with science.”*

*“It is longwinded and fraught with emotional objections that are not based on science or fact.”*

# Thoughts & impressions of approvals process

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- Level of expense
  - Felt to be especially hard for Zoos and not-for-profit initiatives
  - Felt to limit progress, variety and ability to use biological controls and new chemicals (less toxic) developed overseas
  - Frustrating when it is unclear that new organism is not already in NZ
  - Some had heard that some people were therefore not applying
- Level of consultation required
  - Expense and consultation not seen as adding value by adding to knowledge of new organism
- Expectation that submissions are based on science, not personal/cultural concerns

# Difficulties / confusions in the approvals process

- Not knowing the total cost in advance
- Difficulty with wording/understanding what is required
  - “It is convoluted”*
- Uncertainty of outcome
  - “Its an open book as to how far an application will have to go before you get permission or otherwise so we find it hard to budget for as we never know how long it will go on.”*
- Lack of knowledge about specific issues such as whether materials need to be handled by an approved handler
- Lack of clarity as to what comprises a new species versus a subspecies of an existing plant/animal - boundaries of what require approvals and whether should be working with ERMA or MAF
- Confusion about what does and does not require ERMA approval (e.g. unclear if import has new organism/s in it e.g. soil requires approval)

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# Conclusions

# Awareness & understanding

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Even though the research targeted stakeholders who might be expected to have a broad understanding of HSNO, ERMA and risk management, there were significant variances in the level of awareness and understanding.

The only sub-group with consistently high levels of awareness and understanding was government agencies

For other groups, awareness varied within and between groups.

Level of knowledge appears to be determined more by experience with using HSNO and interacting with ERMA than by sample segment

- e.g. some potential applicants have not attempted to import (or are removed from process e.g. members of association apply individually) and are less aware of the process etc.,

Many stakeholders' perceptions of the HSNO Act, of ERMA and of the approvals process is based on anecdote or rumour

All respondents can describe at least some benefits and risks

# Attitudes

There was an overall lack of clear attitude differences between sample segments

There were a number of crossovers between segments of the sample (e.g. respondent from NZ Tree Crop Assn also organic orchard manager, respondent from Canterbury Horticulture Society also on DOC board, NZ Plant Protection Society respondent also works for AgResearch)

There were polarised views on GM, but these did not relate to sectors: strong beliefs about the potential benefits and risks of new organism and genetically modified organisms held by some respondents from each segment

The division was more between those who stressed 'science' and those who stressed human / cultural factors (dismissed by some as 'emotion')

Potential applicants more likely to support "science" over "emotion" and are more likely to give scientific explanations for benefits and risks

# Implications of results for communications

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- Traditional segmentation of audiences by industry grouping does not appear to be very useful for determining level of awareness and therefore what level and type of information / communication is needed.
- Similarly though there are marked differences in attitudes (especially towards perception of risk from GM) this does not relate to the sector within which people work.
- Stakeholders' willingness / ability to take information on board appears to be related to whether they have a direct involvement in the application process. At the point this becomes an issue they want the information, but it may be difficult to get them to take a strong interest before this point.

# Implications for communication cont.

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- Communications and communication delivery mechanisms therefore need to be varied and flexible and include effective ways of delivering information when users select to access it.
- There is also some confusion regarding relationships and crossover between HSNO and the Biosecurity and Resource Management Acts including amongst the government agencies whose job it is to administer these pieces of legislation.
- This indicates a need for greater co-ordination between agencies.
- There is demand for information on the decision process and on precedents that may not be available elsewhere.

# Implications for communication cont.

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- Those aware of ERMA's communications are positive, which indicates ERMA is doing many things well, but many who need to know are not aware of or accessing information.

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# Recommendations

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As this project did not involve an audit of existing communications the following recommendations are necessarily general and may include suggestions already included in ERMA's communications programme.

## Recommendations

1. Improve feedback to the applicant community on decisions:
  - Provide decision summaries that communicate the basis of decisions making to help applicants understand precedents
  - Provide these proactively, perhaps via a regular email newsletter

# Recommendations cont.

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- Ensure full text decisions available on website and that it is easy to search database for decision by type, sector etc eg. so someone considering submitting an application for a particular type of bacteria can quickly see and compare decisions for similar bacteria and therefore understand the decision criteria a likely success.
- Promote this website feature

# Recommendations cont.

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## **2. Improve communication on consultation requirements to overcome current uncertainty:**

- Provide more extensive information on website.
- include consultation segment in workshops

## **3. Work more closely with industry organisations to improve education:**

- Use industry newsletters as channels for brief articles on key issues (e.g consultation).
- Organise speaking opportunities at industry meetings / workshops for industry members.

# Recommendations cont.

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4. Review information request policy to see if response times can be improved and promote and resource web-based email queries as main method of receiving and handling information requests.
5. Seek ways of improving co-ordination between the main organisations involved with new organisms.
  - Take lead role in promoting co-ordination.
  - Institute quarterly meetings of communications managers from the relevant agencies to discuss common issues.
  - Look for ways to pool resources to achieve common outcomes e.g joint information campaigns or jointly commissioned research (for example, on migrant risk preception / knowledge)

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NETWORK  
COMMUNICATIONS