Understanding Effective Communication in Agribiotechnology & Biosafety

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The Petri Dish
“Science isn’t finished until it is communicated. The communication to wider audience is part of the job being a scientist, and so how you communicate is absolutely vital” – Sir Mark Walport, UK Chief Scientific Advisor
Civic scientist

"A 'civic scientist' to me is a true scientist who uses his or her knowledge, accomplishments, and analytical skills to help bridge the gap between science and society."

—Dr. Neal Lane, former Science Advisor to President Clinton
Research journals communicate with peers, allowing for critique, advancement of research, and professional advancement. Science communication bridges research and popular science, reaching other scientists, policymakers, politicians, industry, investors, media, and the public. The impact of this communication is wide-ranging and includes critiques, advancements, and professional growth.
What is it in for ME?

• Industry collaboration
• Funding
  • Crowd funding
  • Angel funding
• Garner attention
  • Politicians
  • Institutional support
  • Public acceptance
  • Commercialisation
• Impact regulations
• Civic scientist
  • Role model, icon for science, spokesperson for science

Citation increase when you are in the public domain
But in science the credit goes to the man who convinces the world, not to the man to whom the idea first occurs.

(Francis Darwin)
The Ultimate Goal in Biosafety Communication

• RESONATE WITH OUR AUDIENCE
• SHAPE THEIR OPINION

  • Show empathy
  • Build trust
  • Establish shared values and interests
It will not kill you
Not all are venomous
Why are you afraid?
Hit it with your handbag
Do you get panic attack?
Get down from the other door
What triggers your fear?
Quickly drive to your destination
We alienate ourselves from them

We provide too much information

Earn their trust

We teach them science

We give them facts and figures

Listen to their concerns

Dismiss/downplay their concerns

Establish shared values and interests

We alienate ourselves from them

Relate the benefits relevant to them
One of the core problems with science-based communication is that public and scientists’ opinions are often far apart.
The Public

Risk perception based on:

• Values
• Social background
• Benefits to them
• Influencers
• Noise

• Risk = hazard + OUTRAGE

Cultural cognition

refers to the tendency of individuals to form risk perceptions that are congenial to their values

Dan M. Kahan (Yale University)

Scientists/Regulators

Risk perception based on:

• Science
• Assessment
• Studies and tests

• Risk = hazard × exposure
Why do we need storytellers?

• Science appeals to our rational brain, but our beliefs are motivated largely by emotion

• We believe in scientific ideas not because we have truly evaluated all the evidence but because we feel an affinity for the scientific community

• Science presentations are abstract and disconnected to everyone’s lives
Cultural Cognition

• Simply educating the public is insufficient
• What happens when we try to educate the public or provide scientific evidence
  – Cognitive dissonance
  – When we provide data that is against the individual’s predisposed values and views – the natural mental reaction is to resolve the issue
  – How – by dismissing the conflicting information, and seeking reinforcing information from “trusted” sources
Effective Communication Strategies

- Look for the **values** that underline your audiences' decisions and frame messages that **align** with those values!
- Confront **emotive defences** with emotive arguments!
- Discuss the **outcomes** of the research, not the **processes**
- Use **spokespeople** your target audience **trust**!
- Convey the **benefits**
- Use **stories** and **analogies**
- Use **pictures and graphs** over text explanations.
Four doorways to understand the evolving approaches to communicating about agri-biotechnology

Source: Dr Craig Cormick
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These tend to be one-way flows of information: seeking to influence opinions – and generally best reach those already interested.

Source: Dr Craig Cormick
INFORMATION + EDUCATION

EXEMPLARY EXAMPLES

- Schools resources
- Field visits
- Informal education
- Community education
- Stakeholder meetings
- Lab visits

Source: Dr Craig Cormick
Education seeks to achieve deeper levels of understanding through experiences or learning about GM foods and crops, and allows for deeper two-way discussions.

Source: Dr Craig Cormick
INFORMATION + EDUCATION

Source: Dr Craig Cormick
INFORMATION | EDUCATION | ENGAGEMENT

Examples:

- Public forums
- Consults
- Online discussions
- Debates
- Dialogues
- Stakeholder engagement
- Citizens juries

Source: Dr Craig Cormick
Tend to be more resource intensive and less able to cater for large audiences, but also able to better understand different issues and come to agreements on them.

Source: Dr Craig Cormick
INFORMATION + EDUCATION + ENGAGEMENT

Marginally effective

Effective
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A mix of all strategies, but strategically framed to best align with the different values of different audiences, so that messages align with their values.
THANK YOU FOR YOUR TIME!

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