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Recommendations from industry and end-users for RRI

Deliverable 4.3

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Executive Summary

“Finally we need to be Open to the World!”
 Carlos Moedas

This report provides input from industry and a marginalised indigenous population in South Africa to the Responsible Research and Innovation (RRI) framework.

In order to meet pressing and emerging societal demands such as those created by the international economic crisis, science, technology and innovation (STI) must embrace social goals, as exemplified by Juncker Priority 7: “An Area of Justice and Fundamental Rights Based on Mutual Trust”.

In Europe, one way in which this goal is being pursued is through Responsible Research and Innovation (RRI), as it leads the innovation process towards more inclusive, innovative and reflective societies, and opens up new narratives of innovation.

RRI has been defined as:

[A]n inclusive approach to research and innovation (R&I), to ensure that societal actors work together during the whole research and innovation process. It aims to better align both the process and outcomes of R&I, with the values, needs and expectations of European society.

Juncker’s 10 priorities for Europe

1. A New Boost for Jobs, Growth and Investment
2. A Connected Digital Single Market
3. A Resilient Energy Union with a Forward-Looking Climate Change Policy
4. A Deeper and Fairer Internal Market with a Strengthened Industrial Base
5. A Deeper and Fairer Economic and Monetary Union
6. A Reasonable and Balanced Free Trade Agreement with the U.S.
7. An Area of Justice and Fundamental Rights Based on Mutual Trust
8. Towards a New Policy on Migration
9. A Stronger Global Actor
10. A Union of Democratic Change

This new framework for science and technology governance, RRI, represents a model of research and innovation that creates value for society by addressing its needs and tackling its major challenges. These challenges are not just European; today humankind faces challenges as a whole such as climate change, clean water, the rich-poor gap, peace and conflict, or the status of women.



If Europe wants to be a stronger global actor (Juncker Priority 9), the RRI framework needs to acquire global relevance and not be restricted to the values, needs and expectations of European society. Instead, it

needs to look at innovation models that have already incorporated a global perspective in their approaches and solutions, such as inclusive innovation, grassroots innovation and other societally oriented innovation models.

A growing number of corporations are proactively engaging in such approaches with the aim of achieving core business benefits. Indeed, the greater the ability of the enterprise to meet the needs of the poor, the greater the return to the partners involved. Following an inclusive business approach not only brings economic benefits: within this approach societal problems can be solved as well, and relations with society, partners and employees strengthened. The drivers of inclusive business models can be summarized as follows:

Drivers for Inclusive Business Models

Building new markets

Companies can expand their customer base in emerging markets that will enable future growth when industrialized economies are saturated. Strong growth within low-income markets and opportunities represented by unmet needs can translate into long-term profits and increased revenues.

Strengthening supply chains

Companies can broaden and strengthen their supply chain by including new suppliers in their business operations. Businesses also gain access to new sourcing channels as some of the low-income markets can offer raw materials and products with special qualities (e.g. organic or artisanal) or at lower cost than traditional suppliers.

Improving reputation

The social impact generated by inclusive businesses increases the reputation of companies and builds trust among customers, NGOs and investors. Tangible social benefits can improve company reputation, increase the value of brands, and make it easier to secure licenses to operate locally.

Attracting and retaining employees

Employees expect their employer to be a good corporate citizen, and identify themselves far more with a company when it actively contributes to social progress. Inclusive business can be used as an opportunity for corporate volunteering, executive training or executive exchanges. A commitment to social goals motivates employees and helps a business attract talent.

At the same time as providing industry input into what the inclusion element of RRI means, inclusion is also paramount in collaborations with marginalised populations involved in the innovation process. The prerequisites for such collaborations, from the point of view of indigenous populations, are summarized as follows:

How inclusion in innovation can be realized for indigenous populations

Early involvement

Researchers and innovators should engage with communities at the earliest possible stage in the innovation process to ensure that research priorities and programs are aligned to local needs. This applies both to research involving indigenous resources (such as DNA) as well as innovation using indigenous traditional knowledge as leads for research.

Respectful engagement

Careful explanations and translations throughout the research and innovation process to express respect for communities are important.

Collective consent

As traditional knowledge and genetic traits are shared by entire communities, protocols to protect the safety and dignity of research participants in genetic research must include collective permission, followed by individual consent.

Long-term engagement

Important for operationalizing all of the above protocols is that long-term relationships are built between highly diverse groups involved in innovation based on genetic resources or traditional knowledge to create trust.

Based on the work with industry and indigenous populations, the report's recommendations are in the areas of "trust", "citizen participation" and "cross- and trans-border research and innovation".

Trust

RRI is an interactive process governed by the principles of ethical acceptability, sustainability and societal desirability of research and innovation, and carried out by a network of societal actors that work together on the assumption of **trustworthy relationships**.

TRUST	Sustainability and Social justice/inclusion	Juncker's priorities
Industry	Opening up to the global economy.	1, 4, 5
End-users	Focus on the relation between the scientific profession, industry, and society, while making science and technology governance more transparent and accountable.	7, 8, 10

RECOMMENDATIONS:

- Promote longer-term as opposed to short-term relationships between partners in innovation, as the former are more likely to sustain trust in co-operations.

- Emphasise the importance of “ethical” governance of science and innovation and continue to promote research ethics as a fundamental element of RRI.

Citizens’ participation

In the process of responsible innovation, citizens’ and civil society’s role gained new relevance thanks to the dual function they perform. On the one hand, by means of an early upstream public engagement, citizens become a crucial source of evidence for science and technology policies. On the other hand, citizens, including marginalized groups in society, are no longer seen as passive consumers and recipients of the innovation outcome. From consumers to active co-creators and co-innovators, citizens become part of the R&I process. This provides the opportunity to share responsibilities both in the innovation process and for the outcomes, while still leaving room to advocate for citizen rights and taking pre-existing inequalities seriously.

ENGAGEMENT	Sustainability and Social justice/inclusion	Juncker’s priorities
Industry	Increase labour participation for marginalized and vulnerable people.	1, 3, 4
End-users	Incorporate all voices towards a co-creation/co-innovation model of research and innovation.	7, 8, 9, 10

RECOMMENDATIONS:

- Develop a better understanding of how national and European policies constrain and enable effective engagement with and contribution of citizens and CSOs to the industry business model.
- Encourage comparative understanding of internationally successful cases of incorporating all voices in co-innovation models.

Cross- and trans-border research and innovation.

To build “a global research area” like the one commissioner Moedas hopes for, a common understanding of the terms responsibility, inclusion, equity and integrity is necessary. For this to happen, Europe will have to engage in an international dialogue with other global economies and work together on developing partnerships and cooperative plans.

TRANS-BOUNDARY	Sustainability and Social justice/inclusion	Juncker’s priorities
Industry	Forward-looking procurement policies and standards	2, 3, 5, 6
End-users	Enhanced dialogue between stakeholders	7, 8, 9, 10

RECOMMENDATIONS:

- The focus on European society *only* in the SWAFS definition of RRI is not open to the world and should be avoided.
- Create new or adapt existing policy solutions to enable cross- and trans-border collaboration to meet major global challenges.
- Encourage research funding that targets comparative research, making use of lessons learned from research findings and practical experiences successfully implemented beyond European borders.



Photo: Raja R (freeimages.com)



Photo: Derek Jones (freeimages.com)

Introduction

In 2013, more than 120 million people living in Europe were at risk of poverty or social exclusion, due to a severe economic downturn and financial crisis. More than 6 million people lost their jobs, and almost 1 out of every 4 people in Europe found themselves severely deprived or living in households with very low work intensity².

Despite extreme measures taken to stabilise the member state economies, Europe has not yet achieved the sustainable growth which policy makers and citizens hoped for. To achieve the benefits of future economic recovery for all, growth will not only have to be sustainable, but inclusive as well.

To complement and boost the actions taken by his predecessors, President of the European Commission Jean-Claude Juncker proposed the 10 priorities *Agenda for Jobs, Growth, Fairness and Democratic Change*. The Agenda identifies

10 priorities to restore trust in the European project and “rebuild bridges in Europe after the crisis”.³



Photo: Simon Gray (freeimages.com)

Juncker's 10 priorities for Europe

11. A New Boost for Jobs, Growth and Investment
12. A Connected Digital Single Market
13. A Resilient Energy Union with a Forward-Looking Climate Change Policy
14. A Deeper and Fairer Internal Market with a Strengthened Industrial Base
15. A Deeper and Fairer Economic and Monetary Union
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17. An Area of Justice and Fundamental Rights Based on Mutual Trust
18. Towards a New Policy on Migration
19. A Stronger Global Actor
20. A Union of Democratic Change

The first priority is entitled: *Jobs, Growth and Investment*, and includes the aim “to strengthen Europe’s competitiveness and to stimulate investment for the purpose of job creation”.

In a world that is becoming more and more interdependent, innovation “is a key source of long-term growth, both in traditional and high-growth, high-value added sectors”⁴.

In order to meet pressing and emerging societal demands such as those created by the international economic crisis, science, technology and innovation (STI) must embrace social goals, as exemplified by Juncker Priority 7: “An Area of Justice and Fundamental Rights Based on Mutual Trust”. In Europe, one way in which this goal is being pursued

² Eurostat, 2014: <http://ec.europa.eu/eurostat/web/products-press-releases/-/3-04112014-BP>

³ European Commission, 2014: http://ec.europa.eu/priorities/docs/pg_en.pdf

⁴ OECD, 2011: <http://www.oecd.org/sti/inno/47861327.pdf>

is through Responsible Research and Innovation (RRI), as it leads the innovation process towards more inclusive, innovative and reflective societies, and opens up new narratives of innovation. RRI has been defined as:

[A]n inclusive approach to research and innovation (R&I), to ensure that societal actors work together during the whole research and innovation process. It aims to better align both the process and outcomes of R&I, with the values, needs and expectations of European society.⁵

This new framework for science and technology governance, RRI, represents a model of research and innovation that creates value for society by addressing its needs and tackling its major challenges. These challenges are not just European; today humankind faces challenges as a whole such as climate change, clean water, the rich-poor gap, peace and conflict, or the status of women.⁶ If Europe wants to be a stronger global actor (Juncker Priority 9), the RRI framework needs to acquire global relevance and not be restricted to the values, needs and expectations of European society. Instead, it needs to look at innovation models that have already incorporated a global perspective in their approaches and solutions, such as inclusive innovation, grassroots innovation and other societally oriented innovation models.

Companies play a fundamental role in achieving inclusive growth, and can have a major impact on the communities and environment in which they operate. Today, public and stakeholder expectations of industry's roles in society continue to rise. Companies are judged more and more on the actual social and economic value they create through their core business activities, and on the way their models engage employees, suppliers, distributors and consumers. Inclusive Business models continue to be viewed as cutting edge, even though some areas remain relatively unexplored by the majority of multinationals.⁷ The demand for inclusive business practices is a relatively new phenomenon and it is not uniformly conducted at scale⁸.

If Europe wants to be a stronger global actor, the RRI framework needs to acquire global relevance and not be restricted to the values, needs and expectations of European society.

Drawing on the work carried out in ProGReSS Deliverables 4.1⁹ and 4.2¹⁰, and after taking into account some of the main distinguishing features that inclusive innovation acquires when informing the business model in industry, this report will provide recommendations from industry and end-users for the further development of the RRI model. These recommendations will inform the

⁵ European Commission, n.d.: <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/science-and-society>

⁶ 15 Global Challenges Facing Humanity, n.d.: <http://www.millennium-project.org/millennium/challenges.html>

⁷ Corporate Citizenship, 2012: <http://corporate-citizenship.com/our-insights/inclusive-business>

⁸ Chakravorti B., Macmillan G. and Siesfeld T. (2014): "Growth for good or good for Growth?: How Sustainable and Inclusive Activities are Changing Business and Why Companies Aren't Changing Enough", City Foundation: http://monitorinstitute.com/downloads/what-we-think/growth-for-good/Growth_for_Good_or_Good_for_Growth.pdf

⁹ Cavallaro F, Schroeder D, Han Bing (2014) RRI - Best Practice in Industry, Report for FP7 Project "Progress"

¹⁰ Cavallaro F et al. (2014) Responsible Research and Innovation and End-Users, Report for FP7 Project "ProGReSS"

Convergence Strategy to be proposed in the final months of the ProGRESS project. As earlier project deliverables, this report focuses on the societal desirability criterion of the von Schomberg¹¹ definition of RRI, which the project has deemed applicable across the countries represented in the consortium. In addition, in the final section, a recommendation will be given on the content of the European Commission's SWAFS definition of RRI.

RRI Element	Definition with reference to innovation:	Identifiable through:
Ethical acceptability	Innovation which respects fundamental values without discrimination.	Codes of conduct, ethics guidelines and sustained public engagement efforts
Sustainability	Innovation "which meets the needs of the present without compromising the ability of future generations to meet their own needs" ¹² .	Environmental protection and health & safety
Societal desirability	Innovation which may benefit all without discrimination.	For instance, major societal challenges

The first section provides information from an industry perspective. The concepts of inclusive innovation and inclusive growth are described, as well as the drivers and barriers to their implementation as a business model. Inclusive business models are well suited to achieve societal desirability, i.e. innovation processes and outcomes, which may benefit all without discrimination, hence they are detailed in this report. The second section provides the policy voice and links section one to responsible research and innovation, RRI. The third section looks at innovation from the point of view of a marginalised indigenous community of end-users. Finally, sections four and five provide reflections and recommendations.

¹¹ Von Schomberg R (2013) A Vision of Responsible Research and Innovation. In: Responsible Innov. Manag. Responsible Emerg. Sci. Innov. Soc. pp 51–74

¹² Modified definition from Brundtland, 1987 ("innovation" replaced for "development": <http://www.worldbank.org/depweb/english/sd.html>)

Inclusive Growth, Industry, and Inclusive Innovation

Poverty reduction has not always been a target for policy making. Poverty was once considered a necessary condition for economic development and essential to a strong, globally competitive, economy.¹³ Nowadays poverty is no longer regarded as a desirable driver of progress, but instead considered a constraint on the successful economic development of any country. Antipoverty policies are more and more wide-spread, and more just and equitable societies are aspired to around the world. For instance, China's 12th Five Year Plan (2011 -2015) shifts the focus from pursuing economic growth to sharing the benefits of development with all people.¹⁴

Boosting national and regional prosperity and economic success are the key to reducing poverty. However economic growth alone cannot reduce poverty and does not guarantee that the poor share equitably in a nation's or region's benefits.



Photo: Chad Gore (freeimages.com)

Some types of growth reduce poverty more effectively than others. The expansion of smallholder farming in low and middle income countries, for example, cuts poverty quickly, raising the incomes of rural cultivators and reducing the price of the poor's food bill. At the same time the expansion of capital-intensive mining industries can result in jobless growth, making little impression on poverty¹⁵. It is critically important therefore, to ensure that sufficient investment is dedicated to education and training in order to create a skilled, adaptable workforce that is capable of competing in an increasingly knowledge-based and globalized marketplace¹⁶.

Despite some disagreements, a consensus seems to be emerging on the concept of **pro-poor growth**¹⁷:

- Growth is fundamental for poverty reduction, however by itself growth does not seem to have an effect on inequality;
- Growth accompanied by progressive distributional change is better than growth alone as it reduces poverty and inequality;
- High initial inequality is an obstacle to poverty reduction;

¹³ Ravallion M. (2014). The Idea of Antipoverty Policy, in Handbook of Income Distribution, Volume 2

¹⁴ David Coles, Davis M, Engelhard M, et al. (2014) Innovation for Society - How innovation is driven towards societal desirability through innovation policies. A report for Progress, progressproject.eu

¹⁵ Commission on Growth and Development (2008): Growth Report: Strategies for Sustained Growth and Inclusive Development, The World Bank, <https://openknowledge.worldbank.org/handle/10986/6507>

¹⁶ UN General Assembly (2005): Report on the Implementation of the first United Nations Decade for the Eradication of Poverty (1997-2006), http://www.un.org/esa/socdev/poverty/documents/SG_poverty%202005.pdf

¹⁷ Lopez J.H.(2005): Pro-poor growth: a review of what we know (and of what we don't), paper prepared for the www.worldbank.org, July 2005: <http://www.eldis.org/vfile/upload/1/document/0708/DOC17880.pdf>

- Asset inequality seems to predict lower future growth rates;
- Education, infrastructure and macroeconomic stability seem to have a positive effect on both growth and the distribution of income.

Pro-poor growth, therefore, is mainly concerned with impacts across the distribution of income, but not with the process of growth itself or with the marginalization of groups not based on economic criteria, such as gender or ethnicity. Both the pace and the pattern of economic growth, as well as the consideration of the impact of growth on marginalised groups in society, are taken into account in the concept of **inclusive growth**. Rather than contemplating outcomes as the only important aspect, inclusive growth takes into account whether and how people engage in the growth process itself¹⁸.

INCLUSIVE GROWTH – MAIN FEATURES¹⁹

Inclusiveness	Broad-based growth across sectors, and inclusive of the large part of the country's labour force. Equality of opportunity in terms of access to markets, resources and unbiased non-discrimination ²⁰ . Growth that benefits all sections of society, including the poor, the near-poor, middle-income groups, and even the rich.
Participation	People contribute to and benefit from economic growth. Everyone can participate in the process, everyone shares equitably in the benefits of growth. Participation must also be explicitly linked to improved benefit-sharing ²¹ .
Productivity	Not only income and employment grows, but also productive employment and productivity growth occurs. More added value to production and more available income to be distributed.
Sustainability	Sustained growth, a constant and positive growth rate in capital per capita in the long term. Sustainable prosperity: long term benefits for the environment, biodiversity and conservation of the natural resources.
Quality over quantity	Growth is deemed to be inclusive, depending on the extent to which poor men and women have benefited through increased income, but the OECD ²² also states that a priority should be given to the quality of growth over quantity of growth. Similarly, the UNDP emphasises the importance of putting human development first, especially sustainable human development ²³ .

¹⁸ Ranieri R. & Ramos R.A. (2013): Inclusive growth: building up a concept. International Policy Centre for Inclusive Growth Working paper 104

¹⁹ Ianchovichina E. and Lundstrom S. (2009): What is Inclusive Growth?, The World Bank, February 10, 2009

²⁰ Klasen, S. (2010): Measuring and Monitoring Inclusive Growth: Multiple Definitions, Open Questions, and Some Constructive Proposals, ADB Sustainable Development Working Paper Series, No. 12. Mandaluyong City, Philippines, Asian Development Bank

²¹ CAFOD (2014): *What is "inclusive growth"?* London: CAFOD, <http://www.cafod.org.uk/content/download/17223/133621/file/Inclusive%20Growth%20full%20paper.pdf>

²² OECD (2013c) OECD Secretary General Angel Gurría, opening remarks to OECD Forum 2013: "People First!" 28 May 2013

²³ UNDP (2010): The Real Wealth of Nations: Pathways to Human Development Human Development Report 2010

Absolute growth	The inclusive growth definition is in line with the absolute definition of pro-poor growth, but not the relative definition. Inclusive growth is thus considered to be pro-poor as long as poor people benefit in absolute terms. It is about raising the speed of growth and enlarging the size of the economy, while levelling the playing field for investment and increasing productive employment opportunities.
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Companies that adopt **inclusive business models**, or commercially viable business models that incorporate poor people into their value chains, open their businesses to new growth opportunities, while simultaneously promoting sustainable development.

A growing number of large corporations are proactively engaging in such approaches with the aim of achieving core business benefits. Indeed, the greater the ability of the enterprise to meet the needs of the poor, the greater the return to the partners involved²⁴. Following an inclusive business approach not only brings economic benefits though: within this approach societal problems can be solved as well, and relations with society, partners and employees strengthened.



*Photo: Ghitulescu Radu
(freeimages.com)*

Several studies have been conducted with the aim to understand why managers support inclusive business models and why they may not, why some projects fail and why others succeed. A recent study by the City Foundation concludes that the most frequently cited barriers for participating in sustainable and inclusive business activities are: weak local infrastructure, difficulties assessing the impacts of a more inclusive business strategy, issues with profitability, and the time horizon to profitability.²⁵ The following table summarizes the main barriers and drivers for the adoption of an inclusive business model.

²⁴ Antúñez-de-Mayolo, C. (2012): The Role of Innovation at the Bottom of The Pyramid in Latin America: Eight Case Studies *Procedia - Social and Behavioral Sciences*, Volume 40, 2012.

<http://www.sciencedirect.com/science/article/pii/S1877042812006398>

²⁵ Chakravorti, see note 8

BARRIERS AND DRIVERS TO THE ADOPTION OF AN INCLUSIVE BUSINESS MODEL

Barriers²⁶**Drivers²⁷****Absence of Vocabulary**

The language of shared value, sustainability or inclusive markets has not been uniformly adopted by business.

Building new markets

Companies can expand their customer base in emerging markets that will enable future growth when industrialized economies are saturated. Strong growth within low-income markets and opportunities represented by unmet needs can translate into long-term profits and increased revenues.

Absence of Awareness and Common Strategic Motivation

Inclusive business does not constitute a natural business function. The majority of motivations for businesses to engage in inclusive practices are defensive (avoiding loss/mitigating risk) or maintaining (staying competitive/keeping up).

Strengthened supply chains

Companies can broaden and strengthen their supply chain by including new suppliers in their business operations. Businesses also gain access to new sourcing channels as some of the low-income markets can offer raw materials and products with special qualities (e.g. organic or artisanal) or at lower cost than traditional suppliers.

Absence of Capacity and Organization

Companies are unsure if inclusive business should be incorporated in a business unit, in the corporate centre or in its own unit.

Improving reputation

The social impact generated by inclusive businesses increases the reputation of companies and builds trust among customers, NGOs and investors. Tangible social benefits can improve company reputation, increase the value of brands, and make it easier to secure licenses to operate locally.

Inadequate local infrastructure

Businesses are constrained by inadequate local infrastructure such as inadequate IT networks or lack of useful market data²⁸; challenges in efficiently aggregating, and standardizing

Attracting and retaining employees

Employees expect their employer to be a good corporate citizen, and identify themselves far more with a company when it actively contributes to social progress. Inclusive business can be used as an opportunity for

²⁶ All information obtained from Chakravorti, see note 8, unless otherwise referenced.

²⁷ All information in each box included in two references, namely 1) Gradl C. and Knobloch C. (2010): Brokering Inclusive Business Models, Private Sector Division, UNDP, http://www.undp.org/content/dam/undp/library/Poverty%20Reduction/Private%20Sector/undp-psd-Brokering_Inclusive_Business_Models-en-2010 and 2) UNDP's African Facility for Inclusive Market (2013): Realizing Africa's Wealth: Building Inclusive Businesses for Shared Prosperity, <http://www.undp.org/content/dam/undp/library/corporate/Partnerships/Private%20Sector/UNDP%20AFIM%20Realizing%20Africas%20Wealth.pdf>

²⁸ Narsalay R., Pongeluppe L., & Light D. (2015): The Hidden Pitfalls of Inclusive Innovation, Stanford Social Innovation Review Winter 2015, <http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Winter-2015-Hidden-Pitfalls-Inclusive-Innovation.pdf>

fragmented suppliers and activity. Regulatory issues, corruption and bureaucracy are also barriers to new initiatives in some emerging markets.²⁹

corporate volunteering, executive training or executive exchanges. A commitment to social goals motivates employees and helps a business attract talent.

Lack of knowledge and skills among the poor

This lack of knowledge and skills applies to poor people acting as clients, suppliers and/or employees³⁰.

Lack of support from the top

CEOs and other top corporate executives give verbal approval to inclusive innovation and the economic and social benefits it offers, but in practice their support is very limited.

Inadequate performance metrics

Inclusive businesses are often expected to mature as commercial businesses and so are often judged by performance metrics that emphasize revenue and profit growth.

Lack of funding

Funding remains a key concern for companies and few are willing to provide adequate investment in developing and piloting inclusive business models.³¹

Using old business models

To reduce costs and mitigate risk, many companies are trying to transfer their usual business models to inclusive business.

Inappropriate partnerships

Instead of large and influential NGOs and government organizations, the best partners for large corporations are often small, local NGOs and entrepreneurs who are deeply embedded in the community and have earned their trust.

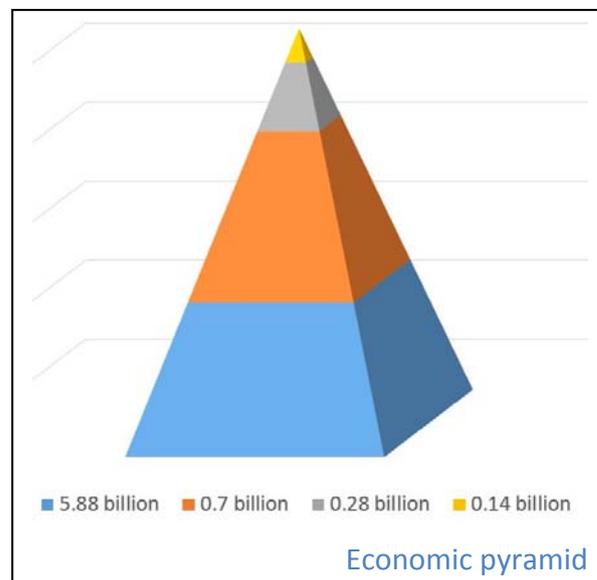
²⁹ Business Call to Action (2012): *Barriers to Progress: A Review of Challenges and Solutions to Business Growth*. N/A., n.d. Web. 14 Nov. 2012, <http://www.businesscalltoaction.org/wpcontent/uploads/2011/03/Barriers-to-Inclusive-Business-Final-LR.pdf>

³⁰ Roesler U. et.al. (2013): *Inclusive Business Models. Options for support through PSD programmes*, published by GIZ, <http://www.giz.de/fachexpertise/downloads/giz2014-ib-models-rz.pdf>

³¹ See note 7, Corporate Citizenship.

The above table shows that the perceived hindrances to inclusive business are greater than the perceived drivers. When considering the benefits of inclusive business, it is important to take a different approach to poverty. Rather than viewing poverty solely as a problem to be solved, the inclusive approach views it as an opportunity, as it presents a largely untapped populace with massive business potential, awaiting market involvement³².

The four tiers of the pyramid each have the same annual income, namely 25% of the US\$70 trillion in 2012³³ (see diagram to the right). The base of the pyramid (BoP) comprises 5.88 billion people who have needs, demands, and productive potential, therefore representing a largely untapped market with huge potential for businesses.



The rural and urban BoP markets offer a considerable potential for businesses to expand both their value chains and their consumer bases.

Together the global “BoP constitutes a \$5 trillion global consumer market”^{34, 35} and the power of these consumers rests not in their individual capacity but in their aggregate potential. Furthermore, this market is growing rapidly, and according to projections by the UN, the population of the high income regions will remain largely unchanged from 2012 until 2050. By contrast, the 49 least developed countries are projected to double in size from around 900 million people in 2013 to 1.8 billion in 2050³⁶.

The poor spend a disproportionate sum of their money on basic necessities such as food, because of the “high-cost sub-economies” in which they live. As a result of difficult access, low competition, and high demand people living in poor or slum communities may be charged 4 to 100 times more for drinking water and 20-30 per cent more for food than people living in more developed areas³⁷.

³² Conner, S. J. (2013): Inclusive Business: Using For-Profit Business Models to Address Global Poverty, *Senior Honors Theses*. Paper 394, <http://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1405&context=honors>

³³ <http://www.bbc.com/news/magazine-17512040>. Income distribution data through personal communication from Thomas Pogge based on 2011 data from Branko Milanovic, World Bank. In 5% steps, the shares are as follows 0.130%, 0.199%, 0.248%, 0.297%, 0.349%, 0.413%, 0.493%, 0.600%, 0.741%, 0.920%, 1.167%, 1.515%, 1.976%, 2.587%, 3.396%, 4.514%, 6.678%, 11.520%, 19.487%, 42.768%; world population at the time 7 billion.

³⁴ Hammond, A.L., Kramer, W.J., Katz, R.S., Tran, J.T., Walker, C. (2007): *The next 4 Billion*, World Resource Institute: International Finance Corporation.

³⁵ World Resources Institute (2008): *Annual Report 2006-2007*, http://www.wri.org/sites/default/files/wri_annual_report_2006-2007.pdf

³⁶ UNFPA (2012): *World Population Prospects: The 2012 Revision*, <http://esa.un.org/unpd/wpp/Documentation/publications.htm>

³⁷ Prahalad, C., & Hammond, A. (2002): *What works: Serving the poor, profitably*, World Resource Institute

Inclusive businesses can expand market opportunities to the BoP in the population by including the poor **in the value chain** as producers or tapping into their consumptive potential by offering products that improve their standard of living.

The markets at the top of the income pyramid are largely oversupplied. Therefore, businesses that are able to leverage their supply and distribution chains and partnerships to break into low-income markets can effectively expand their customer base or supply chain within the area and thus successfully build new markets.

Teaming up with the producers of natural raw materials and handcrafted products, as well as local service providers can strengthen the supply chain. Regions with little market access are also interesting as potential sources of supply.

Raw materials for the manufacturing and food industry are becoming ever more scarce and expensive, and low and middle income countries offer alternative supply sources. Heineken and SABMiller, two global brewers, for example, have both been steadily increasing the local content of their production in recent decades. Thousands of small producers in East and West Africa provide these companies with the cassava, barley, sorghum and hops needed for the production of beer³⁸.



Photo: Frazier Mohawk
(freeimages.com)

By integrating people living in poverty into **the supply chain** production volumes, delivery reliability and quality can be improved, the flexibility of the supply chain strengthened, and the unique selling propositions enhanced by rare, high quality and “ethical” products, whilst simultaneously contributing to reducing poverty.

More and more companies are realizing the value of business opportunities that can come with developing and maintaining inclusive business initiatives. **By creating innovations for low-income markets, they can not only help the poor but also gain new wealth for themselves.** However, this requires the adoption of a new mind-set that includes creative solutions for products, processes and business models that are a trigger for the company’s overall capacity for innovation.

The innovation models that can be pursued in trying to address the BoP market are *reverse innovation* and *frugal innovation*.

³⁸ UNDP's African Facility for Inclusive Market (2013): Realizing Africa's Wealth: Building Inclusive Businesses for Shared Prosperity, <http://www.undp.org/content/dam/undp/library/corporate/Partnerships/Private%20Sector/UNDP%20AFIM%20Realizing%20Africas%20Wealth.pdf>

Reverse innovation refers to an innovation seen first in the high income world before spreading to the industrialised world, such as battery-operated medical instruments used in countries with limited infrastructure³⁹. This kind of innovation is often an *industry-driven* innovation initially conceived as a solution to a major societal challenge and geared towards the market demand of low and middle income countries. Reverse innovation products are usually the outcome of a research and innovation process funded through private investments, which rely on international knowledge repositories as well as the specific skills of the inventors. These products make their way back to the market of the more industrialized countries thanks to their competitive prices, and the smart and sustainable solution offered.



Photo: Wanderlei Talib
(freeimages.com)

Frugal innovation is the process of “doing more with less“, or reducing the complexity and cost of a product by removing non-essential features, often in order to sell it in low and middle income countries. Social inclusive innovation is also required to find new ways of delivering products and services to the BoP, as well as for working with the BoP as producers and entrepreneurs. Opening up to BoP markets has created some of the most unique and exciting innovations of today, from solar-powered lighting solutions and hand-powered laptops to low-cost housing, electronic health services, biodegradable toilets and foot-powered irrigation pumps. The resulting innovations are collaborative not only from the perspective of being based on a deep understanding of markets, but also in their collaborative nature, which brings together interdisciplinary experts with local communities to research, develop, deploy, and test solutions in actual living environments.⁴⁰

Frugal innovation can lead to a cultural shift, whilst simultaneously leading to important job creation in the communities that rely on its model. This is the case because its products are often *community-driven* innovations capitalising on traditional knowledge available in the community.

But it would be misleading to think that frugal innovation is a form of innovation restricted to products for the poor. In 2014, India’s Space agency managed to put a satellite into orbit around Mars in one of the cheapest interplanetary missions ever undertaken. The mission’s budget is said to have been 10 times less than a comparable American



Photo: Cliff Howard
(freeimages.com)

³⁹ Govindarajan, V. (2009): The Case for 'Reverse Innovation' Now, <http://www.bloomberg.com/bw/stories/2009-10-26/the-case-for-reverse-innovation-nowbusinessweek-business-news-stock-market-and-financial-advice>

⁴⁰ The Economist Newspaper Ltd.,(2010): First break all the rules: The charms of frugal innovation, <http://www.economist.com/node/15879359>

one. The satellite, developed by the Space Agency, can therefore also function as a model of frugal innovation in terms of home-grown components and technologies, use of multi-disciplinary knowledge, and smart design⁴¹.

Such successes have other positive implications. From the point of view of the perceived implications that a certain innovation model has on society, corporate contributions to the community may represent a good opportunity to positively influence how individuals - especially employees and prospective employees – perceive companies.

Activities that indicate a pro-social rather than an instrumental orientation attribute characteristics of morality, which can strengthen social ties between individuals and the organization.

As a result, acts of social responsibility and development of inclusive business models can **increase identification and commitment to the organization, organizational citizenship behaviours, and the meaningfulness of work**. This can enhance companies' ability to attract and keep top talent⁴² and impact positively on employees' view of their employer.

⁴¹ <http://www.bbc.co.uk/news/science-environment-29341850>

⁴² Albinger, H. S., & Freeman, S. J. (2000): Corporate social performance and attractiveness as an employer to different job seeking populations. *Journal of Business Ethics*, 28, 243–253

Inclusive Societies and Inclusive Growth in Europe

How can business models be encouraged by policy makers? It is instructive to look at the Europe 2020 Strategy⁴³, i.e. the European Commission's strategy for growth, as well as the newly emerging RRI framework: The 2020 strategy includes the following three priorities.

- **Smart growth:** generate value based on growth in knowledge and innovation. This will reinforce opportunities and social cohesion by making the most of education, research and digital economy potential.
- **Sustainable growth:** create a more competitive economy that is both connected with and friendly to the environment.
- **Inclusive growth:** strengthen the role of citizens in inclusive societies.

In the fight against poverty, one of Europe 2020 key targets is the reduction of the number of persons at risk of poverty or social exclusion in the EU. To reach this target, the European Platform against poverty and social exclusion has been created, a platform managed by the EC through its Employment, Social Affairs & Inclusion DG. Key actions that this platform will focus on are:⁴⁴

- Improved access for citizens to work, social security, essential services (healthcare, housing, etc.) and education.
- Better use of EU funds to support social inclusion and combat discrimination.
- Support for social innovations to find smart solutions in post-crisis Europe, especially in terms of more effective and efficient social support.
- New partnerships between the public and the private sector.

Poverty eradication is also one of the challenges in the Post-2015 Agenda that the Council of the European Union intends to address by joining a global partnership⁴⁵. Winning the fight against poverty across the world is considered a necessary condition to the achievement of sustainable development in the Union.

Sustainable growth and job creation, and reducing inequality and social exclusion are main targets of the Horizon 2020 programme. All the research and innovation activities undertaken in the three core pillars of the programme, **Excellent Science**, **Industrial Leadership** and **Societal Challenges**,

⁴³ http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/priorities/index_en.htm

⁴⁴ European platform against poverty and social exclusion,
http://www3.hants.gov.uk/european_platform_against_poverty.pdf

⁴⁵ A New Global Partnership for Poverty Eradication and Sustainable Development after 2015 - Council conclusions. 9241/15. Brussels, 26 May 2015.

must be informed by the **Five Thematic Priorities**⁴⁶: 1) overcoming inequalities by developing Europe's human and social capacities; 2) building an open, engaging and innovative public sector; 3) facing the turbulence of regional and global changes; 4) promoting a collaborative, creative and sustainable economy; and 5) understanding Europe, the changing role of European culture and society.

By building research and innovation around these *thematic priorities*, a “resilient Europe” can be created.

In order to increase the economic growth of the Member states and the EU, policy makers have been advocating a closer relationship between science, technology and industry, as well as an increased link between business and academic science.



However this relationship, which science, technology, and society are all supposed to benefit from, has raised several concerns and criticisms in industrial sectors such as pharmaceuticals; tobacco; military/defence; oil and gas; and biotechnology. In particular, the main concerns identified are:

- “That the quality, reliability and public perception of scientific activities are being compromised by close involvement with the commercial sector” and
- “That the emphasis on economic goals is undermining the ability of science and technology to deliver a diverse range of social and environmental benefits”.⁴⁷

At the same time, not only is scientific research expected to provide a solution to global challenges, it is also perceived as a powerful tool to provide data and models to support investment decisions in industry and by government. Therefore, scientific research needs to be trustworthy, and in order for it to be so evidence needs to be gathered from a wide range of sources.

Science should sit neither above nor below, but alongside values and politics. [...] A credible, robust and open policymaking approach, using citizen-friendly digital tools, will play an

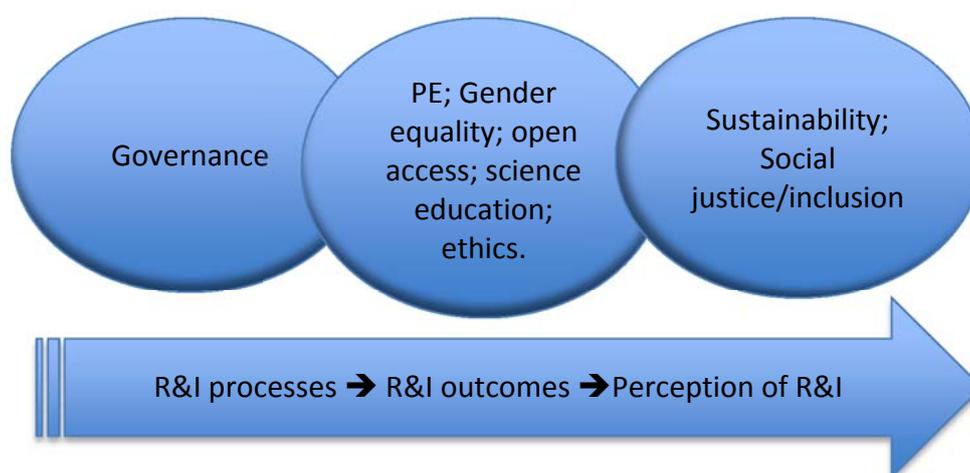
⁴⁶ Resilient Europe. Societal Challenge 6: Europe in a changing world – inclusive, innovative and reflective societies, <http://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/SC6-Advisory-Group%20report%20for%202016-2017.pdf>

⁴⁷ Langley, C., and Parkinson, S. (2009). Science and the corporate agenda: The detrimental effects of commercial influence on science and technology. © Scientists for Global Responsibility (SGR) 2009

important role in enabling the kind of high-quality debate that is needed to find trusted and sustainable solutions⁴⁸.

There are some dedicated organizations on ethics in science, such as the European Group on Ethics in Science and New Technologies (EGE), but it is through the **Responsible Research and Innovation** framework that policy makers can fully take into account these concerns, and address them through the guiding principles of **ethical acceptability**, **sustainability** and **societal desirability** of the innovation process and its marketable products.⁴⁹

“RRI effectively involves anyone with an interest early on in a dialogue. Rather than being the mere communication of science, it is early upstream public engagement aimed at bringing science more actively into the public debate on options and values from which any decision-making must derive its legitimacy”⁵⁰.



Key policy areas for evaluation of R&I processes, outcomes and perception.

As a further tool, a set of RRI indicators is now available⁵¹ to monitor and assess the impact of RRI initiatives. These indicators refer to eight identified key areas for RRI policy, comprising the six initially introduced by the European Commission as the “six keys” of RRI – **Public Engagement (PE), gender equality, open access, science education, ethics, and governance** – plus two more dimensions along which RRI policy develops: **sustainability, and social justice/inclusion**. The indicators are meant to be used in the evaluation of 1) R&I processes; 2) outcomes of RRI processes; and 3) how such processes and outcomes are perceived by innovators and society in general.

⁴⁸ Madelin, R. (2015). Science as the fuel of the public policy machine, in Wilsdon, J., and Doubleday, R., eds, Future directions for scientific advice in Europe, Published by Centre for Science and Policy April 2015

⁴⁹ Von Schomberg R (2013) see note 11

⁵⁰ Madelin, 2015, see note 48. .

⁵¹ Paula, L. and Guimarães Pereira, A. (2015). Indicators for promoting and monitoring Responsible Research and Innovation. European Union,

Inclusive Innovation and Indigenous Peoples⁵²

In Progress Deliverable 2.2⁵³, it was explained that there are a number of different levels at which 'inclusivity' could potentially operate:

- a. The poor being engaged in the definition of the problems to be addressed such that the innovation is relevant to the needs of the poor
- b. The poor being actively engaged in some manner in the development and application of innovative solutions to their problems
- c. The poor being engaged in the adoption, assimilation and diffusion of innovative solutions to their problems
- d. The poor being engaged in the impact of innovation such that the innovation outputs maximise the consumption and/or incomes of the poor.⁵⁴

The following case study describes the involvement of a marginalised indigenous population, the San population of Southern Africa, in health-related innovations. The innovations they are involved in do not necessarily address the innovation needs of the community but have a potential to contribute to the incomes and livelihoods of the community. The purpose of the case study is to outline the demands marginalised contributors to innovation can have vis-à-vis industry, as these are likely to inform what 'responsible' innovation would look like when involving vulnerable peoples from a low income region.



*Photo: David Hees
San hut in the South African Kalahari*

From the point of view of the community, which is represented in the ProGRESS project consortium, the poor and vulnerable have been the recipient of research and innovation for centuries, all too often without participation or meaningful input into the desirability thereof. Hence, they have been researched as a group, but their local problems and innovation needs have not been taken note of. At the same time, their traditional knowledge and their local plant resources have been exploited in the name of research and innovation, a perception that is not only common amongst indigenous peoples in the Kalahari, but across poor but biodiversity-rich countries around the world. The UN

⁵² Unless otherwise references, all material in this section has been drawn from Roger Chennells (2015) *Equitable Access to Human Biological Resources in Developing Countries - Benefit Sharing Without Undue Inducement*, Berlin: Springer.

⁵³ Schrempf, Benjamin, Kaplan, David and Schroeder, Doris (2013) *National, Regional, and Sectoral Systems of Innovation – An overview*, Report for FP7 Project "Progress", progressproject.eu.

⁵⁴ Foster C, Heeks R (2013) *Conceptualising Inclusive Innovation: Modifying Systems of Innovation Frameworks to Understand Diffusion of New Technology to Low-Income Consumers*. *Eur J Dev Res* 25:333–355

Convention on Biological Diversity (CBD)⁵⁵ was a powerful international and institutional response in 1992 which sought to address perceived unfairness in the process of research and innovation on plants for medical and related purposes.

The CBD recommended 'fairness' in the form of benefit sharing, but also required the respect and acknowledgement for the traditional knowledge of indigenous peoples. This attempted to set parameters for the responsible utilisation of local resources by research and industry.

The word bioprospecting is often used to denote product development involving traditional, indigenous knowledge for medicinal or other innovations. By contrast, "biopiracy" is the term used to describe cases more similar to theft, i.e. where no proper acknowledgement, or exchange of value took place.

Some famous examples of bioprospecting in plant resources that led to innovations are:

- Neem tree used for insect repellent
- Turmeric used for wound care
- Rosy periwinkle used to treat leukaemia
- Hoodia researched to combat obesity
- Sceletium researched to combat depression



Hoodia plant

This section examines a closely associated area of innovation, namely research involving the genetic resources of indigenous peoples. The UK Science Museum explains the benefits of genetic research as follows:

In the future, doctors and scientists hope to use our genetic information to diagnose, treat, prevent and cure many illnesses. Genes are instructions, which tell your body how to make all the proteins it needs to survive and grow. By identifying each of these proteins, scientists hope to better understand how your body works, and what is happening when it doesn't work properly. They hope this knowledge will eventually lead to more effective medicines and treatments.⁵⁶

Global research requires access to genetic resources, and population wide genetic research requires human populations. There are many examples of population wide genetic research on groups of humans leading to advances in public health. Isolated groups, and remote tribes, provide particularly promising prospects for genetic research. Examples of remote populations being studied include:

⁵⁵ <https://www.cbd.int/>

⁵⁶ Science Museum <http://tinyurl.com/ntz92b4>

- Tristan da Cunha islanders for asthma
- Cherokee Indians for resistance to Alzheimers
- Bedouins of Israel for resistance to obesity
- Reunion islanders for resistance to Multiple Sclerosis
- Havasupai Indians of the US Grand Canyon for schizophrenia

The San of Southern Africa are a valuable source of DNA. They are known as the 'first peoples' and are the oldest known progenitors of modern humans. About 100 000 San live in Namibia, Botswana and South Africa. Due to the use of their traditional knowledge in some medicinal patents, (*Hoodia* and *Scelletium*) they have been aware of the value of their contribution to innovation for over 10 years. However, whilst they have managed to contribute to and obtain some control over the innovation process involving their traditional knowledge⁵⁷, their experience with genetic research has been humiliating and unfavourable.

In 2010, the results of a genetic study were widely published, which involved four illiterate 'hunter gatherers' and South African Archbishop Tutu.⁵⁸ The scientific information published through the study contained frequent references to the lowly status of San peoples as 'hunter gatherers', as well as to numerous discovered genetic findings relating to their physical properties, such as their pigmentation, hair colour, lactose persistence, hearing ability and salivary glands,⁵⁹ San leaders were outraged at this perceived invasion of their rights to privacy. The then Director of the San support organisation Working Group of Indigenous Minorities in Southern Africa (WIMSA) in Namibia (Mathambo Ngakaeaja) wrote to their lawyer⁶⁰:

"We were truly shocked when this article was published. None of the official San structures in Namibia were approached. I can only conclude that no effort was made to contact community leaders in the haste or alternatively secrecy that drove the researchers."

When approaching vulnerable, illiterate, indigenous populations, community consent and engagement is the standard good ethical practice, especially in genetic research, where individual consent from one illiterate person can reveal information about the whole group. In their guidelines for research involving indigenous communities, the World Health Organization, for instance, requires the following:

The benefits of the research should be available to the research participants and to the broader community in which the research takes place. The means by which this will be

⁵⁷ See, for instance, the scelletium case as described in: Konstantinos Iatridis and Doris Schroeder, 2015, Responsible Research and Innovation in Industry, Berlin: Springer (forthcoming).

⁵⁸ <http://www.nature.com/news/2010/100217/full/463857a.html>

⁵⁹ Schuster R, Schuster SC., Miller, W., et al (2010) Complete Khoisan and Bantu Genomes from Southern Africa. Nature 2010 Feb 18 Vol 463 supplement pp 3-7)

⁶⁰ Roger Chennells, the co-author of this report, is the lawyer in question.

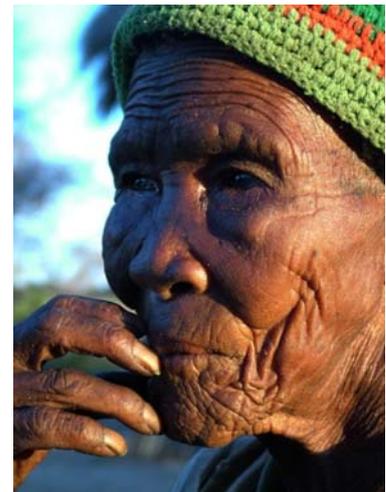
ensured should be worked out between the investigators and representatives of the community prior to commencement of the research, and should be detailed in the initial informed consent process.⁶¹

Representatives of WIMSA attempted in vain to ascertain details of the prior informed consent process from the authors of the study, whose response was to argue that the study had been approved by three international Research Ethics Committees, and that they were therefore not obliged to engage with the San leadership on the issue.⁶²

Building on the San disappointment at this failed collaboration, the South African San Institute, which represents the San in South Africa, commenced a process to generate a series of recommendations as requests to industry or the academic world when undertaking genetic research or medical research based on traditional knowledge. These recommendations, which were aimed at developing a protocol to guide all cases where San traditional knowledge or genetic samples was being sought, were discussed at a conference on responsible research in the Kalahari in March 2014.

The San decided during this conference to make their traditional knowledge available to the world through the National Indigenous Knowledge Management System (Nikmas) database, a South African initiative to protect traditional knowledge and to benefit economically from the countries' rich biodiversity. They did so, once it was agreed with the government that the San would be research partners for any research organization wanting to use this knowledge.

As a second step, the San organised their own conference (September 2014) with genetic researchers, aimed at taking collective control of their future participation in genetic research. Genetic researchers interested in working with the San, as well as social scientists, and lawyers, were invited to participate in the workshop to ensure increasing the San's capacity to manage the responsible conduct of researchers and industry when involved in genetic research. A protocol was agreed at the conference, which can be followed in the future when the San are invited to be involved in genetic research.



Mama Xasage Kgao

The protocols map onto the processes for inclusive innovation described above. In particular:

- a. The indigenous populations to be actively engaged in the development and application of innovations

⁶¹ WHO (n.d) http://www.who.int/ethics/indigenous_peoples/en/index6.html

⁶² Chennells RS. (2014) Equitable Access to Human Biological Resources in Developing Countries: Benefit Sharing without Undue Inducement. P.h.D University of Central Lancashire. July 2014 p 189

- b. The indigenous populations to be engaged in the adoption, assimilation and diffusion of innovations and
- c. The indigenous populations to be engaged in the impact of innovation such that the innovation outputs maximise their incomes.

What this means in practice is summarized below.

How inclusion in innovation can be realized for indigenous populations

Early involvement

Researchers and innovators should engage with communities at the earliest possible stage in the innovation process to ensure that research priorities and programs are aligned to local needs. This applies both to research involving indigenous resources (such as DNA) as well as innovation using indigenous traditional knowledge as leads for research.

Respectful engagement

Careful explanations and translations throughout the research and innovation process to express respect for communities are important.

Collective consent

As traditional knowledge and genetic traits are shared by entire communities, protocols to protect the safety and dignity of research participants in genetic research must include collective permission, followed by individual consent.

Long-term engagement

Important for operationalizing all of the above protocols is that long-term relationships are built between highly diverse groups involved in innovation based on genetic resources or traditional knowledge to create trust.



San Leader Petrus Vaalbooi talking about innovations involving the Buchu plant, Sep. 2014. For the related film, see: https://www.youtube.com/watch?v=Nk_TI7dK500

Findings that Inform the Recommendations

Reflections from D4.1, **RRI – Best practice in Industry:**

Reflection 1: Responsible innovation linked to the Grand Challenges can open new market opportunities and ensure profitability.

Reflection 2: Proving that ethically acceptable, sustainable and societally desirable innovation can be profitable is important in order to encourage more investment-reliable and transparent impact assessment procedures, standardized across all regions.

Reflection 3: Collective action is necessary for responsible innovation to take place and all actors must take collective responsibility for research and innovation outcomes.

Reflections from D4.2, **RRI and end-users:**

Reflection 1: Societally desirable research and innovation is inclusive innovation based on a participatory approach to research and innovation governance.

Reflection 2: Innovation by users and through end-user engagement is one of the sources of innovation that has long been pursued by researchers and industry across the world. Evolving from this pre-existing knowledge can help RRI to address Grand Challenges globally.

Reflection 3: Inclusive innovation that allows poor and marginalised groups to be both recipients and co-creators of innovation can open up new markets for industry, enhance its profitability, and generate more business value; “using business as a force for good is also good for business”.⁶³

Reflections from current deliverable, D4.3, **Recommendations from industry and end-users for the RRI process:**

Reflection 1: Economic growth, productivity, and sustainable development can meet societal expectations if the industry business model is able to incorporate values such as inclusion.

Reflection 2: Major societal challenges can be successfully addressed only through a participatory, inclusive and fair model of research and innovation.

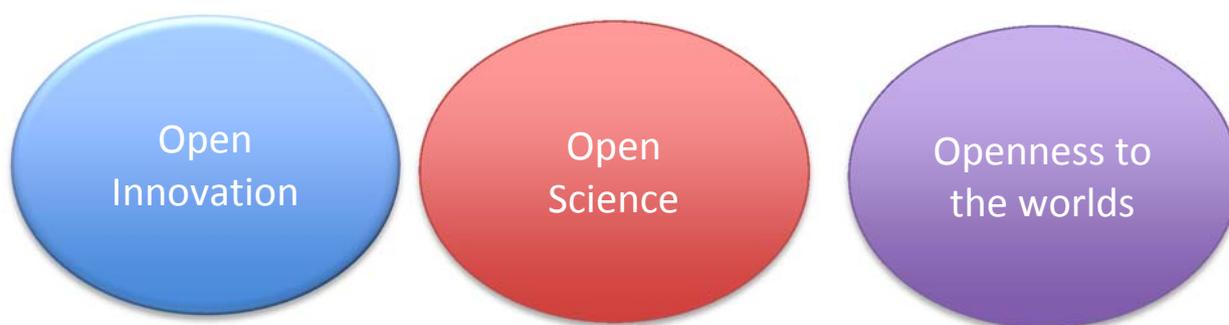
Reflection 3: If Europe wants to be a stronger global actor, the RRI framework must not be restricted to the values, needs and expectations of European society.

⁶³ Honeyman, R. (2014) Why Is Goldman Sachs Advocating For Sustainability?
<http://www.fastcoexist.com/3036010/why-is-goldman-sachs-advocating-for-sustainability>

A new era for Research and Innovation: Recommendations from Industry and Marginalised End-users

“Finally we need to be Open to the World!”
Carlos Moedas⁶⁴

In his opening speech at the conference, *“A new start for Europe: Opening up to an ERA of Innovation”*, Commissioner for Research, Science and Innovation, Carlos Moedas, had a wish for Europe; namely to have a leading role and a “more active voice in global debates”. He set out three strategic priorities for the Research, Science and Innovation institute:



To be “open to the World” means to actively participate in global partnerships, and engage more in “science diplomacy and global scientific collaboration”.

RRI can guide Europe in its mission to join the global effort towards the resolution of major societal challenges.

RRI is an ambitious challenge for the creation of a Research and Innovation policy driven by the needs of society and engaging all societal actors via inclusive participatory approaches.
(European Commission 2012⁶⁵)

Industry and end-users, being at different ends of the innovation process, can provide policy makers with highly valuable feedback about the impact and efficacy of RRI initiatives across the world and in areas as diverse as energy, health, food and water.

⁶⁴ Opening speech at the conference, ‘A new start for Europe: Opening up to an ERA of Innovation’
http://europa.eu/rapid/press-release_SPEECH-15-5243_en.htm

⁶⁵ https://ec.europa.eu/research/swafs/pdf/pub_public_engagement/responsible-research-and-innovation-leaflet_en.pdf

After considering the main features of the inclusive business model we have highlighted above, and relying on the von Schomberg definition of RRI⁶⁶, we would like to draw some concluding recommendations from the industry and end-users' points of view, on how social outcomes of research and innovation, as well as productivity, can be improved by further promoting the principle of societal desirability of research and innovation at the policy level.

Three broad intervention areas have been identified: trust; citizens' participation; cross- and trans-border research and innovation.

For each of these areas, specific actions that relate to the sustainability and societal justice/inclusion RRI indicators are highlighted for both the industry and the end-users categories. Finally, a link to the policy priorities presented by President Juncker is proposed.

Trust

RRI is an interactive process governed by the principles of ethical acceptability, sustainability and societal desirability of research and innovation, and carried out by a network of societal actors that work together on the assumption of **trustworthy relationships**. Building on the indigenous knowledge case reported above, a recommendation can be proposed, namely that building trust is a necessary step for the creation of a more inclusive business model where industry successfully takes into account society's value preferences and needs.

Key words:

Trust; Openness; Transparency, Accountability.

TRUST	Sustainability and Social justice/inclusion	Juncker's priorities
Industry	Opening up to the global economy.	1, 4, 5
End-users	Focus on the relation between the scientific profession, industry, and society, while making science and technology governance more transparent and accountable.	7, 8, 10

RECOMMENDATIONS:

- Promote longer-term as opposed to short-term relationships between partners in innovation, as the former are more likely to sustain trust in co-operations.
- Emphasise the importance of "ethical" governance of science and innovation and continue to promote research ethics as a fundamental element of RRI.

⁶⁶ von Schomberg, 2014, see note 11

Citizens' participation

Within the RRI framework the term innovation entails scientific and technological advances, and social innovation, as well as the different ways people and organizations have to interact while contributing and participating in R&I initiatives. In the process of responsible innovation, citizens' and civil society's role gained new relevance thanks to the dual function they perform. On the one hand, by means of an early upstream public engagement, citizens become a crucial source of evidence for science and technology policies. On the other hand, citizens, including marginalized groups in society, are no longer seen as passive consumers and recipients of the innovation outcome. From consumers to active co-creators and co-innovators, citizens become part of the R&I process. This provides the opportunity to share responsibilities both in the innovation process and for the outcomes, while still leaving room to advocate for citizen rights and taking pre-existing inequalities seriously.

Key words:

Co-creation; Inclusiveness.

ENGAGEMENT	Sustainability and Social justice/inclusion	Juncker's priorities
Industry	Increase labour participation for marginalized and vulnerable people.	1, 3, 4
End-users	Incorporate all voices towards a co-creation/co-innovation model of research and innovation.	7, 8, 9, 10

RECOMMENDATIONS:

- Develop a better understanding of how national and European policies constrain and enable effective engagement with and contribution of citizens and CSOs to the industry business model.
- Encourage comparative understanding of internationally successful cases of incorporating all voices in co-innovation models.

Cross- and trans-border research and innovation.

To build "a global research area" like the one commissioner Moedas hopes for, a common understanding of the terms responsibility, inclusion, equity and integrity is necessary. For this to happen, Europe will have to engage in an international dialogue with other global economies and work together on developing partnerships and cooperative plans.

Key words:

Global challenges; cross- and trans-border research and innovation.

TRANS-BOUNDARY	Sustainability and Social justice/inclusion	Juncker's priorities
Industry	Forward-looking procurement policies and standards	2, 3, 5, 6
End-users	Enhanced dialogue between stakeholders	7, 8, 9, 10

RECOMMENDATIONS:

- The focus on European society *only* in the SWAFS definition of RRI is not open to the world and should be avoided.
- Create new or adapt existing policy solutions to enable cross- and trans-border collaboration to meet major global challenges.
- Encourage research funding that targets comparative research, making use of lessons learned from research findings and practical experiences successfully implemented beyond European borders.

