



## **International differences in ethical standards and in the interpretation of legal frameworks**

### **SATORI Deliverable D3.2**

*Authors:*

*Philip Brey (University of Twente) (lead author)*

*Part 1: Philip Brey & Wessel Reijers (University of Twente),  
Sudeep Rangi & Dino Toljan (UNESCO),  
Johanna Romare & Göran Collste (Centre for Applied Ethics, Linköping University)*

*Part 2: Zuzanna Warso and Marcin Sczaniecki (Helsinki Foundation for Human Rights)  
on the basis of contributions from  
Agata Gurzawska (University of Twente),  
Johanna Romare (Centre for Applied Ethics, Linköping University),  
Sudeep Rangi & Dino Toljan (UNESCO),  
Leyre de Sola Perea, Concepcion Martin Arribas & Laura Herrero Olivera (Instituto de  
Salud Carlos III),  
Zuzanna Warso, Marcin Sczaniecki (Helsinki Foundation for Human Rights)*

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#### **Contact details for corresponding author:**

Prof. dr. Philip Brey, University of Twente

[p.a.e.brey@utwente.nl](mailto:p.a.e.brey@utwente.nl)

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**Contents**

<b>Introduction to the report.....</b>	<b>4</b>
<b>PART 1: Differences between Value systems in Europe and the world.....</b>	<b>6</b>
1.1 Introduction.....	6
1.2 Values, value systems and cultural diversity.....	7
1.3 Methodology .....	9
1.4 Global comparison of value systems.....	16
1.4.1 Introduction .....	16
1.4.2 The value system of Europe .....	17
1.4.3 The value system of Africa.....	19
1.4.4 The value system of Latin America.....	21
1.4.5 The value system of Northern America.....	25
1.4.6 The value system of Asia.....	26
1.5 Value systems within Europe’s cultures and regions.....	29
1.5.1 Introduction .....	29
1.5.2 Theoretical frameworks .....	29
1.6 Comparative Value Studies.....	35
1.6.1 Introduction .....	35
1.6.2 Freedom, Autonomy and Civil Rights.....	35
1.6.3 Justice and Equality .....	39
1.6.4 Individual Rights vs. Social Good.....	42
1.6.5 Responsibility for others.....	44
1.6.8 Social conservatism and progressivism.....	47
1.6.9 Moral Relativism .....	50
1.6.10 Democratic Values .....	52
1.6.11 Integrity and Corruption.....	56
1.6.12 Privacy and Data Protection.....	59
1.6.13 The Role of Religion.....	63
1.6.14 The role of government.....	66
1.6.15 Attitudes towards Science and Technology: Worldwide .....	69
1.6.16 Attitudes towards Science and Technology in Europe.....	72
1.6.17 Attitudes to Biotechnology in Europe.....	74
1.6.18 Animal Rights and Welfare.....	77
1.6.19 Environmental values.....	81
1.7 Conclusion and Discussion.....	91
1.7.1 Differences and similarities in value systems.....	91
1.7.2 Implications for harmonisation of ethics assessment globally .....	92
1.7.3 Implications for harmonisation of ethics assessment in Europe.....	94
1.7.4 Reflection on limitations and recommendations .....	95
1.8 Selected Publications:.....	96
<b>2 PART 2: INTERNATIONAL FRAMEWORKS AND REGULATORY DIFFERENTIATION .....</b>	<b>100</b>
2.1 Introduction.....	100
2.2 Frameworks in Europe.....	101
2.2.1 General human rights frameworks.....	101
2.2.2 Environmental frameworks .....	102
2.2.3 Biological and Chemical conventions .....	104
2.2.4 Data protection frameworks .....	105
2.2.5 Principles for the social sciences .....	107
2.2.6 Frameworks on status of researchers and good research practices.....	109
2.2.7 Biomedical ethical frameworks .....	110
2.3 Frameworks in China and the USA .....	114
2.3.1 Impact assessment frameworks .....	114

2.3.2	Frameworks regarding human subject research.....	118
2.4	<i>Concluding Remarks</i> .....	121
	<i>Annex to Part 2: Position of the frameworks in national legal systems</i> .....	123
	<i>General human rights framework</i> .....	123
	<i>Environmental frameworks</i> .....	125
	<i>Biological and Chemical Weapons conventions</i> .....	127
	<i>Data protection frameworks</i> .....	128
	<i>Principles for social sciences</i> .....	131
	<i>Frameworks on researchers and good research practices</i> .....	131
	<i>Biomedical ethical frameworks</i> .....	133

## INTRODUCTION TO THE REPORT

Efforts to harmonise ethics assessment across the European Union or across the world need to take into account the significant differences in institutions, values, legal frameworks and cultural practices that exist between different countries and regions. These differences do not automatically imply that no harmonisation is possible (to say so would also preclude the existence of international laws and standards), but they may imply that not every element in ethics assessment can be harmonised, and that there should be flexibility in the formulation and interpretation of international standards.

Among the national and regional differences that need to be taken into account in harmonisation are at least the following:

- Differences in value systems
- Differences in national legal systems
- Differences in the interpretation of international legal and regulatory frameworks
- Differences in the institutional structure of the country or region, including the economic system and the system of government
- Differences in the organisation of public-sector and private-sector research and innovation (R&I) systems, including differences in institutional structure, government control, expenditure, knowledge intensity, sectorial orientation, and others
- Differences in the historical development of R&I and public and political discussions of its significance, social impacts and ethical aspects

All these differences are considered in the SATORI project. The first and third are the subject of this report, D3.2. The second has been covered in D3.1. The fourth through sixth have been covered in the country reports that are annexed to D1.1, as well as in chapter 6 of the main report of D1.1.

In this report, the focus is on differences between countries in values and in the interpretation of international legal and regulatory frameworks. The overall aim is to investigate what these differences are and what they may mean for the prospects of international harmonisation of ethics assessment of research and innovation. The report consists of two main parts. In part I, Differences in Value Systems in Europe and the World, a comparative study is undertaken of values and value systems that prevail in different countries and regions in the world, with special emphasis on EU countries. The emphasis is on moral values. It is then investigated what implications the comparative analysis has for the harmonisation of ethics assessment across the EU and across the world. There may be implications for the kinds of ethical principles and standards that are used in ethics assessment, as well as for the way in which ethics assessment is organised. This study is possibly unique as an empirically based, comparative analysis of moral values and principles across the world.

Part II, International Frameworks and Regulatory Differentiation, aims to analyse international legal and regulatory frameworks that have a particular relevance for ethical assessment, such as general human rights frameworks, frameworks on good research practice, biomedical ethical frameworks, environmental frameworks, biological and chemical weapons conventions and data protection frameworks. It analyses for these frameworks, first of all, what values that they are based on, what norms they prescribe and how widely they are

supported. It then goes on to analyse how they fit with national legislation and regulation in selected countries, and determines where is there a good fit and where not, and why this is the case. This analysis makes it clear that international frameworks may not always fit well with national legislation and regulation, and that they can be interpreted very differently in different countries. To know how and why this is the case will be very helpful in developing frameworks and approaches for ethics assessment of R&I that can be used in harmonisation.

The results of this report will be used in subsequent SATORI reports that will contain proposals for harmonisation of ethics assessment of R&I in the EU and beyond.

## **PART 1: DIFFERENCES BETWEEN VALUE SYSTEMS IN EUROPE AND THE WORLD**

### **1.1 INTRODUCTION**

The aim of this chapter is to investigate how differences in value systems across EU member states and across the world shape the principles, procedures and institutions for ethics assessment of research and innovation. More specifically, it aims to better understand differences and similarities in value systems and how these affect national and regional practices in ethics assessment. We will analyse empirical studies of values and value systems in different countries and regions, and correlate these with our findings concerning the procedures and institutions for ethics assessment in different countries.

Our study will begin with an introduction to the concepts of a value and a value system, the idea that there is diversity in value systems in different countries and regions, and the possibility that there are shared, universal values (section 2). Next, we will discuss a methodology for our study of value systems and approaches to ethics assessment (section 3). Then, the major parts of our study will follow. Section 4 will perform a global comparison of value systems, focusing on continents and major regions in the world. Based on the empirical and theoretical literature in this area, it will describe value systems prevalent in Europe, Africa, Latin America, North America (excluding Mexico), and Asia, and it will compare and contrast them.

Section 5 will take a more detailed look at value systems within Europe's countries and regions. It will look at major regions within Europe based on shared cultural and social features or shared history, and considers differences in value systems amongst them. Section 6 will move from a consideration of value systems to a consideration of specific values. Using empirical data from the World Value Survey and other sources, attitudes towards sixteen values and value clusters will be investigated for selected countries in the EU and other parts of the world. Selected values include freedom, justice, privacy, democracy, animal welfare, environmental values and others. We will conclude this chapter with an elaborate discussion on the major findings of our study, limitations of these findings and some tentative recommendations for the Satori project.

## 1.2 VALUES, VALUE SYSTEMS AND CULTURAL DIVERSITY

Much reference is made to values, both in academic and non-academic discourses, but what a value actually is, is little understood. A value can be said to be an abstract ideal to which people aspire. It is an abstract quality or state-of-affairs that people see as good or ideal. Examples of values are: freedom, justice, democracy, wisdom, honesty, efficiency, beauty, serenity, friendliness, well-being, and excellence. Sometimes, when people refer to values, they implicitly refer to *moral* values. However, a moral value is only one type of value. A moral value is a value that concerns the conditions of right and wrong conduct, in relation to what is considered good and acceptable in society, especially regarding our conduct towards others. Moral values concern harms and benefits for others, our duties towards others and oneself, and the rights of others. Examples are: responsibility, integrity, beneficence, justice, freedom, equality, and human dignity. Next to moral values, there are other values that people hold that do not concern right and wrong. People may, for example, value efficiency, or beauty, or orderliness, which are not moral values.

Values may be idiosyncratic to an individual or shared by the members of a community, society or culture. The values of an individual are sometimes called *individual* or *personal values*. The values shared in a society are sometimes called *social values*, and those shared in a culture are called *cultural values*. However, the term “social values” sometimes is instead used to refer to people’s values about society, and the term “cultural values” sometimes refers to values that are expressive of one’s culture. In this report, we will refer to social values as values that are shared by the members of a society and that regulate conduct in the society (how individuals and groups should behave and how society should be organised). According to this definition, social values include moral values, but also other values, for example values regarding etiquette and accepted ways of doing things. Examples of social values are openness, punctuality, solidarity, chastity, self-discipline and individualism.

Cultural values, defined as values shared by the members of a culture, are also important in this report. A culture is the collection of beliefs, symbols, values, norms, behaviours and artefacts shared by a group of people. The term ‘culture’ is both used to designate such collections or systems as they have developed historically in particular regions (sometimes spanning multiple countries; e.g., African culture, Polynesian culture, Asian culture), amongst particular ethnic groups (Native American culture, Jewish culture, Tuareg culture), or amongst certain subgroups in society (non-ethnic ‘subcultures’, such as hacker culture, hippie culture, Internet culture). In this report, we will look at values that are shared by culturally linked regions in different continents that span multiple countries. Since religion is often an important aspect of a culture, these values will also include religious values: values shared by the members of a religion.

People’s values are usually not isolated entities, but are part of a larger *value system*, which is a set of interrelated values that are held by an individual, group, or organisation, or within a culture, religion or society. In section 4 and 5 of this report, we will study dominant value systems in different regions in the world. In section 6, in contrast, the focus will be on particular values or clusters of values.

An assumption in this report is that values and value systems across the world differ. This assumption is sometimes described as *descriptive moral relativism*: there are substantial differences in the values and value systems of different people. This assumption contrasts with that of *descriptive moral absolutism*: people have, at the core, the same values. Any

observable differences are only differences in how these values are expressed. The absolutist position is rarely held, since it seems rather obvious that there are sometimes profound differences in the values that people hold.

However, it is also a hypothesis in our study that there are systematic, identifiable value differences between different cultures and societies. This hypothesis does not follow automatically from the descriptive relativist position. It could be the case that people hold different values, but that these are not systematically related to one's social or cultural background. One of the authors of this study, Göran Collste, holds exactly this position. He holds that value differences within different religions and cultures are as wide as between persons in general. Collste argues: "Take Christianity as example: what unites a Liberation theologian and a Moral Majority evangelist when it comes to social and political values? Nothing. And amongst Christians one will find the whole spectrum of values from the Liberation theologian to the evangelical Moral Majority adherent."

Collste's position is reflected by the views of the Indian philosopher and economist Amartya Sen, who in his book *Development as Freedom* (1999) analyses the relation between development and freedom. In it, he argues that freedom is a universal value relevant in all parts of the world. But, is not individual freedom a Western, liberal concept? Does it really have any relevance in Asia? Sen argues against a characterisation of values based on culture and geography, exemplified in the distinction between "Asian values" and "Western values". Instead he emphasises the inner diversity of cultures and traditions. One can for example find similar authoritarian ideas in both the Eastern and the Western traditions. Confucius and Plato are examples of this. Individual freedom is indeed a value that has been important in the Western political and philosophical discourse. But it is not therefore a unique Western value, Sen argues. To show that it is not, Sen points at empirical examples from both the histories of Buddhism and of Islam.

So it could be that this working hypothesis is false. We approach the hypothesis as follows: in section 4 and 5, we review the literature that does propose value differences between different regions, cultures and religions in the world. We do so cautiously, keeping in mind that these are generalisations that could obscure considerable diversity within these regions and cultures. In section 6, we look at empirical investigations of the extent to which people in different countries support particular values. We also keep in mind here that there may be considerable internal differences within these countries. If there are substantial differences in the scores between different countries, this would seem to indicate that on the whole, people in countries with higher scores are more accepting of a certain values than people in countries with lower scores. However, there may be alternative explanations of these differences that we also have to assess.



### 1.3 METHODOLOGY

Empirical studies of values across the world come in different shapes and forms. Most of these studies have in common, though, that they attain their data through questionnaires that ask inhabitants of different countries or regions about their values and preferences, often by asking about their level of agreement or disagreement with statements that express values or norms. The most well-known, expansive and elaborate study of this kind is the *World Values Survey* (WVS), which has been undertaken annually by the World Values Survey Association since 1981. The WVS investigates the attitude of people in over 100 countries towards a large number of social, cultural and moral values. Next to the WVS, we will also be using the *Eurobarometer*, a series of public opinion studies within the EU by the European Commission, which on occasion studies values held by the people of EU member states, and several other international surveys of values.

Surveys like the WVS register attitudes towards particular values, as expressed in statements included in the WVS survey. They do not give immediate insight into the correlation between values that are held by people, or into the existence of larger clusters of values that constitute value systems that prevail in different parts of the world. However, it is possible, through statistical analysis of value surveys, to identify correlations between values and clustering of values that point at value systems that exist in various parts of the world. Such clusters have been used to construct models or theories of value that distinguish major dimensions of valuation that can be used to categorise value systems along these dimensions. These value systems can then be associated with countries, geographical regions, and cultures.

The most well-known and influential attempt to distinguish value dimensions and value systems in this way is the *Inglehart-Welzel cultural map*, which has been proposed by two leading scholars behind the World Values Survey, Ronald Inglehart and Christian Welzel, with most of the theoretical framework and studies having been developed by Inglehart. Based on their use of statistical regression analysis, Inglehart and Welzel claimed to have discovered that values tend to cluster along two major dimensions, the dimension of what they call *traditional values* vs. *secular-rational values*, and the dimension of *survival values* vs. *self-expression values*. Countries, regions, cultures and segments of the population can then be positioned on a two-dimensional coordinate space along these two dimensions.

*Traditional values*, by their definition, are values that in which the traditional institutions of religion, family and tribal structure, and the nation-state are paramount. These values emphasise religious beliefs, familial obligations, marriage, national pride, obedience, absolute values and norms, and respect for authority. *Secular-rational values*, in contrast, place less value on these traditional institutions and on authoritarian structures in general. Problems are not solved by appeal to higher authorities, but through secular, bureaucratic and rational considerations. The outlook of people with such value systems is less authoritarian, less nationalistic, and less determined by institutionalised religion, and there is a greater openness and tolerance for different family models, sexual orientations, and lifestyles. Possibly the most important difference in the traditional/secular-rational values dimension is that it tends to distinguish between societies in which religion is very important and those in which it is not.

*Survival values* are values that emphasise economic and physical security. They tend to be associated with societies with high levels of which economic scarcity and physical insecurity. People with these values tend to have an ethnocentric outlook and limited levels of tolerance

and trust. Self-expression values take economic and physical security for granted, and focuses on immaterial needs, such as life satisfaction, public expression, and liberty. These values tend to dominate in societies with high levels of economic and physical security. People with survival values also tend to have higher level of trust and social toleration.

Inglehart and Welzel did not just correlate values with each other to arrive at these two value dimensions, they also correlated the dimensions with social, economic, technological and cultural features of societies, and developed explanatory accounts of why such clusters existed and why societies occupy particular positions along these two dimensions. Their general theory is that as societies develop and move from an agrarian to an industrial and then post-industrial state, the resulting higher levels of economic and physical security and greater welfare result in a transition from survival to self-expression values. In particular, the shift from industrial to post-industrial society is characterised by this shift, in what they call a transition from materialistic to post-materialistic values. In addition, modernisation is often associated with secularisation, and as a result there usually also is a transition from traditional to secular-rational values.

Yet, they hold the two value dimensions to be largely independent to each other. Hence, a state like Russia has, through communism, become largely secular-rational, but has through conditions of economic and physical insecurity maintained an emphasis on survival values. Conversely, the US has attained possibly the highest level of economic and physical security of any country in the world, resulting in a strong shift towards self-expression values, but the strong role of religion in the country still means that it tends towards traditional rather than secular-rational values. Thus, while economic, technological, scientific and educational development is an important factor in predicting shifting value orientations, historically formed ideologies, particular religions ones, also are important determinants.

Although the Inglehart-Welzel approach currently constitutes the most influential account of the world's value systems, it has been criticised by some for being too simplistic for only distinguishing two value dimensions, and various alternative accounts have been developed. Well-known is Geert Hofstede's (1980, 2001) cultural dimensions theory, which distinguishes five dimensions of national cultural values, including individualism-collectivism, power distance, masculinity-femininity, uncertainty avoidance and long-term vs. short term orientation. More recently, Shalom Swartz (2006) presented a theory of seven cultural value orientations that form three cultural value dimensions. He distinguishes embeddedness vs. intellectual and affective autonomy, hierarchy vs. egalitarianism, and mastery vs. harmony. Steenkamp (2001) distinguishes autonomy vs. collectivism, egalitarianism vs. hierarchy, mastery vs. nurturance, and an uncertainty avoidance dimension.

Thus, whereas the Inglehart-Welzel approach distinguishes only two value dimensions, these theories distinguish three to five. There is significant overlap, however, between the different types of dimensions that they propose. In our approach, we will be using the Inglehart-Welzel cultural map, but we will also do more fine-grained analyses of particular values and value clusters, and will in this context discuss some of the parameters discussed in these more fine-grained alternative accounts as well. In our discussion of value systems of section 4 and 6, moreover, we will also make reference to other literature on value systems, including studies in philosophy and ethics.

We will have a more detailed look at the Inglehartd-Welzel cultural map. The Inglehart–Welzel cultural map is a scatter plot mapping how values compare across different clusters.

The surveys are conducted repeatedly which means that it is possible to follow changes in values related to different countries and regions. The x-axis of the map tracks survival values versus self-expression values, while the y-axis tracks traditional values, versus secular-rational values. Self-expression is a cluster of values. It includes values such as toleration, autonomy/aspiration to liberty, public expression, and life satisfaction.<sup>1</sup> It is contrasted with survival values, which are values that are directed towards the struggle for existence.

Countries or clusters with a high score in survival values honour economic security and physical safety and are considered to be linked to low levels of trust and tolerance, while countries or clusters with a high score in self-expression values honour tolerance, participation in decision making in society and equality. High scores in traditional values are connected to family values and ideals, patriarchal societies, gender roles etc. that are passed on from generation to generation, while a high score in secular-rational values reflects values that put none or very low emphasis on such values.

The hypothesis is that societies are, as they develop, moving towards self-expression values. Political change and economic development are linked with value changes. Inglehart claims that when economic development in a society occur, the society will move diagonally from traditional-survival values towards secular-rational and self-expression values.<sup>2</sup> That is, when a country develops economically and politically, the values and attitudes will also change towards more non-traditional and rational-secular values. The World Value Survey Network claims that their studies show that people's beliefs also play a major role in economic development and in the flourishing of democratic institutions, gender balance, etc. In "Modernisation, Cultural Change, and the Persistence of Traditional Values" Inglehart and Baker use statistical methods to test the claim that there is a positive relation between economic development and value change. The study is based on data from the World Value Survey and includes 75% of the world's population. Their study shows that there is a positive relation between economic development and democratic and inclusive values. Economic development tends to cause a shift from totalitarian norms and traditional values towards inclusive, rational and tolerant values. However, in addition to these findings, Inglehart and Baker also find evidence of cultural change being path-dependent. In many cases, traditional and totalitarian norms and values will persist. This is explained by the cultural heritage of the society, which according to the study will leave an enduring print preventing the shift to more inclusive values.<sup>3</sup> Below, we present the three Inglehart-Welzel cultural maps of the world that resulted from the WVS waves of 1996, 2008 and 2010-2014.

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<sup>1</sup> Inglehart, R., *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies*, Princeton University Press, 1997.

<sup>2</sup> Ibid.

<sup>3</sup> Inglehart, R. and Wayne E. Baker, "Modernization, Cultural Change, and the Persistence of Traditional Values" in *American Sociological Review*, Vol. 65:1. 2000

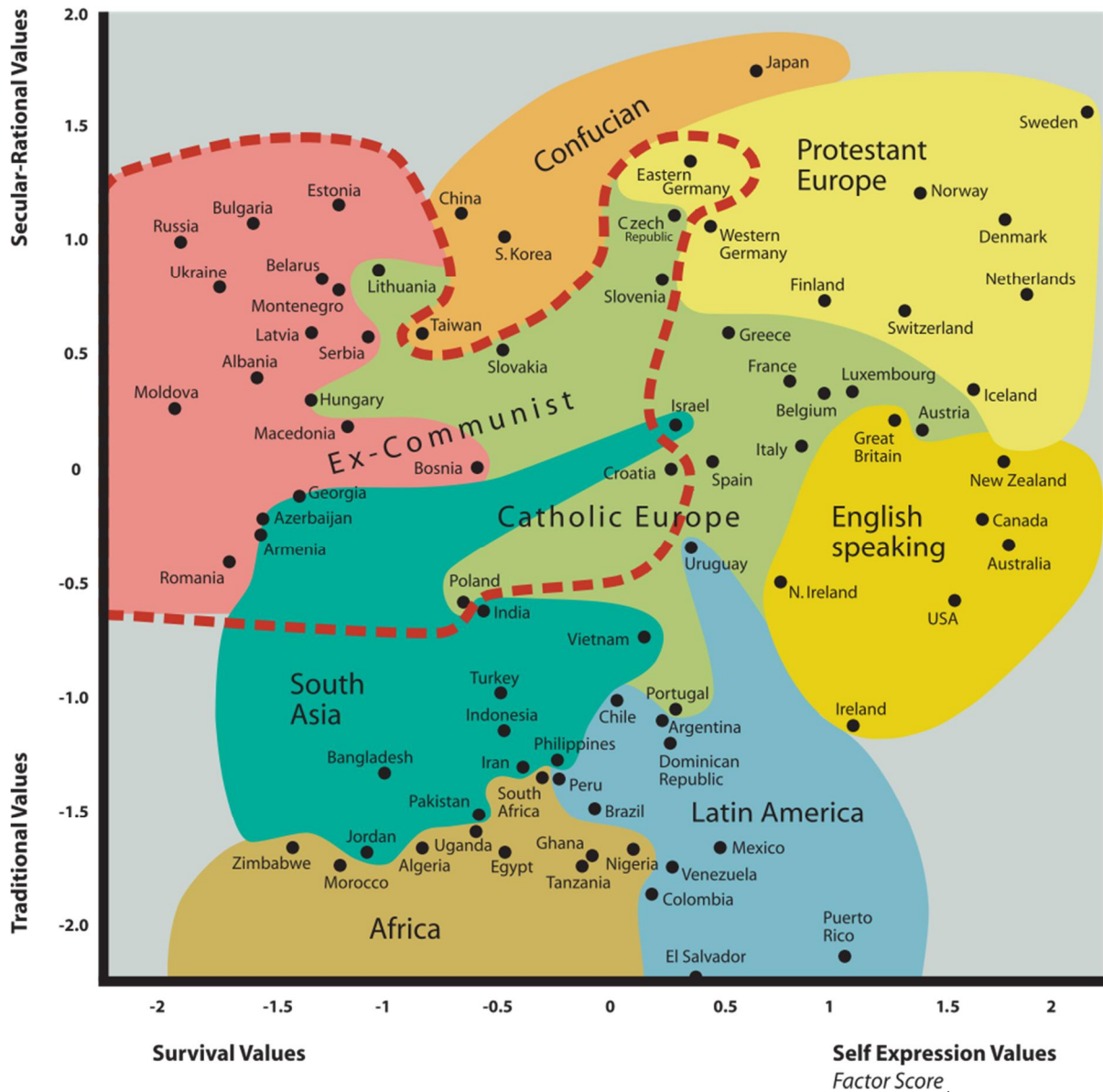


Figure 1: The Inglehart–Welzel Cultural Map of the World - WVS wave 4 (1996)<sup>4</sup>

<sup>4</sup> <http://www.worldvaluessurvey.org/WVSNewsShow.jsp?ID=192>

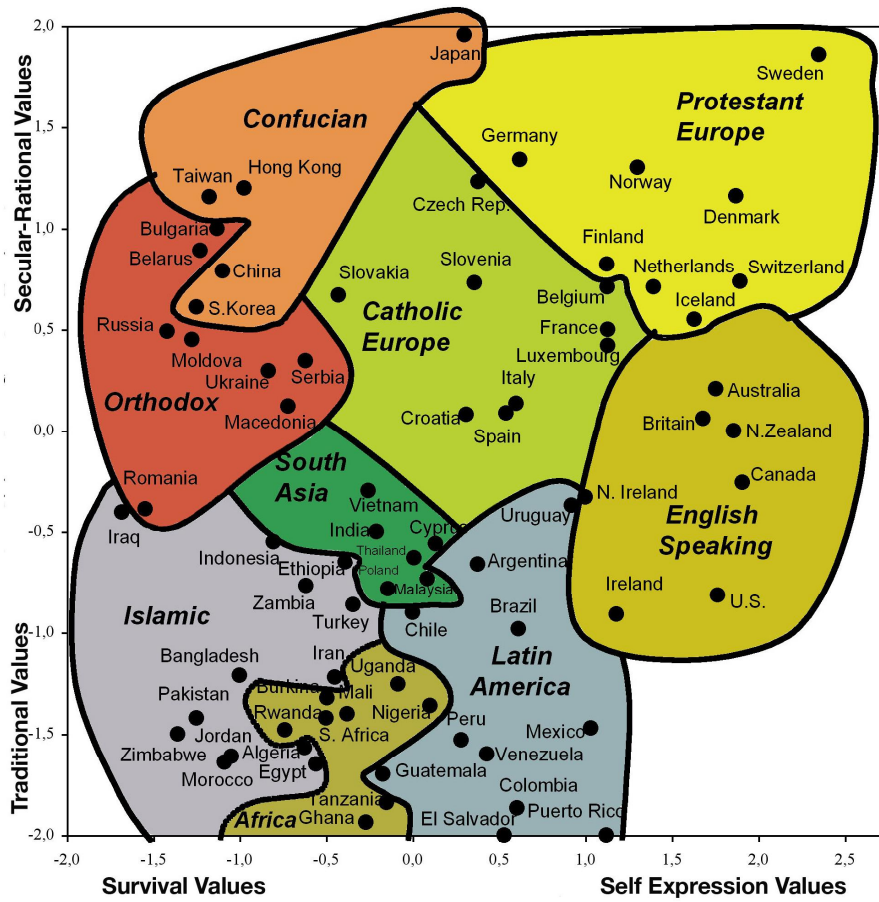


Figure 2: The Inglehart–Welzel Cultural Map of the World - WVS wave 5 (2008)<sup>5</sup>

<sup>5</sup> <http://www.worldvaluessurvey.org/WVSNewsShow.jsp?ID=192>



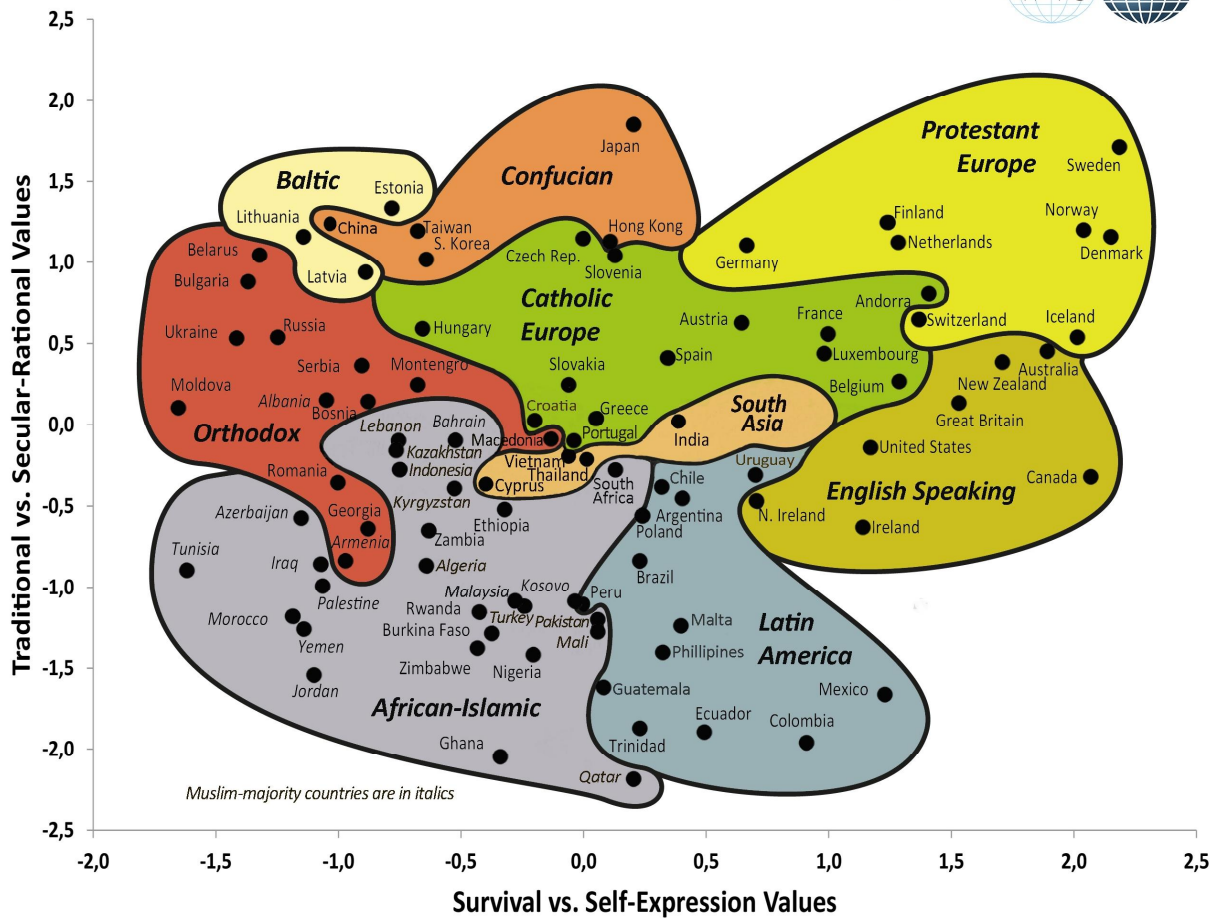


Figure 3: The Inglehart–Welzel Cultural Map of the World - WVS wave 6 (2010-2014)<sup>6</sup>

<sup>6</sup> <http://www.worldvaluessurvey.org/WVSNewsShow.jsp?ID=192>

### 1.3.1.1 Methodological concerns

In our analysis of values and value systems, we strive to be aware of the limitations of existing empirical and theoretical approaches. As one of us, Göran Collste, has emphasised, there are limitations to these approaches, and even supposedly representative measurements of support for values in different countries has its limitations. Value surveys could lead to simplistic generalisations and explanations of value differences between countries and peoples. Collste presents an exemplifying question to illustrate his case: how should one interpret the results of Eurobarometer's question: "To what extent do you agree or disagree with each of the following statement: we need more equality and justice even if this means less freedom for the individual?"

According to Eurbarometer 2012, 70% of the Poles prefer more equality to more freedom, while the Netherlands scores the lowest; only 41% of the Dutch respondents prefer more equality to more freedom. The differences between countries can either be explained by considering value differences between different countries or by considering the fact that the responses mirror the kind of society the respondent lives in; in more unequal societies, respondents prefer equality and in more equal societies they prefer freedom. In our discussion of surveyed values in section 6, we will discuss such limitations and alternative interpretations.

## 1.4 GLOBAL COMPARISON OF VALUE SYSTEMS

### 1.4.1 Introduction

This section focuses on a comparison of global value systems. We will discuss the value systems of Europe, Asia, North and South America and Africa. Subsequently, we will include these value systems in a general global comparison. At this stage of the research, we operate within a framework of **descriptive moral relativism**: following “an empirical thesis that can in principle be supported or refuted through psychological, sociological and anthropological investigations”<sup>7</sup>. This thesis allows for a great range of sources that can be consulted, focusing on the conceptual aspects of value systems as well as their institutional and behavioural aspects.

Considering a definition of “value system”, we refer to the following definitions: “A value system is a way of conceptualising reality and encompasses a consistent set of values, beliefs and corresponding behaviour and can be found in individual persons, as well as in companies and societies”<sup>8</sup> and “when a number of key or pivotal values concerning organisation-related behaviours and state-of-affairs are shared-across units and levels-by members of an organisation, a central value system is said to exist”<sup>9</sup>. Value systems are said to exist within any kinds of groups; including companies, interest groups, political groups etc. However, we will narrow down our identification of value systems to shared values within nations, treating nations as organisational entities that have members (citizens) who share certain sets of values. We chose to base of inquiry on this narrow conception of a value system while it allows for the most thorough empirical analysis. Though the empirical data we use is based on the nation as a value system, in this section we embed nations in greater value systems that are related to the worlds’ continents. While the idea of continents as cultural or geographic wholes is seriously contested for convincing reasons<sup>10</sup>, we will merely use them as anchor points in our discussion. For this reason, we will include discussions on the alleged cultural regions *within* continents in our overview, as well as critiques on the classification of the continents.

In order to give a general overview of the global value systems, we draw from studies that are aimed at providing empirical support for describing the characteristics of these systems. The central source we use is the World Values Survey which allows us to discuss each value system according to the “cultural maps” that are a result of this survey. We use the value maps of three different waves of the World Value Survey: the waves of 1996, 2008 and 2015. Additionally, we use empirical value studies that are specific to certain regions, like the Eurobarometer studies and more conceptual systems like the cultural dimensions of the studies of Geert Hofstede. The purpose of this section is to give a very general overview of the alleged value system of the world’s continents; without a specific focus on ethics assessment of research and innovation. Focus on the specific values that are relevant for ethics assessment will be discussed in section six which concerns a comparison of specific values.

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<sup>7</sup> Brey, P. Is information ethics culture-relative? *International Journal of Technology and Human Interaction*, 36, 2007, 41–48.

<sup>8</sup> Marrewijk, M., & M. Were, Multiple levels of corporate sustainability. *Journal of Business Ethics*, 44, 2003, p.108. <http://doi.org/10.1023/A:1023383229086>

<sup>9</sup> Wiener, Y., Forms of Value Systems : A Focus on Organisational Effectiveness and Cultural Change A Framework for the Analysis of Organisational Culture. *Academy of Management Review*, 13(4), 1998, p.535.

<sup>10</sup> Lewis, M., & K. Wigen. The Architecture of Continents. In *The Myth of Continents: A Critique of Metageography* (Vol. 104, pp. 1883–1885), 1999. <http://doi.org/10.1086/210258>



Henceforth, we will firstly give an overview the global value systems separately. In these overviews, we will discuss the basic information of the world region in question and the sub-regions it comprises. Moreover, we will discuss the position of the specific value system on the Inglehart-Welzel cultural maps and finalise the overview with a more general discussion of the value system that comprises different sources. Secondly, we will use all the separate overviews of the world value systems to construct a systematic comparison, identifying the major diverging lines between them. Visual versions of the Inglehart-Welzel maps are provided below, in order to give an anchor point for the upcoming sections.

## 1.4.2 The value system of Europe

### 1.4.2.1 Introduction

This study focuses on the value system of Europe in order to give an overview of the values that are common or shared between European citizens. “Europe” is generally used to designate a *continent* that occupies the Western peninsula of the Eurasian continent. As such, it refers to a geographical entity. However, we are interested in finding out if Europe can be characterised as a value system, as a consistent set of values, beliefs and behaviours that are shared among European citizens. We will therefore treat it as socio-historical and cultural entity. The leading question is constructed as follows: *are there common or shared values of European citizens according to empirical research that is focused on gathering direct data from individuals?*

### 1.4.2.2 The cultural map of Europe

There have been several attempts to display major value systems in Europe and/or in the world. According to the Inglehart-Welzel cultural map, Europe includes different value systems that relate to religious and ideological denominations.<sup>11</sup> First of all, the predominantly protestant region in Europe is counted as a distinct value system; that generally tends to high levels of self-expression values and secular-rational values. The predominantly Catholic region displays more moderate levels of these values. Another important divide in Europe can be observed between the ex-communist countries and the other countries. Schwarz argues that the enforcement of a political system like communism does impact the value preferences of people; to a great part also due to the social-economical circumstances such a system imposes<sup>12</sup>. The English speaking part of Europe is regarded as a separate value system because it displays relatively high levels of self-expression values but lower levels of secular-rational values.

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<sup>11</sup> *Traditional values* are defined as values that emphasise religion, family values, respect for authority, and deference to authority. They are often connected to negative attitudes toward abortion, euthanasia and divorce. *Secular-rational values* place less or no emphasis on religion, family values and authority. *Survival values* honours economic security and physical safety and are linked to low levels of trust and tolerance.

*Self-expression values* honours “environmental protection, growing tolerance of foreigners, gays and lesbians and gender equality, and rising demands for participation in decision-making in economic and political life”. The World Value Survey. ”Findings and Insights”. <http://www.worldvaluessurvey.org/WVSContents.jsp>.

<sup>12</sup> Schwartz, S. H., & A. Bardi, Influences of Adaptation to Communist Rule on Value Priorities in Eastern Europe. *Political Psychology*, 18(2), 1997, 385–410. <http://doi.org/10.1111/0162-895X.00062>

Another way to display European value systems has been suggested by Beer & Wissen<sup>13</sup>. By using statistical data from the Eurostat Yearbook (ECE, 1997) on the economic and cultural climate, European countries<sup>14</sup> are grouped into five “clusters”.<sup>15</sup> The clusters display cultural and economic similarities and differences between different regions in Europe, making it possible to compare them. As an example, the Nordic (maternalistic) countries take relatively active measures to facilitate female labour force participation compared to the western European (pragmatic) countries that take such measures to the degree that it will not inflict with economic growth.

Section 5 deals in more detail with the different value systems within Europe’s countries and regions. For now it can be fruitful to point out that both the Inglehart–Welzel cultural map and the Beer & Wissen division of Europe into five clusters indicate that though there are regional shared values, there are also significant divergences.

### 1.4.2.3 Towards Europeanism

The concept “Europeanism” refers to the vindication that Europeans have a set of shared norms and values regarding politics, economy, and social life. John McCormick (2010) has argued that existing national or state-based norms and values that are non-coherent with European values will – slowly – be transcended and replaced by the latter. Following McCormick’s argument, this would indicate that any divergence in values across Europe is diminishing.

The Eurobarometer 69 (2008) brings some support for McCormick’s thesis. A small majority (54%) of the citizens in EU member states believe there is closeness in terms of values among the European Union Member State. On the other hand, 34% – quite a large number – believes that the relationship in terms of values is distant. However, only two years earlier in the Eurobarometer 66 survey, only 48% replied that there is closeness in values among citizens in EU member states, and 41% replied that the relationship in terms of values is distant (p. 6). The belief in shared European values is increasing. Moreover, it is a homogeneous belief: twenty-four of twenty-seven Member States believes that the EU countries are close in terms of values (p. 7). In addition, younger respondents (15-24) are in general more likely to believe that there are shared values (62%) than respondent from other age groups (p. 8).

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<sup>13</sup> Beer, J. De, & L. Van Wissen, Europe : one continent, different worlds : population scenarios for the 21st century, 1999, P.35. [http://opac.rero.ch/get\\_bib\\_record.cgi?db=ne&#38;rero\\_id=R275955260](http://opac.rero.ch/get_bib_record.cgi?db=ne&#38;rero_id=R275955260)

<sup>14</sup> Certain European countries (e.g. the Balkan countries) are lacking in this overview due to the lack of data in the study.

<sup>15</sup> (i) *The Maternalistic cluster* (the Nordic countries). The cluster refers to the high level of female participation in the labour market, and the active measures taken to facilitate female labour force participation. Female values such as cooperation are emphasised, and they show a lower level of individualism and conservatism compared to Western Europe; (ii) *The Pragmatic cluster* (the western European countries). The cluster emphasis economic growth, why social, cultural, and gender issues therefore are dealt with pragmatically – i.e. in a way that they will not obstruct economic wealth; (iii) *The Paternalistic cluster* (the Mediterranean countries). The cluster refers to the emphasis on family values, lack of female participation and emancipation; (iv) *The Intermediate cluster* (central European countries). The cluster collects former communist countries with a history of non-communism between the two world wars. They score close to the Western countries when it comes to cultural values; (v) *The Post-totalitarian cluster* consists of east European ex-communist countries that has not yet transformed to capitalism. Female labour participation is high, but not for reasons of non-traditional gender roles. (Beer & Wissen, 1997, p. 35).

#### 1.4.2.4 The regional value system

Arguably, dominant aspects of the European value system have originated from the European enlightenment<sup>16</sup>. The enlightenment brought with it a shift from traditional values to secular-rational values. Corresponding to this cultural shift in thinking, a development occurred that culminated in the idea of human rights; which was greatly influenced by thinkers like Kant and Locke. An important notion in this respect is the importance of human *dignity* in the European value system, understood as a human capacity to be morally self-regulative. Fundamental European values that originate from Europe's intellectual history are *justice, solidarity, equality, dignity, citizen's rights, freedoms and sustainability*<sup>17</sup>.

The Eurobarometer survey shows that “tolerance, respect and a sense of responsibility” are values that EU citizens attach most importance to<sup>18</sup>. The seven core European values that are identified by the ESS scale are security, self-direction, stimulation, hedonism, and combined tradition/conformity, universalism/benevolence and power/achievement values<sup>19</sup>. Moreover, Davidov et al. argue that a shift can be discerned in Europe from a value system that is predominated by material values to one in which post-material (e.g. environmental) values play an increasingly important role<sup>20</sup>. However, post-material and material values often are conflict with one-another (e.g. environmental vs. economical values).

#### 1.4.3 The value system of Africa

##### 1.4.3.1 Africa and its regions

There is no “one” African culture or society. Africa is vast, comprised of 54 independent nations, 1,02 billion people, and over 3,000 ethnic groups. In addition to French, English, Portuguese, German, Spanish, and Italian, more than 1,000 indigenous languages are spoken.<sup>21</sup> According to the United Nations Statistics Division, the continent can be divided in five geographical sub-regions, namely 1) Northern, 2) Western, 3) Central, 4) Eastern and 5) Southern Africa.<sup>22</sup> However, the major distinction should be drawn between countries north of the Sahara and the ones that form the so-called sub-Saharan Africa.<sup>23</sup> While the history of Africa north of the Sahara (predominantly Arab countries) has been closely linked with that of the Mediterranean basin, the south developed its specific traditions that stayed isolated from major outside influences until the age of European geographical explorations in the 15<sup>th</sup> and the 16<sup>th</sup> century. Major regional survey projects that provide scientific insight into societies'

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<sup>16</sup> Ladikas, M., S. Chaturvedi, Y. Zhao, & D. Stemerding, *Science and Technology Governance and Ethics*. Heidelberg: Springer Open, 2015, p.55

<sup>17</sup> Ibid. p.57-64

<sup>18</sup> European Commission, Social values, Science and Technology. *Eurobarometer Special Report*, February 2005. P.98. <http://www.free-enterprises.co.uk/Religion-Statistics/Eurobarometer/Social-Values-Science-Technology.pdf>

<sup>19</sup> Davidov, E., P. Schmidt, & S.H. Schwartz, Bringing Values Back In: The Adequacy of the European Social Survey to Measure Values in 20 Countries. *Public Opinion Quarterly*, 72(3), 2008, 420–445. <http://doi.org/10.1093/poq/nfn035>

<sup>20</sup> Ibid. P. 36

<sup>21</sup> Miahouakana Matondo, J.P. Cross-Cultural Values Comparison between Chinese and Sub-Saharan Africans. *International Journal of Business and Social Science*, Vol. 3 No. 11. 2012, p38

<sup>22</sup> See more: <http://unstats.un.org/unsd/methods/m49/m49regin.htm>

<sup>23</sup> “The designation sub-Saharan Africa is commonly used to indicate all of Africa except northern Africa, with the Sudan included in sub-Saharan Africa.” (<http://unstats.un.org/unsd/methods/m49/m49regin.htm>)

political and cultural values also respect the aforementioned division.<sup>24</sup> There is a distinction between Afrobarometer that measures the attitudes in Sub-Saharan Africa and Arab Barometer that scrutinises the developments in the Arab world including countries of North Africa.<sup>25</sup>

### 1.4.3.2 The cultural map of Africa

The Inglehart-Welzel cultural map places Africa on the lower left side of the chart, reserved for societies with strong Traditional and Survival values accompanied by weak Secular-rational and Self-expression values. The chart based on the data from the World Values Survey (WVS) wave 4 (1996), displays African countries as a part of a single group with shared characteristics. However, according to the data from WVS wave 5 (2008), the cultural zones of the continent diverged into “African” and “Islamic”, only to be subsequently reunited in a cluster called “African-Islamic” (information from WVS wave 6 (2010-2014)).<sup>26</sup>

The importance of religion positions African societies near the ‘traditional’ side of the Traditional/Secular-rational axis.<sup>27</sup> Although the name of the cultural zone suggests the prevailing significance of Islam, Africa is religiously a very heterogeneous continent. Initially rooted in traditional religion, the society was subsequently broadened by Euro-Christian and Islamic influences.

Colonial, racism and slave trade history resulted in low respect towards traditional culture even after the establishment of independent states. Western cultures were still considered superior.<sup>28</sup> The new political elites did not only inherit the colonial laws and forms of government, but also the accompanying institutions and the bureaucracies of the imperial country. The education system was set in a way to promote alienation of leaders because the most prominent children tend to be educated in a European way.

### 1.4.3.3 The moral value system of Africa

African morality can be described as humanitarian, social and duty-oriented. Humanism – as a doctrine that favours human welfare, interests and needs – is fundamental for the African moral system. Such a morality, whose central focus is the concern for the welfare and interest of each member of community, would expectably be a social morality which is enjoined by social life itself. Sociality is considered natural to the human being because every human being is born into an existing human society. Consequently, every individual has a certain social and moral role in the form of obligations, commitments, and duties to other members of the community. In the African moral system, the notion of duties is elevated to a status similar to that given to the notion of rights in Western ethics.<sup>29</sup> The notion of duties is explicitly cited

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<sup>24</sup> See more: <https://www.soas.ac.uk/library/resources/a-z/data/public-opinion---surveys/>

<sup>25</sup> <http://www.afrobarometer.org/> & <http://www.arabbarometer.org/>

<sup>26</sup> In order to analyse changes, the World Values Survey has conducted multiple waves, with a first wave in 1981-82, a second one in 1990-1991, a third wave in 1995-1997 and a fourth in 1999-2001. ([http://sitemaker.umich.edu/culture.self/files/inglehart\\_oyserman\\_2004.pdf](http://sitemaker.umich.edu/culture.self/files/inglehart_oyserman_2004.pdf))

<sup>27</sup> “The African is ‘profoundly, incurably a believer, a religious person.’ To him, religion is not just a set of beliefs but a way of life, the basis of culture, identity and moral values.” (Mazrui & Wondji, 1999 p.501)

<sup>28</sup> “With the loss of autonomy under colonialism, traditional African religion became identified in the mind of many Africans with an Africa that had failed and had been subjugated. (...) Western education, sponsored largely by the Christian missions, became the vehicle both for the African aspiration for new knowledge and the technology of Europe, and for alienation from traditional culture.” Mazrui & Wondji, 1999 p.502

<sup>29</sup> See more: <http://plato.stanford.edu/entries/african-ethics/#HumFouAfrMor>

in the African Charter on Human and Peoples' Rights, as opposed to formulation in similar documents which mainly note only rights.<sup>30</sup>

#### 1.4.3.4 Other value characteristics

Despite strong position of collectivism, Afrobarometer results tend to show that attitudes of individualism are beginning to edge ahead. Egalitarianism is widely supported and 56 percent of Africans affirm they are uncomfortable with wide wealth differentials. Two-thirds of Sub-Saharan respondents consider that “women should have equal rights and receive the same treatment as men”. Lastly, Afrobarometer respondents assert a very strong commitment to political equality.

According to Arab Barometer<sup>31</sup> democratic values are generally accepted in all of the respondent countries. Respect for political diversity and social tolerance are both considered important. However, a certain percentage of respondents still favour autocratic rule. Gender equality is an additional area where respondents do not answer in a manner consistent with democracy. There are however considerable differences among countries (e.g. Morocco tends to promote gender equality more than Algeria.)

A number of surveys indicate that corruption represents a growing concern throughout Africa. According to Afrobarometer surveys, “almost 1 in 5 people (16%) have paid a bribe one or more times to a government official in the past year in order to get an official document or permit. Paying a bribe to get medical treatment as well as avoid a problem with the police were the other two most cited reasons.”<sup>32</sup>

### 1.4.4 The value system of Latin America

#### 1.4.4.1 Latin America and its regions

The United Nations Statistics Division establishes three geographical sub-regions within the continental region of Latin America and the Caribbean, namely a) Caribbean, b) Central America and c) South America.<sup>33</sup> According to Latinobarómetro, annual public opinion survey that involves approximately 20,000 interviews in 18 Latin American countries, major Latin American sub-regions are a) Central America and b) South America and Mexico.<sup>34</sup> The AmericasBarometer, a similar survey which endeavours to measure democratic values and behaviours, but throughout the Americas, also discerns between Central and South America.<sup>35</sup>

#### 1.4.4.2 The cultural map of Latin America

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<sup>30</sup> <http://www.achpr.org/instruments/achpr/>

<sup>31</sup> Jamal, A. & Tessler, M. (2008). The Democracy Barometers – Attitudes in the Arab World. *Journal of Democracy Volume 19, Number 1*.

<sup>32</sup> Richmond, S. & Alpin, C. (2013). Governments Falter in Fight to Curb Corruption: The People Give Most a Failing Grade. [http://www.afrobarometer.org/files/documents/policy\\_brief/ab\\_r5\\_policybriefno4.pdf](http://www.afrobarometer.org/files/documents/policy_brief/ab_r5_policybriefno4.pdf)

<sup>33</sup> The same Division also notes that: “The continent of North America (003) comprises Northern America (021), Caribbean (029), and Central America.” (<http://unstats.un.org/unsd/methods/m49/m49regin.htm#ftnb>)

<sup>34</sup> “...the situation of Central American countries is very different from that of South American countries and we can talk about two Latin Americas...” (Corporación Latinobarómetro, 2013 p.42)

<sup>35</sup> See more: <http://www.vanderbilt.edu/lapop/>



On the Inglehart-Welzel cultural map, most of Latin America scores low in Secular-rational and Survival values. This places the continent on the bottom right side of the chart, with Traditional values comparable with some African countries and Self-expression values on the same level as certain European societies. Despite some discrepancies, especially on the Traditional/Secular-rational axis, Latin America constitutes a rather coherent cultural zone.

Religion, predominantly Catholicism, occupies an important place in Latin American societies. However, recent surveys<sup>36</sup> also show that identification with Catholicism is gradually declining throughout the region.

Settlers from Europe came to Latin America at the end of the feudal era introducing authoritarian rule and a strict hierarchical and patrimonial social system dominated by large landowners. However, strong ties with the imperial countries also enabled the transfer of ideas, most notably “the importation of European Enlightenment ideologies and the inspirations of the revolutionary movements of France and North America”<sup>37 38</sup>. The centralisation of authority and the development of a corporatist-type state after the independence movements in the 1820s reversed the cycle and once again reinforced the hierarchical and authoritarian streak in Latin American politics.

The fragmented political culture [of Latin America] has produced a spectrum of ideologically different regimes such as communism in Cuba, and various brands of authoritarianism and fascism in countries like Paraguay, Brazil and Chile.<sup>39</sup> After the period of military governments in 1960s and 1970s, most of the region has consolidated in the so-called third wave of democracy.<sup>40</sup>

The beginning of the decade brought a significant rise in wealth for Latin American countries. “The region had reduced its poverty rate from 44% to 28%, its share of global output had increased from less than 5% to 8% and some 50 million Latin Americans, or approximately 8% of the region's population, had joined the middle class.”<sup>41</sup>

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<sup>36</sup> “Today, the Pew Research survey shows, 69% of adults across the region identify as Catholic. In nearly every country surveyed, the Catholic Church has experienced net losses from religious switching, as many Latin Americans have joined evangelical Protestant churches or rejected organised religion altogether. For example, roughly one-in-four Nicaraguans, one-in-five Brazilians and one-in-seven Venezuelans are former Catholics. (...) Catholics began declining as a share of the region’s population in the 1970s, according to Brazilian and Mexican census data and historical estimates from the World Religion Database.” (<http://www.pewforum.org/2014/11/13/religion-in-latin-america/>)

<sup>37</sup> Carozza, P. G. From Conquest to Constitutions: Retrieving a Latin American Traditions of the Idea of Human Rights. *Human Rights Quarterly* 25, 2003 281–313.

<sup>38</sup> “Continuing to build on its origins, it [the idea of human rights] absorbed the political and intellectual currents of republican revolution, and produced a constitutional rights language with a strong devotion to both liberty and equality, a distinctively positive conception of freedom and an emphasis on the relationship of rights and responsibilities. When this heritage met the economic and political transformations of the 20th century, the tradition aimed again at synthesizing the individualistic with the social and economic dimensions of human dignity.” Carozza, 2013, p.311

<sup>39</sup> However, Latin America is a region where there are important discrepancies between the evaluation of the international community and citizens' appreciation of the state of their political system. The example of Venezuela shows that, even if evidence suggest that institutions do not guarantee the opposition all the rights of a democracy, an overwhelming majority, namely 87%, express their support for the democratic system. See more: Corporación Latinobarómetro, 2013

<sup>40</sup> Thomas, C.S. (2005). *Understanding Latin American Politics: Six Factors To Consider*. University of Alaska Southeast. [http://lanic.utexas.edu/project/etext/llilas/outreach/southern\\_cone/thomas.pdf](http://lanic.utexas.edu/project/etext/llilas/outreach/southern_cone/thomas.pdf), p 4

<sup>41</sup> Corporación Latinobarómetro. *2013 Report*. <http://www.latinobarometro.org/lat.jsp>

#### 1.4.4.3 The moral system and other value characteristics of Latin America

Although support for democracy has remained moderately high<sup>42</sup>, there is an enduring percentage of support for authoritarianism which fluctuates between 18% and 15%.<sup>43</sup> In general, “Latin Americans value status within a hierarchy because it indicates social distance between the higher-up and his subordinates.”<sup>44</sup> “The low average level of education [further] fosters a dependency on, and fear of, those that represent authority, granting them a magic value because of their capacity or ability to resolve problems”<sup>45</sup>.

Only an average 25% of respondents in the Latin American region believe that the distribution of wealth is fair.<sup>46</sup> This suggests a wide presence of egalitarian values which are not given sufficient attention from the political elites.

The values of collectivism generally do not seem to be present on the political scene. Only 28% of respondents, as a regional average, believe that the government operates for the well-being of all of the people.<sup>47</sup> On the other side, collectivism values seem to be strongly present on the level of family life. “Close family ties create complex social relations, which, to some extent even at high socio-economic levels and in large cities, influence community decisions.”<sup>48</sup>

A preference for the values of gender equality is not especially clear. Although women hold responsible positions in public life<sup>49</sup>, “...majorities in roughly half of the countries surveyed [by Pew Research Centre] either completely or mostly agree with the statement that ‘a wife must always obey her husband.’ Only in Argentina (31%), Chile (24%) and Uruguay (23%) do fewer than four-in-ten adults share this view.”<sup>50</sup>

According to Latinobarómetro results, conventional forms of political participation are almost deprived of their validity. “Signing a petition, participating in a demonstration or working for a political party are things that some 90% of the population do not do.”<sup>51</sup> However, common waves of non-authorized demonstrations indicate that a significant part of the region is in a state of latent activism.<sup>52</sup> The respondents have identified crime as the most important problem in the region (24%), followed by unemployment in second (16%) and corruption in third place (6%).<sup>53</sup>

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<sup>42</sup> Latinobarómetro 2013 survey displays a drop of two points compared to 2011, namely from 58% to 56%

<sup>43</sup> Corporación Latinobarómetro. *2013 Report.*, p. 11

<sup>44</sup> See more: <http://knowledge.wharton.upenn.edu/article/how-culture-affects-work-practices-in-latin-america/>

<sup>45</sup> Bankowski, Z. & R.J. Levine, Ethics and research on human subjects - International Guidelines. In *Proceedings of the XXVth CIOMS Conferene, Geneva, Switzerland, 1992*, p.202

<sup>46</sup> See more: <http://www.idea.int/americas/latinobarometro-2013-listen-to-me.cfm>

<sup>47</sup> Ibid.

<sup>48</sup> Ibid. p.201

<sup>49</sup> “According to the Inter-American Dialogue think tank, since 1970 eight of 29 women elected as heads of state around the world have come from Latin America or the Caribbean—an impressive 27.5 percent.” See more: <http://www.diplomaticcourier.com/news/regions/latin-america/2113-latin-america-s-leading-ladies>

<sup>50</sup> <http://www.pewforum.org/2014/11/13/chapter-5-social-attitudes/>

<sup>51</sup> Corporación Latinobarómetro, 2013 p.39

<sup>52</sup> “Unlike classic participation in organisations, Latin Americans are willing to participate in demand for expectations related to specific issues but they do not participate in organisations related to these issues and, instead, mobilise according to the situation. (...) Institutions which should act as intermediaries for demands, interpreting them, do not fulfil their role properly, resulting in protests. (...) This speaks of a political system with difficulty in understanding the population's expectations and in representing them and is a symptom of the crisis of representation.” See more : Corporación Latinobarómetro, 2013

<sup>53</sup> Ibid.





### 1.4.5 The value system of Northern America

The United Nations Population Division recognises Bermuda, Canada, Greenland, Saint Pierre and Miquelon, and United States of America as comprising Northern America.<sup>54</sup> The AmericasBarometer, a similar survey which endeavours to measure democratic values and behaviours, but throughout the Americas, also discerns between North and Latin America.<sup>55</sup>

For the purposes of this discussion, the focus is primarily the predominant values systems of Northern America as they are found in Canada and the United States.

#### 1.4.5.1 The cultural map of North America

On the Inglehart-Welzel cultural map, the USA and Canada align highly with other “English Speaking” demarcated countries in having very high “Self-Expression Values.” They align almost to the extreme right valence of the map of included countries. Both countries are similarly and moderately aligned between “Traditional” and “Secular Rational Values.”

Christianity is the most predominant religion in North America, accounting for 77.4% of religiously affiliated individuals. 17.1% identify as unaffiliated.<sup>56</sup> Significant religious populations include Judaism, Buddhism, Islam, and Hinduism each of which has more than 2 million followers in North America.<sup>57</sup>

North America was initially inhabited by rural Indigenous Populations. From the 14<sup>th</sup> century and onwards the indigenous population was largely replaced by European settlers on the North American continent.<sup>58</sup> Today, North America consists of a mix of ethnic and immigrant communities from around the globe.

Canada and the United States both have strong federalised democratic political systems. Canada uses a parliamentary system in a constitutional monarchy while the United States is a constitutional republic. Each also rank in the top ten of the Human Development Index.<sup>59</sup>

#### 1.4.5.2 The moral system and other value characteristics of North America

Canada and the United States both have greater than 50% surveyed support for the system of governance in place in the respective countries.<sup>60, 61</sup> In turn, these are identified as the most stable democracies in the Americas.

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<sup>54</sup> <http://esa.un.org/migration/index.asp?panel=3>

<sup>55</sup> See more: <http://www.vanderbilt.edu/lapop/>

<sup>56</sup> “Christians are projected to remain the largest religious group in North America in the decades ahead, and their numbers are expected to increase from 267 million as of 2010 to 287 million in 2050.<sup>66</sup> But North America’s Christian population is forecast to grow at a much slower rate (8%) than most other religious groups in the region, leading to a decline in the share of North America’s total population that is Christian. (<http://www.pewforum.org/2015/04/02/north-america/>)

<sup>57</sup> Ibid.

<sup>58</sup> Haines, Michael R., and Richard H. Steckel. A population history of North America. Cambridge University Press, 2000.

<sup>59</sup> Human Development Report 2014 – “Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience”. HDRO (Human Development Report Office) United Nations Development Programme. Retrieved 25 July 2014.

<sup>60</sup> See more: <http://www.vanderbilt.edu/lapop/insights/IO908en.pdf>

<sup>61</sup> AmericasBarometer, Political Culture of Democracy in the Americas, 2014.

EKOSpolitics surveys indicate similar underlying structures between the United States and Canada values systems, however there is a widening gap<sup>62</sup>. Significantly, they find stronger collectivist values (and similarly aligned secular and cosmopolitan values) in Canada, whereas individualism, moralism and materialism appear greater in the United States.

In rankings of selected values and goals, United States ranks freedom highest followed by family values, integrity and ethics, security and safety, and respect correspondingly. In Canada, also ranking freedom right, respondents indicate a healthy population, a clean environment, respect, and family values as rounding out the top 5.<sup>63</sup>

Historically, discussions of North American values have centred on development in part due to Max Weber's account of the "Protestant Work Ethic."<sup>64</sup> This in turn was supposed to provide the environment for capitalism, the predominant economic system in both United States and Canada, which both enjoy high support.

## 1.4.6 The value system of Asia

### 1.4.6.1 Introduction

This study focuses on the value system of Asia in order to give an overview of and discuss the values that are common or shared between Asian citizens. The leading question in the investigation of behavioural shared values that belong to a possible Asian value system is constructed as follows: what are the shared values of Asian citizens according to empirical research that is focused on gathering direct data from individuals? The literature that can be used for this purpose includes studies based on the European Value Survey<sup>65</sup> and empirical data gathered in the context of existing methodologies of analysing value systems<sup>66</sup>. Additionally, we will incorporate some findings of empirical studies conducted in Asia: the Asian Barometer<sup>67</sup>, the China Values Survey<sup>68</sup> and the East Asian Values Survey<sup>69</sup>.

### 1.4.6.2 Asia and its regions

The proper name "Asia" is generally used to designate a continent that occupies the Eastern major landmass of the Eurasian continent. The concept of Asia has a Western origin, while it was firstly coined by the Ancient Greeks to designate the lands East of their territory<sup>70</sup>.

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<sup>62</sup> EKOS/PPF Symposium. Rethinking North American Integration, "Part I: Values & Identities in North America.", 2002.

<sup>63</sup> *ibid.*

<sup>64</sup> Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, 1905

<sup>65</sup> Krause, U. The atlas of European Values Project: Possibilities of mapping the values of Europeans and Challenges for geography, *I*, 2010, 1–12. ; Van Oorschot, W., Making the difference in social Europe: deservingness perceptions among citizens of European welfare states. *Journal of European Social Policy*, *16*(1), 2006, 23–42. <http://doi.org/10.1177/0958928706059829>

<sup>66</sup> Schwartz, S. H. Universalism Values and the Inclusiveness of Our Moral Universe. *Journal of Cross-Cultural Psychology*, *38*(6), 2007, 711–728. <http://doi.org/10.1177/0022022107308992>

<sup>67</sup> Chang, Y., & Y. Chu, Y. Traditionalism, Political Learning and Conceptions of Democracy in East Asia. *Asian Barometer Project Office*, (39), 2007.

<sup>68</sup> Matthews, B. M. The Chinese Value Survey: An interpretation of value scales and consideration of some preliminary results. *International Education Journal*, *1*(2), 2000, 117–126.

<sup>69</sup> Vinken, H. East Asian Values Surveys Making a case for East Asian-origin values survey concepts Content : *East*. 2006.

<sup>70</sup> Duara, P. Asia Redux: Conceptualizing a Region for Our Times. *The Journal of Asian Studies*, *69*(04), 2010, p. 963. doi:10.1017/S0021911810002858

Initially, Asia was the name for the Titan Goddess of Lydia in Anatolia; only used to designate the Anatolian peninsula, but later in history it became used to refer to the entire landmass between the Eastern border of Europe and the Pacific.

Due to its Eurocentric origin, it might be more suitable to use the term Asia as an umbrella term for several regions that share a social-cultural background to some extent. Following the UN division of major regions in Asia, the continent can be divided in Central Asia (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan), North East Asia (China, Japan, Democratic People's Republic of Korea, Republic of Korea, Russian Federation, Mongolia), South Asia (Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan, Sri Lanka, Turkey), South East Asia (Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Vietnam) and the Pacific (which is not a part of this study).<sup>71</sup> The major regions of Asia are also referred to by considering the regions of origin of its major ancient civilisations in the Middle East, India and China<sup>72</sup>. These ancient civilisations developed in the coastal areas of Asia that were separated by the Central Asian Steppes that were mainly populated by nomadic people.

### 1.4.6.3 The cultural map of Asia

According to the Inglehart-Welzel cultural map of the world, Asia does not occupy one single space but is rather divided in different regional value systems. A large part of North East Asia is captured in the cultural map as the “Confucian” value system. As such, it is the only region that is characterised by the legacy of one thinker, Confucius. However, a great variety can be found amongst Confucian traditions and the common denominator of this value system is allegedly found in the form of Confucian education and the propagation of ethical values rather than in a cultural homogeneity. The Confucian secular ethics comprise certain principles: self-cultivation, virtue ethics, character building through education, emphasis on the family, organic solidarity.<sup>73</sup> The Confucian tradition is also characterised by a hierarchical social order and mutual obligations of superior and subordinate. Confucianism is a secular ethical system that has at some points incorporated aspects of Western enlightenment thinking. Hence, this might explain why the Confucian cultures in Asia score high on secular-rational values. Japan is an outlier with regards to its score on self-expression values compared to the other Confucian countries; probably partly so because of its early strong economic development after the Second World War.

The other value system in Asia captured in the cultural map is South Asia, which comprises South, Central and Southeast Asia. One feature that characterises the countries included in this value system is the high level of religiosity amongst their populations.<sup>74</sup> The Islam has had a profound influence on the popular morality in Indonesia and Malaysia. This might explain why the countries included in the South Asia value system score relatively high on traditional values. Israel is an outlier in this region, probably because a major part of its population has migrated to the country coming from Western countries in recent times.

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<sup>71</sup> Asia-Pacific forum for environment and development. Asia-Pacific Region, 2000, 5–47.

<sup>72</sup> Steward, J. H. Cultural Causality and Law: a Trial Formulation of the Development of Early Civilizations. *American Anthropologist*, 51(1), 1949.

<sup>73</sup> Weiming, T. Implications of the Rise of “Confucian” East Asia. *Polis: Journal of Political Studies*, 129(1), 2012, 195–218. doi:10.2307/20027620, p. 205

<sup>74</sup> Norris, P., & Inglehart, R. *SACRED AND SECULAR - Religion and Politics Worldwide*. Ancient Society (2nd edition, Vol. 19). Cambridge: Cambridge University Press, 2011, doi:10.2143/AS.19.0.2011349, p. 60

Although a great part of the landmass of Russia is considered to belong to Asia, it also occupies an outlier position on the cultural map, being part of the (ex)-communist value system. A possible explanation for its position, notably showing a high score on survival values, is its instable economic development after the collapse of the Soviet Union.

#### **1.4.6.4 The regional value system**

Arguably, dominant aspects of the Asian value systems reflect historical developments along cultural lines pre-dating contemporary, geographic “Asia.” As such, a broad heterogeneity exists amongst and within the regions of Asia. In an expansion on the initial 4-dimensional model Hofstede first presented, the addition of “Long-versus Short-Term Orientation (LTO),” that is a contrast between “dynamic, future-oriented items on its positive pole to static, past- and present-oriented ones on the negative pole,” provides one empirical basis for comparing regions within Asia. The dimension reveals a higher LTO ranking of South Korea, Japan, China, Singapore, Vietnam, Indonesia, India and Bangladesh with Pakistan being slightly more positive than negative. There are Asian countries with Short-Term Orientation, especially with the Arabian Peninsula.

Confucianism has been posited as a possible value correlate to explain the higher scores, but other contributing factors are likely to be present, such as present economic conditions and education level.<sup>75</sup> While there have been attempts to create a “pan-Asian” shared values, recently and notably with the “Asian Values” debate of the 1990s, which argued that “Asian values” were not compatible with “Western” derived values for economic development, this theory has largely fallen out of favour. Implications of recent colonial power in Asia, notably with British colonisation of South Asia, French in Southeast Asia, along with ex-Communist countries under the Soviet Union sphere of influence compound the already heterogeneous composition of regions within Asia. For example, India has significant populations ascribing to Hinduism, Islam, Christianity, Sikhism, Buddhism, Jainism, and Zoroastrianism, among other faiths, with varying densities of practitioners in different geographic areas within India to give disparate religious values within those concentrations.

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<sup>75</sup> Minkov, Michael, and Geert Hofstede. "Hofstede's fifth dimension: New evidence from the World Values Survey." *Journal of Cross-Cultural Psychology*, 2010.

## 1.5 VALUE SYSTEMS WITHIN EUROPE'S CULTURES AND REGIONS

### 1.5.1 Introduction

The purpose of this study is to carry out an analysis of value systems within Europe, which looks at both regions and countries. We examine here major regions and countries within Europe for the purpose of identifying common or shared values between those regions and countries, as well as identifying differences. The starting point for the study is the following question: Can value priorities be used to capture the cultures of different regions and countries within Europe?

### 1.5.2 Theoretical frameworks

In this section the theoretical framework is presented. We will take Inglehart-Welzel's cultural map and the Beer and Wissen "cluster model" as a starting point for characterising cultures in terms of value priorities.

Beer and Wissen identify five clusters, the maternalistic cluster, the pragmatic cluster, the paternalistic cluster, the intermediate cluster, and the post-totalitarian cluster. These clusters relate to specific values (see section 4.2), and are, according to Beer and Wissen, also connected to geographic areas. The latter is a major difference between the model presented by Beer and Wissen and the cultural map by Inglehart and Welzel.

The geographic areas forming the cultural clusters are the Nordic countries (Sweden, Denmark, Iceland, Norway and Finland), the Western European countries (Austria, Belgium, France, Germany, Ireland, Luxembourg, the Netherlands, Switzerland, and United Kingdom), the Mediterranean countries (Greece, Italy, Portugal, Spain), the Central European countries (Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia), and the European Post-communist countries (Belarus, Bulgaria, Moldova, Romania, Russia, and Ukraine).

The clusters represent different cultures and display cultural and economic similarities as well as differences between the European regions. Beer and Wissen also stress path-dependency as an explanatory factor of why some countries belong to one cluster rather than another. The strongest factor is according to Beer and Wissen the presence of local customs based on country specific cultural values, which in turn may in turn be the result from the country's historical development (political and/or economic order, wars, etc.).<sup>76</sup>

#### 1.5.2.1 Discussion of major regions within the Europe

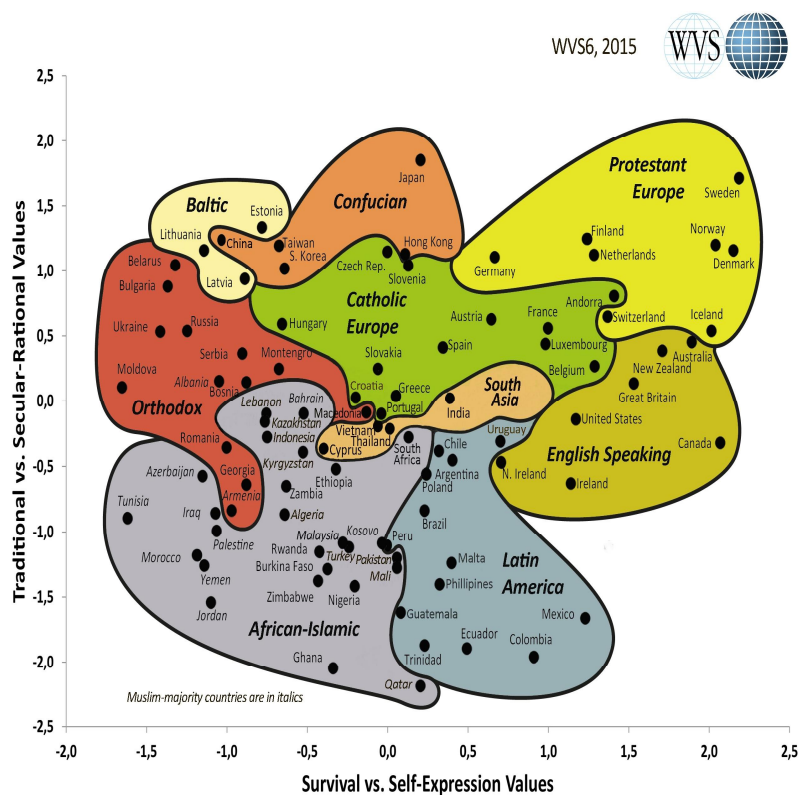
In the most recent Inglehart-Welzel cultural map (figure X), which represents attitudes collected between 2010 to 2014, nine different clusters are identified: Baltic, Catholic Europe, Protestant Europe, Orthodox, English Speaking, African-Islamic, South Asia, Latin America, and Confucian. The first five clusters represent almost exhaustively the European countries studied in the survey. However, Malta is placed in the Latin American cluster, Kosovo in the African-Islamic cluster, and Cyprus in the South Asian cluster. Moreover, in the Orthodox cluster we find countries as Russia and Georgia, which only partially belong to the European continent, as well as Armenia belonging to Asia. This means that the clusters do reflect

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<sup>76</sup> Beer, Joop and Leo Wissen (ed.), *Europe: One Continent, Different Worlds*, Springer publ. 1997, p. 39.



countries shared values, which – according to Inglehart and Welzel – do not necessarily correlate to geographic areas or geographical closeness.<sup>77</sup>



**Figure 4: The Inglehart-Welzel cultural map 2015 (wave 6, 2010-2014)**

A society or a cluster scoring high in self-expression values is in general less paternalistic and more democratic than a society or cluster scoring high in survival values. Nevertheless, the cultural map should not be interpreted as saying that e.g. individuals in societies that have high scores in survival values do not aspire autonomy. Autonomy, free choice and democracy are according to Inglehart and Welzel universal human aspirations. Nevertheless, in cases where survival is uncertain, autonomy and other universal values may not be the top priority: “As long as physical survival remains uncertain, the desire for physical and economic security tend to take a higher priority than democracy”<sup>78</sup>

If we study Europe and its regions in the light of the Inglehart–Welzel cultural map we can see that there is a considerable heterogeneity between the “European clusters”. In the upper left part of the map we find the Baltic cluster, consisting of Estonia, Lithuania and Latvia, which scores from ~0,9 to 1,4 in secular–relational values and ~ -0,75 to -1,1 in survival values. On the left part of the middle of the map we find the Orthodox cluster, which to a large extent consist of former communist countries, with Moldavia, which, compared to all other countries on the map, having the highest score on survival values. The Protestant Europe cluster scores ~0,5 to 1,75 in secular–relational values, and scores from the moderate ~0,75 to the very high ~2,25 in self-expression values. The English Speaking cluster scores

<sup>77</sup> Inglehart, Ronald & Chris Welzel, *The WVS Cultural Map of the World. World Value Surveys*, 2014, Retrieved 29 May at <http://www.worldvaluessurvey.org/wvs.jsp>.

<sup>78</sup> Inglehart, Ronald & Chris Welzel, *The WVS Cultural Map of the World. World Value Surveys*, 2014, Retrieved 29 May at <http://www.worldvaluessurvey.org/wvs.jsp>.

high in self-expression values (~0,6 to 1,75). When it comes to secular-rational values vs. traditional values, the latter cluster scores from ~-0,5 to -0,7). If we move outside the “European clusters” adding Kosovo (~-1,05 in traditional values, and ~-0,3 in survival values) we can see that Europe covers a large part of the cultural map, indicating that there is considerable value diversity among the European countries.

In the following sections the major European regions will be discussed. For this purpose we will use Beer and Wissen’s categorisation presented earlier.

### 1.5.2.2 The Nordic countries

Beer and Wissen argue that the Nordic countries are maternalistic showing a higher level of gender equality in combination with a lower level of individualism and conservatism compared to e.g. the Western Europe countries. Other researchers would phrase this in terms of the Nordic countries values reflecting “a broad egalitarian culture”.<sup>79</sup> In a grid-group study of the political–cultural map of Europe, based on two different waves of the World Value Study, Gunnar Grenstad identifies two dimensions in the field of political culture: individuality and social incorporation. Combined they form four interdependent cultures: hierarchy, egalitarianism, individualism and fatalism. The Nordic countries are according to Grenstad’s analysis egalitarian with low power distance. The political style is described as “consensual”. Peng (2006) explains the long history of egalitarianism in the Nordic countries with the “challenging Nordic climate”, and in the case of Sweden, there is also a long history of predominance of the Social Democratic party.<sup>80</sup> Inglehart’s studies show that countries with a long history of social democratic or socialistic influence tend to score high in secular-rational values.

### 1.5.2.3 The Western European countries

The Western European countries emphasise, according to the study made by Beer and Wissen, economic growth. As a result, social, cultural and gender issues will only be dealt with pragmatically. Gender equality and social justice could be considered important issues to deal with. However, if the dealing with those issues would obstruct economic growth, the latter – economic growth – would outweigh all other considerations. That is, other values can be dealt with as long as they are not outweighed by economic concerns and/or are short or long-term means to economic growth. This position can be interpreted as a consequentialist position influenced by neoclassic economic ideals.

The Western European countries cover, as we have seen, both traditional values and secular–rational values. One explanation for this is historical factors that have affected the British Isles. The influence of the Catholic Church in Ireland and Northern Ireland has strongly affected conservative and authoritarian values which could explain their low score in secular–rational values.<sup>81</sup> It can be interesting to note that Ireland and Northern Ireland diverge from the continental Catholic Europe in the Inglehart–Welzel map, which, still their catholic heritage, is placed on the secular–rational scale. In regard to the catholic countries, Ireland and Northern Ireland are only surpassed by Malta when it comes to scoring high in traditional values.

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<sup>79</sup> Grenstad, G., “Political Cultural Map of Europe. A survey Approach”, *GeoJournal*, 47, 1999, 463–475.

<sup>80</sup> Peng, M.W., *Global Strategy*, Mason, OH: Thomson/South Western, 2006.

<sup>81</sup> Grenstad, G. “A Political Cultural Map of Europe. A survey Approach”, *GeoJournal*, 47, 1999, 463–475.

The values of the Western European countries are diverse. Not only in regard of traditional vs. secular values. The Netherlands, which Beer and Wissen place in the Western European cluster, are according to the Inglehart–Welzel map more alike the Nordic countries in several aspects. The Netherlands is also characterised by a broad egalitarian culture, and is considered to be one of “the most post-material societies on earth”.<sup>82</sup>

#### 1.5.2.4 The Mediterranean countries

Compared to the other clusters, the Mediterranean countries show a lower level of gender equality and female emancipation, and scores high on conservatism. The values are traditional and refer to typical family values and ideals that are passed on from one generation to the next. There is a paternalistic culture with traditional gender roles. According to Grenstad the Latin European countries, especially Spain and Italy, is affected by what he calls “Mediterranean fatalism” due to the position of the Catholic Church in the very same countries. Several of the Mediterranean countries have also a history of distrust of the political system.<sup>83</sup>

Beer and Wissen place Portugal in the Mediterranean cluster even though their own factor study shows that it has more similarities to central European countries in general than to the other Mediterranean countries. In particular, Portugal scores higher in the cultural and lower in the socioeconomic dimension than other Mediterranean countries. This is explained due to the agriculture playing a more important role in the Portuguese economy than in other European countries. The level of education is also comparatively low. As a result, the average income in Portugal is low compared to other EU countries. Thus, the placement of Portugal in this cluster may be due to the lack of economic development, rather than patriarchal structures.<sup>84</sup>

The World Value Survey might support the lack of economic development as an explanation of Portugal’s score in regard of traditional vs. secular–rational values. In 1996 (WVS wave 4) Portugal scored  $\sim -1,1$  on the traditional values vs. secular–rational values scale, and  $\sim 0,3$  on the survival values vs. self-expression values scale. The Beer and Wissen study was published in 1999. Portugal was unfortunately not represented in the 2008 cultural map (WVS wave 5). However, in the 2015 cultural map (wave 6) Portugal had made a small shift upwards, scoring  $\sim 0,1$  on the traditional values vs. secular–rational values scale and  $\sim 0,1$  on the survival values vs. self-expression values scale. It would have been interesting to see data for the period between 1996 and 2010. During 2010–2014 Portugal was heavily affected by the global financial crisis, which could be an explanation of why Portugal has not shifted more towards the upper right corner of the Inglehart–Welzel map. Between 2006 and 2010 Portugal’s GDP increased from 192 to 252 billions of U.S dollars. When the crisis hit in 2010, GDP decreased to 234 billions of U.S dollars, and to 212 billions of U.S dollars in 2013. Lacking data between 2006–2009 makes it speculative to draw any conclusions about how Portugal would have scored on the Inglehart–Welzel map during the same period based on the concurrent increase in the country’s economy. However, Greece, which also has been heavily affected by the global financial crisis, had an increasing growth rate until 2008. In 2009, as a result of the global financial crisis, Greece started to show signs of regression. This was intensified in 2010 due to an imbalance in the Greece fiscal economy, and was continuously

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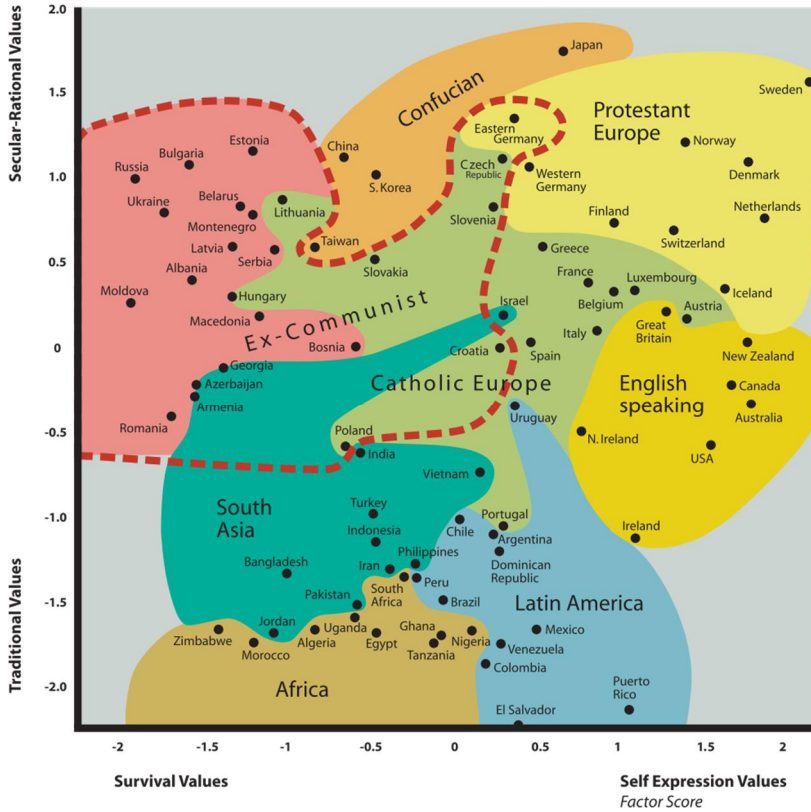
<sup>82</sup> Inglehart (1997) quoted in Gunnar Grenstad, “A Political Cultural Map of Europe. A survey Approach”, *GeoJournal*, 47, 1999, 463–475

<sup>83</sup> Grenstad, G., “A Political Cultural Map of Europe. A survey Approach” *GeoJournal*, 47, 1999, 463–475

<sup>84</sup> Beer, Joop and Leo Wissen (ed.), *Europe: One Continent, Different Worlds*, Springer publ., 1997, p. 36.



intensifying until 2014, when the economy returned to a positive growth rate. Comparing the Greece economy with how the country has scored on the Inglehart–Welzel map, we can see that Greece shows a minor shift towards the lower left corner in the Inglehart–Welzel map 2015 (wave 6), compared to the Inglehart–Welzel map published 1996. This indicates that financial crisis that affects a country also has effects on value priorities.



**Figure 5: The Inglehart-Welzel cultural map 2015 (wave 6, 2010-2014)**

### 1.5.2.5 The European Post-communist countries vs. the Central European countries

The European Post-communist countries are countries that have a communist history that goes beyond WW2. What is characterising about those countries is that they have not fully embraced market economy after the fall of the iron curtain “in the sense that it is not rooted in a firm legal and cultural structure”.<sup>85</sup> More than two decades after the fall of the Iron curtain, most Post-communist countries are scoring high in survival values, indicating low levels of trust and tolerance. This implies that those countries still have distractive political and economic institution, i.e. the political–economic power is in the hands of few.<sup>86</sup> The Central European countries are ex-communist countries that have a history of non-communism between WW1 and WW2. Despite their communist heritage, they score closer to The Western European countries than to the Post-communist countries. Compared to the Post-communist countries they have made a rapid change to democracy and market economy.

What is the reason for the Central European countries to make such a rapid change to democracy and market economy compared to the European Post-communist countries? And why have most of the post-communist countries not succeeded? As has been pointed out

<sup>85</sup>Beer, Joop and Leo Wissen (ed.), *Europe: One Continent, Different Worlds*, Springer publ. 1997, p. 35f.

<sup>86</sup>Ibid.

earlier, cultural change is path-dependent. The possibility to create stable political and economic institutions is limited by actions and events in the past. The cultural heritage of the society will leave an enduring print preventing the shift to more inclusive values. Moreover, as has been stated by Acemoglu and Robinson, “[n]ations fail when they have extractive economic institutions, supported by extractive political institutions that impede and even block economic growth”.<sup>87</sup> Political and economic institutions can according to Acemoglu and Robinson be either inclusive, and encourage economic growth, or they can be extractive, and become obstacles for economic growth. By inclusive and extractive institutions respectively is meant institutions in which the people of a society are included in the governing process (inclusive), and institutions in which only a minor group of individuals have the power to govern, which often leads to exploitation of the rest of the population (extractive). It would be interesting to see if Acemoglu and Robinson’s thesis is valid for the (or some of the) Post-communist countries. There are indications that this is the case e.g. in Romania which democracy has been described as imperfect.<sup>88</sup>

## 5.4 Conclusions

Can value priorities be used to capture the cultures of different regions and countries within Europe? The studies referred to here indicate that value priorities could capture the cultures of different regions and countries. The value priorities can be correlated with philosophical, political and religious ideas that are embedded in a society. However, the studies also indicate that value priorities do not only reflect the culture of the country, they may also reflect other factors such as the antecedent economic and political institutions (whether they are inclusive or extractive), prevalence of war, etc. – and the historical development of the country in general.

To conclude, value priorities can be used to capture the cultures of different regions and countries to a certain extent. However, to conclude that a value priority capture the culture of a country, further studies must be undertaken to out-rule other path-dependent explanations.

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<sup>87</sup> Acemoglu, Daron & James A. Robinson, *Why Nations Fail. The Origins of Power, Prosperity, and Poverty*, New York: Crown Business, 2012.

<sup>88</sup> Stratulat, Corina & Paul Ivan, “Romania’s Democracy in Reverse Gear – En Garde, EU!”, EPC commentary, 2012. [http://www.epc.eu/documents/uploads/pub\\_2788\\_romania\\_s\\_democracy\\_in\\_reverse\\_gear.pdf](http://www.epc.eu/documents/uploads/pub_2788_romania_s_democracy_in_reverse_gear.pdf)

## 1.6 COMPARATIVE VALUE STUDIES

### 1.6.1 Introduction

This section deals with an exploration of the empirical data that can be found in studies that are concerned with “mapping” the value systems in the world or within certain regions. Instead of focusing on the specific countries or regions, we use these studies to very generally compare countries and regions on the basis of a certain value or a relevant cluster of values. Some of these values can be considered very fundamental and fairly abstract (e.g. freedom and autonomy) while others can be considered very pragmatic and issue-specific (e.g. attitudes towards biotechnology). We have tried to structure that value studies in such a way that they move from the more abstract and fundamental values to the more concrete and pragmatic ones. The values or clusters of values that will be dealt with in this section, are:

1. Freedom, Autonomy and Civil Rights
2. Justice and equality
3. Individual rights vs. common good
4. Responsibility for others
5. Social conservatism and progressivism
6. Moral relativism
7. Democratic values
8. Integrity and corruption
9. Privacy and data protection
10. The role of religion
11. The role of government
12. Attitudes towards science and technology: worldwide
13. Attitudes towards science and technology in Europe
14. Attitudes towards biotechnology in Europe
15. Animal rights and welfare
16. Environment

In order to compare the status of these different values or value clusters, we have drawn data from worldwide and region-wide empirical studies. In order to provide short and comprehensive overviews, we decided to only include the Satori target countries in the comparisons. The most important study that we deal with is the world values survey that includes a large part of the Satori target countries in its datasets. Other studies that we frequently use are the Eurobarometer studies of the European Commission and the Hofstede studies on cultural dimensions of value systems.

### 1.6.2 Freedom, Autonomy and Civil Rights

This section focuses on the status of freedom, autonomy and civil rights in ethics assessment. Freedom, in this context, can be understood as a matter of subjective perception (whether an agent perceives him or herself to be free); autonomy can be understood as a state of being (an entity being autonomous with regards to something else); and civil rights can be seen as the translations of these abstract ideas into effective legal and political frameworks. Firstly, this section will discuss the importance of these values for the ethical assessment of research and innovation. Secondly, it will provide an overview of empirical data on these values based on Eurobarometer studies and the World Value Study. Thirdly, it will analyse this data, before offering some final conclusions.

### 1.6.2.1 The Significance of Autonomy, Freedom and Civil Rights for Ethics Assessment of R&I

The notions of autonomy and freedom are central features of contemporary academic discussions on ethics. With regards to research and innovation, this primarily relates to the autonomy and freedom of the individual researcher; on whether the researcher is *restrained* in his or her research activities<sup>89</sup>. The notions of autonomy and freedom can be understood in relation to their negative counterparts: dependence and restraint. To be autonomous implies being independent; to be free implies being unrestrained. These ideas can both relate to a capacity (the capacity to make autonomous decisions) and to ethical rules (the desirability of making autonomous decisions)<sup>90</sup>.

In the context of research and innovation, autonomy and freedom refer to the extent to which researchers are capable of conducting their research without interference of others. Legal and political frameworks, which can consist of civil rights (and duties), regulate both the status quo and the desirable situation to which the principles of autonomy and freedom relate; that is, the freedom to conduct research is laid down in individual researchers' civil rights, whereas R&I policies set out the path towards the desired levels of autonomy.

### 1.6.2.2 Empirical Data on Freedom, Autonomy and Civil Rights in Target Countries

Although freedom and autonomy are highly abstract concepts, empirical research has been conducted to investigate the cultural divergences in their perception and appreciation. This section will present the results of some key indicators of the Eurobarometer study on the values of Europeans and the World Values Survey, whose outcomes for Satori target countries are summarised in the table below:

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<sup>89</sup> McNay, I. Research Assessment; Researcher Autonomy. *International Perspectives on Higher Education Research*, 4, 2007, 183–216. [http://doi.org/10.1016/S1479-3628\(06\)04009-3](http://doi.org/10.1016/S1479-3628(06)04009-3)

<sup>90</sup> Hanssen, I. An intercultural nursing perspective on autonomy. *Nursing Ethics*, 11. 2004, p.31  
<http://doi.org/10.1177/0969733008090526>

Country/Study	Eurobarometer	WVS – Autonomy Index	WVS – Civil rights protect people’s liberty from state oppression
Austria	62%		
France	68%		
Germany	60%	35.9	8.1
Netherlands	41%	36.5	8.1
Poland	70%	24.6	8.4
Serbia			
Spain	66%	37.8	8.1
UK	56%		
China		54.6	8.4
India		26.5	5.5
Saudi-Arabia			
United States		29	7.5
Brazil		16.7	7.8
Rwanda		15.1	7.3
Zimbabwe		17.9	7.7
South-Africa		30.4	6.8

**Table 1: Data from comparative studies on autonomy, freedom and civil rights.<sup>91</sup>**

The Eurobarometer study displays the percentage of respondents per country who indicated that they agree with the statement “we need more equality and justice even if this means less freedom for the individual”<sup>92</sup>. The WVS autonomy index<sup>93</sup> is composed of four variables and gives the average score of countries of the four indicator questions combined on a scale from 0 (=lowest mean) to 65 (highest mean). The civil rights question of the WVS presents the average outcome per country of respondents answers to whether they agree with the statement that civil rights protect people’s liberty from state oppression on a scale from 0 (= do not agree) to 10 (=agree)<sup>94</sup>.

### 1.6.2.3 Divergence in Freedom, Autonomy and Civil Rights Worldwide

A number of interesting divergences can be observed worldwide with regards to the autonomy index, which is meant to indicate the extent to which autonomy is being valued in each country. A noteworthy exception in this category is China, where autonomy seems to be highly valued. A more general comparison that can be made is that European countries have relatively high scores compared to African countries. As for the importance of civil rights, no significant differences are present in the data. An exception in this respect is India, where a relatively high number of people adhere to the idea that civil rights do not guarantee the demise of state oppression.

According to Inglehart and Oyserman, another important factor also needs to be taken into account when considering cultural differences in the perception and desirability of autonomy,

<sup>91</sup> TNS Opinion & Social, Eurobarometer: The Values of Europeans. 2012.

<sup>92</sup> TNS Opinion & Social, Eurobarometer: The Values of Europeans. 2012.

<sup>93</sup> The Autonomy Index is a computed variable based on the Children qualities battery.

It uses only four variables (<http://www.worldvaluessurvey.org/wvs.jsp>):

V19= Important Child Qualities: Religious Faith

V21= Important Child Qualities: Obedience

V12= Important Child Qualities: Independence

V18= Important Child Qualities: Determination, Perseverance

<sup>94</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014

namely the level of economic prosperity<sup>95</sup>. By using the data of the World Value Survey and employing a Weberian analysis, they infer that economic development and individual autonomy reciprocally influence one another; that is, whenever cultural changes lead to greater individual autonomy, the economic situation changes, and whenever the economic situation changes, culture manifests itself differently. According to this analysis, a correlation might be discerned between prosperity in certain countries and the relatively high importance assigned to autonomy, and between poverty in certain countries and the relatively low importance assigned to autonomy.

#### 1.6.2.4 Divergence in Freedom, Autonomy and Civil Rights in Europe

At the European level, the World Values Survey shows that freedom, autonomy and civil rights are generally equally important for the different European countries. However, the Eurobarometer study shows an interesting divergence from a very different point of view; namely a balancing of individual freedom with societal equality and justice. Between the target countries, a difference can be discerned between the Netherlands and the UK and the other countries. The European Values Study shows an even clearer picture (figure 2), in which Northern European countries attach more importance to freedom while Southern countries attach more importance to equality.

Sagiv and Schwartz give a different account of autonomy by comparing *embeddedness*, defined as a culture in which people are viewed as entities within the collective, and *autonomy*, defined as a culture in which people are viewed as bounded entities who should find meaning in their uniqueness<sup>96</sup>. From this point of analysis, they identify a difference between Western Europe (more autonomous) and Eastern Europe (more embedded). Moreover, they outline a contrast between most Western European states and the English speaking world (UK, US, Australia) according to which Western European states relate to a form of autonomy that is called *intellectual* autonomy (a focus on a free intellectual directedness) while the English speaking countries relate to a form of autonomy that is called *affective* autonomy (a pragmatic focus on positive experiences).

#### 1.6.2.5 Conclusions

The foremost conclusion that needs to be drawn from the abovementioned analysis is that an investigation based on a generalised idea of freedom or autonomy leads to fairly different outcomes depending on the conceptualisations of these ideas. For example, whereas the European Values Study presents a clear difference between Northern and Southern Europe, the Sagiv and Schwartz study presents a notable difference between East and West. Apart from the consequence that all analyses of autonomy and freedom need to be approached cautiously, some general conclusions can be derived from the analysis:

- Autonomy is not to be regarded as the extreme of a singular dimension (e.g. autonomy vs. restraint)
- Different conceptions of autonomy appear to have an impact on R&I practices.

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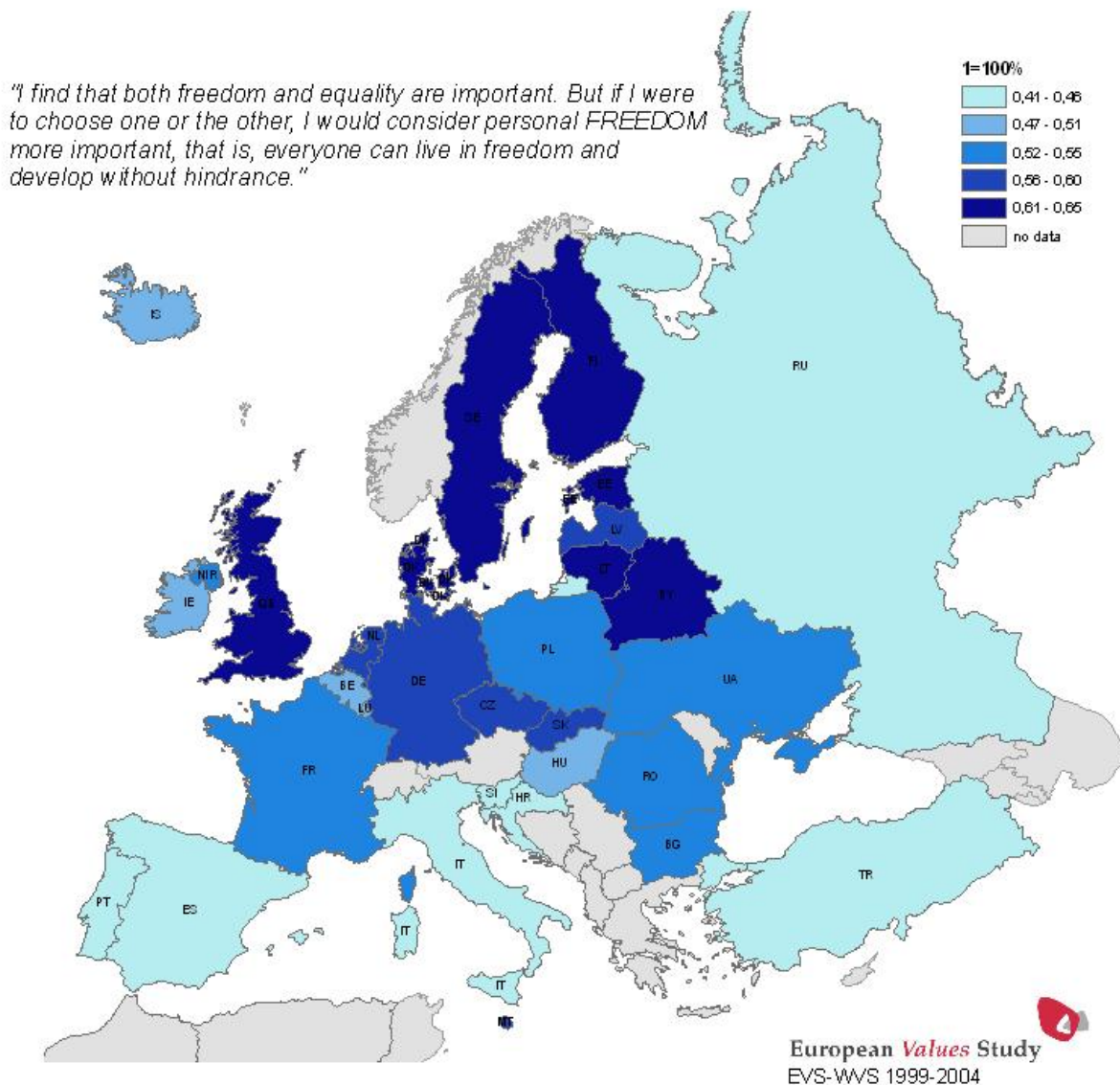
<sup>95</sup> Inglehart, R., & D. Oyserman. Individualism, autonomy, self-expression. The human development syndrome. *International Studies in Sociology and Social Anthropology*, 2004, p.16.

<http://papers2://publication/uuid/CFC6CEF9-217A-4F34-8F47-567D30EA6B1F>

<sup>96</sup> Sagiv, L., & S.H. Schwartz, Cultural values in organisations : insights for Europe. *European J. International Management*, 1(3), 2007, p.179.



- The relationship between economic prosperity and the cultural importance of individual freedom and autonomy needs to be taken into account in making cross-cultural comparisons.
- In Europe, different conceptions of autonomy imply both a North-South divide (Inglehart) and an East-West divide (Schwartz).



**Figure 7: Map of the European Values Study that displays the outcomes in terms of the percentage of respondents of each country that responded positively on the statement displayed above<sup>97</sup>.**

### 1.6.3 Justice and Equality

What characterises a good society? What is justice? The answers to these questions vary in the history of political thought, as well as among people today. John Rawls book *A Theory of Justice*<sup>98</sup> defining justice and arguing for some principles of justice, gave an impetus to the discussion on justice and equality in political philosophy. According to Gerald Cohen equality

<sup>97</sup> Halman, L., I. Sieben, & M. van Zundert, M. *Atlas of European Values*, 2011

<sup>98</sup> Rawls, J. *A theory of Justice*. Harvard University Press. 1971

the defining characteristics of justice<sup>99</sup>. One important issue in modern political philosophy discussion is how to balance equality and freedom<sup>100</sup>. The empirical studies reported below focus on equality.

### 1.6.3.1 The Significance of Justice and Equality for Ethics Assessment of R&I

Questions pertaining to justice and equality are in different ways related to ethics assessment of R&I. For example, when research subjects are offered financial remuneration for participating in research, researchers could exploit vulnerability of human subjects due to poverty or other shortcomings. Then, an injustice is done to them. To avoid this kind of pressure on potential research subjects, the Swedish Boards of Vetting of Research only allows symbolic payments to research subjects.

Dissemination and accessibility of the results of research raise another question of justice and equality. The fact that only 0.6% of total resources spent on health research is dedicated to vaccines for HIV/AIDS and malaria, epidemics that primarily terrorise the global poor, illustrates the present global injustices and inequalities<sup>101</sup>.

### 1.6.3.2 Empirical data on justice and equality in the target countries

What then are the public attitudes to the values of justice and equality? The Eurobarometer and World Values Survey provide perhaps some answers. The value surveys referred to below report on people's attitudes towards equality and how they wish to balance the values equality and freedom.

The first table below from the World Values Surveys shows how respondents in eleven countries answered the question whether incomes should be more equal or if larger income differences were desirable as incentives for individual efforts. The scale used range from 1 to 10. The lower the figure, the more preference for equality, the higher figure, the higher the preference for larger income differences.

Target country	Score
Austria	
France	
Germany	4,08
Netherlands	5,47
Poland	6,32
Serbia	
Spain	5,14
UK	
China	4,45
India	5,57
Saudi-Arabia	
United States	5,58
Zimbabwe	6,84
Rwanda	4,27
South Africa	6,09
Brazil mean	5,09

<sup>99</sup> Cohen, G. *Rescuing Justice and Equality*. Cambridge University Press, 2008.

<sup>100</sup> Kymlicka, W. *Contemporary Political Philosophy*. Oxford: Oxford University Press, 2002.

<sup>101</sup> UNDP, UNDP 2001, Making new technologies work for human development, New York, 2001.



**Table 2: Data drawn from the World Values Survey on income equality<sup>102</sup>.**

There are only small differences between the different European countries, from Germany's 4.8 to Poland's 6,32. The same can be said for countries in other parts of the world (China 4.45 – Zimbabwe 6.84) (WVS).

The result of the survey is difficult to interpret. In general it seems that opinions in all countries are divided; around half of the respondents prefer equality and half income differences as incentives for individual efforts. The differences between countries can either mirror real social and economic differences regarding equality; in countries with huge income gaps people will prefer equality and vice versa, or different attitudes to the value of equality.

Do people prefer equality or freedom? The Eurobarometer reports the following responses for different countries to the question: "To what extent do you agree or disagree with each of the following statement: we need more equality and justice even if this means less freedom for the individual" (in percentages of respondents per country).

Country	Score
Austria	62%
France	68%
Germany	60%
Netherlands	41%
Poland	70%
Serbia	
Spain	66%
UK	56%

**Table 3: Data on equality and justice drawn from the Eurobarometer survey on the values of Europeans<sup>103</sup>**

Poland scores the highest, 70% of the Poles prefer more equality to more freedom, while the Netherlands scores the lowest; only 41% of the Dutch respondents prefer more equality to more freedom.

The Eurobarometer summarises their findings: Two-thirds of Europeans think that "we need more equality and justice even if this means less freedom for the individual". They also found that the support for this statement is stronger in the new EU member states (NMS12 countries) than in the old EU member states (15 countries); 72% compared to 64% prefer more equality to more freedom.

Even these results are difficult to interpret. The differences between countries can either be explained by value differences between different countries or by the fact that the responses mirrors the kind of society the respondent lives in; in more unequal societies, respondents prefer equality and in more equal societies they prefer more freedom.

So far we have reported results of surveys of views on equality between individuals. What are the attitudes in different countries to gender equality? The World Value Survey did not directly ask about the views of equality between men and women. Instead the question posed was if gender equality is an essential aspect of a democratic society. The scale used range

<sup>102</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014

<sup>103</sup> TNS Opinion & Social, Eurobarometer: The Values of Europeans. 2012.

from 1 to 10; higher score more affirmative responses, and vice versa. Even though the question relates gender equality to democracy, high scores could reasonably also be interpreted as positive views towards gender equality. The following table shows the responses from ten countries:

Country	Score
Austria	
France	
Germany	9,12
Netherlands	8,97
Poland	8,85
Serbia	
Spain	8,89
UK	
China	8,71
India	6,34
Saudi-Arabia	
United States	8,22
Zimbabwe	6,95
Rwanda	7,59
South Africa	7,08

**Table 4: Data drawn from the World Values Survey, displaying the average answer of respondents per country on whether gender equality is essential to democracy from 1 (= not essential) to 10 (= essential)<sup>104</sup>.**

The survey shows that there seems to be a general high appreciation of gender equality in the European countries. The results range from 8.85 – 9.12. Among the non-European countries, China scores the highest appreciation of gender equality, and Brazil the lowest.

### 1.6.3.3 Conclusions & Prospects for Harmonisation

The results of the surveys on equality and freedom are difficult to interpret and hence it is indeed difficult to draw any definite conclusions. Do the differences mirror the fact that the countries are more or less equal or more or less favourable to incentives, or do they show that there are real value differences between the countries? The result of the first survey on equality vs. individual incentives showed only small differences between the countries and this result speaks in favour of the possibility of harmonisation.

### 1.6.4 Individual Rights vs. Social Good

How do persons view the relation between the individual and the society? Do they define themselves primarily in individual terms or as group members? Geert Hofstede raises these questions in his inquiries of value differences between different countries. Hofstede distinguishes between “individualist societies” where persons self-image is defined in terms of “I” and “collectivist societies” where persons identify with a group, “We”. Hofstede’s studies are primarily focused on work life and how employees see themselves primarily as individuals or as group members.

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<sup>104</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014

#### 1.6.4.1 The significance for individual rights vs. social good values for the ethics assessment of R&I

Some research involving human beings, for example medical trials of new treatments and drugs, can imply risks for the human research subjects. Hence, the vetting or research on human beings implies sometimes a balancing of the interests of research persons vs. the value of research. Declaration of Helsinki par. 21 states:

Medical research involving human subjects may only be conducted if the importance of the objective outweighs the inherent risks and burdens to the research subjects. The balancing can in more general terms be understood as a balancing of the individual rights of the research subjects and the social good of research. Thus, the question of how to balance individual rights and social goods, for example health, is of great significance for research assessment.

#### 1.6.4.2 Empirical data on individual rights vs. social good

Hofstede's and his followers' surveys of value differences started 1967 and the latest survey was made 2013. The study of "individualist" versus "collectivist" societies reports large differences between different countries. In the following table figures for a sample of European and non-European countries are included. The result range from 1-100: the higher score, the more individualistic society.

Country	Score
Austria	55
France	71
Germany	67
Netherlands	80
Poland	60
Serbia	25
Spain	51
UK	89
China	20
India	48
Saudi-Arabia	25
United States	91
Zimbabwe	
Rwanda	
South Africa	65
Brazil	38

**Table 5: Data for the SATORI target countries on the Hofstede dimension "individualist" – "collectivist". The higher the score (on a scale from 1 to 100), the more individualistic a country is supposed to be and the lower the score, the more collectivist it is supposed to be<sup>105</sup>.**

According to Hofstede's findings, some Western countries score high on the individualist collectivist dimension. The United States scores highest with 91 points, United Kingdom second with 89 and the Netherlands third with 80. Lowest score, that is most collectivist societies, is found in China 20, Serbia 25 and Saudi Arabia 25. Individualism is a strong tenet in the Anglo-Saxon tradition, which is mirrored in the high scores in the United States and United Kingdom while the low scores in China and Serbia might mirror these countries' communist past.

<sup>105</sup> Hofstede, G. J. *Cultures and Organisations: software for the mind*. McGraw-Hill Book Company, 2010

### 1.6.4.3 Conclusions and prospects for harmonisation

The sources for the figures published by the Hofstede Centre are Hofstede's two books *Culture's Consequences: Comparing Values, Behaviours, Institutions, and Organisations Across Nations* and Geert Hofstede, Gert Jan Hofstede and Michael Minkov, *Cultures and Organisations: Software of the Mind* and on some findings of Hofstede's colleagues, and the figures are based on surveys 1967-2013.

When interpreting the figures it is difficult to know, first, when a specific country survey was made and, second, if the views have changed since the study was made. M. L. Jones has for example criticised Hofstede's result for being out-dated<sup>106</sup>. One could also question whether it is at all fruitful to compare different countries in this way? The result is presented country wise but there could be large varieties of the evaluation of individualism vs. collectivism within a country.

Third, the survey does not account for possible changes of attitudes. One could for example assume that increased communication between peoples in the wake of globalisation evens out value differences between nations<sup>107</sup>. It is indeed doubtful whether Hofstede Centre's study of value differences with respect to individualism and collectivism is helpful for the study of ethics of research and innovation and prospects for harmonisation. The study reports vast differences between some Western "individualistic" countries and some "collectivistic", for example China and Serbia, but since the Centre does not report when the studies are done (in the 1960s or 2010s?), and only report "national" views, the reports are on limited value.

However, if the figures mirrors present attitudes, one implications for ethics vetting of research on human beings might be that vetting committees are more willing to accept research projects implying risks for the individual research subjects if the social gains are great in countries scoring low, for example China and Serbia, than in countries scoring high, for example the United States and United Kingdom.

### 1.6.5 Responsibility for others

This section focuses on an analysis of values that relate to the broader ethical idea of the responsibility for others. First of all, it will discuss the importance of this idea to ethics assessment in research and innovation. Secondly, it will provide an overview of empirical data from the world value survey and two case studies of indicators that are closely linked with responsibility for others. Thirdly, it will analyse this data according to divergences in values worldwide and on the European scale.

### 1.6.6 The significance of responsibility for others for Ethics assessment of R&I

The term responsibility can be found in a myriad of papers on ethical, social and environmental issues, notably in papers dealing with *corporate social responsibility* – also abbreviated as CSR. In this respect, responsibility is mostly conceptualised as "being taken

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<sup>106</sup> Safi, A. E.-A. Individual Paper of Argument in Support and Against of Hofstede Work. *University of Toronto*. 2010

<sup>107</sup> Kukathas, C. Explaining Moral Variety, in *Cultural Pluralism and Moral Knowledge*. Cambridge University Press, 1994.

into account”. For example, if a person or organisation “takes into account” environmental impacts of his or her action this is likely to be interpreted as “taking responsibility for his or her environmental impacts”. In ethics assessment, there are two principal ways of understanding responsibility.

The first relates to the general idea of taking responsibility for the wellbeing of other human beings. In ethics assessment, this can relate firstly to whether someone correctly adheres to existing rules and procedures, and secondly to whether an intended action follows the role of an individual or organisation<sup>108</sup>. Hence, it implies the responsibility of adhering to the *duties* one has vis-à-vis the society and the responsibility of conducting activities in a way that the interests of other actors are taken into account. Moreover, it can apply to the degree to which societal benefits are shared amongst the society’s members.

The second way of understanding responsibility in ethics assessment is the *relative* importance of different categories of responsibilities. An organisation or an individual might have simultaneously an economic responsibility, an environmental responsibility and a legal responsibility. These different responsibilities can exist in tension with one another, and different cultures might attribute varying levels of importance to certain categories of responsibilities<sup>109</sup>.

### 1.6.7 Empirical Data on Responsibility for Others in Target Countries

As the major source of empirical data on the subject, the World Values Survey can offer further insight in discussions on responsibility for others, highlighting variances in the importance of feelings of responsibility, being unselfish and the importance of helping others. This section will discuss two comparative case studies: one on roles, responsibilities and accounts in Japan and the US, and one on perceptions of corporate social responsibility by consumers in France, Germany and the US. Both studies focus on the issue of *responsibility for others*, though the first one deals with ways in which people deal with the attribution of responsibility while the second focuses on experience of responsible behaviour. To begin, the overview of the outcomes of the indicators of the World Values Survey can be found below:

Country/Study	WVS – Child quality: feeling of responsibility	WVS – Child quality: unselfishness	WVS – Importance to help others
Austria			
France			
Germany	80.9 %	5.9 %	3
Netherlands	90.8 %	22.9 %	3.1
Poland	81 %	15.1 %	2.2
Serbia			
Spain	78.6 %	35 %	
UK			
China	65.9 %	29.2 %	2.7
India	66.4 %	54.9 %	2.6
Saudi-Arabia			

<sup>108</sup> Hamilton, V. L., & S. Hagiwara, S. Roles, “Responsibility and Accounts across Cultures”. *International Journal of Psychology*, 1992, p.160.

<sup>109</sup> Maignan, I. “Consumers’ perceptions of corporate social responsibilities: A cross-cultural comparison”. *Journal of Business Ethics*, 30, 2001, 57–72. <http://doi.org/10.1023/A:1006433928640>

United States	65.2 %	32.7 %	2.7
Brazil	77.9 %	31.5 %	2
Rwanda	72 %	52 %	2.9
Zimbabwe	43.1 %	29.5 %	2.2
South-Africa	57.4 %	27.8 %	2.6

**Table 6: Empirical outcomes of the four different indicators of the World Values Survey**

The above table displays the empirical outcomes of 4 different indicators of the World Values Survey. The outcomes in the second row indicate the percentage of respondents for each country who indicated that “feeling of responsibility for others” is an important child quality. The outcomes in the third row indicate the percentage of respondents for each country who indicated that “unselfishness” is an important child quality. The outcomes in the fourth row indicate the mean outcome on a question that had a scaled answer from 1 to 5 about whether the respondent sees it as important to do something good for the good of society<sup>110</sup>.

The first case study on responsibility by Maignan focuses on the way consumers perceive different aspects of CSR and the differences between perceptions between France, Germany and the US. Notable outcomes are that consumers conceptualise responsibilities according to four categories (economic, legal, ethical and discretionary responsibilities) and that US consumers’ assign significantly more importance to economic responsibilities than their European counterparts<sup>111</sup>.

In the second case study, Hamilton and Hagiwara approach the question of responsibility by studying the different accounts people give of their actions when confronted with their responsibilities; characterised as apologising, denying and justifying (e.g. apologising for one’s action when one is confronted with one’s responsibility). Two significant observations can be derived from this study. Firstly, people are overall more likely to give an account of their actions (hence, take a kind of responsibility) when an organisation is relatively less *hierarchical* and when its members share a degree of *solidarity*<sup>112</sup>. Secondly, American respondents and men in all target countries are more likely to give aggressive accounts of their responsibility (e.g. denying their responsibility) when compared to Japanese respondents and women in all target countries<sup>113</sup>.

### 1.6.7.1 Divergence in Responsibility for others Worldwide and in Europe

With regards to the outcomes of the World Value Survey, the following tentative analysis can be derived from the empirical data. First of all, no significant divergence can be established between countries with regards to the importance people attach to the helping of others. However, a difference seems to exist between countries with regards to the importance of a feeling of responsibility and unselfishness. Because of the relative lack of correlation between regions and the outcomes of the study, only some tentative suggestions can be made. First of all, it seems to be the case that Europeans assign relatively greater importance to a feeling of responsibility than people from other continents. Secondly, Germany (and to a lesser extent Northern Europe) is somewhat exceptional with regards to the importance of unselfishness. A

<sup>110</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014.

<sup>111</sup> Maignan, I. Consumers’ perceptions of corporate social responsibilities: A cross-cultural comparison. *Journal of Business Ethics*, 30, 2001, p.66. <http://doi.org/10.1023/A:1006433928640>

<sup>112</sup> Hamilton, V. L., & S. Hagiwara, S. Roles, Responsibility and Accounts across Cultures. *International Journal of Psychology*, 1992, p.171.

<sup>113</sup> Ibid. p.175



possible reason for these observations might be that though Europeans appear to value individual responsibility relatively more than people from other continents, they nonetheless acknowledge that an individual might act out of self-interest when taking his or her responsibility.

Moreover, the case studies establish some divergences between the US and Europe (Germany and France) and the US and Japan. These divergences first of all suggest that economic responsibilities are considered more important in the US than in Europe. Secondly, they point at a difference in *accounting* for ones responsibility between the US and Japan.

### 1.6.7.2 Conclusions & Prospects for Harmonisation

We can conclude that differences between countries do seem to exist with regards to the value of responsibility for others, but that no reasons for these differences can be clearly identified from the available data. However, some notable conclusions can be drawn from the sources that will inform our further inquiry. First of all, the correlation between hierarchy, solidarity and responsibility appears significant for the review of ethics assessment. The hypothesis that can be derived from this correlation is that people act more responsibly in the context of ethics assessment when there are lower degrees of hierarchy and higher degrees of solidarity between individuals. Secondly, we must acknowledge the importance of separating and weighing different *kinds* of responsibilities as an important practice in ethics assessment, and take this into account in making cross-cultural comparisons.

### 1.6.8 Social conservatism and progressivism

This section focuses on the specific status of values connected to social conservatism and progressivism in a society. Firstly, it will briefly discuss the relevance of these values for ethics assessment in research and innovation. Secondly, it will present an overview of available empirical data on social conservatism and progressivism, followed by a discussion on the divergences of related values on the global and European scales.

#### 1.6.8.1 The Significance of Social Conservatism versus Progressivism for Ethics Assessment of R&I

First of all, we need to take into account the two ways in which the social conservatism-progressivism axis can be conceptualised. On the one hand, it refers to the degree to which *survival values* are dominant in a society, as theorised by Inglehart<sup>114</sup>. Survival values refer to the extent to which values are employed in order to survive in a pre-industrial society, especially related to family values. Measures such as the societal justifiability with respect to homosexuality are good indicators for these values as they go against pre-industrial family values.

An alternative perspective on the progressivism-conservatism axis is by taking into account the degree of *tolerance* in a society. This relates to the level to which people are not bothered by the ways in which others members of a society organise their lives. With regards to research and innovation, values concerning social conservatism and progressivism typically

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<sup>114</sup> Inglehart, R., & C. Welzel. *Modernization, Cultural Change and Democracy*. Cambridge: Cambridge University Press, 2005, p.23

relate to research in bioethics<sup>115</sup>, because in that area of research the tension between family values and other values is most present. With regards to tolerance, it can also appeal to a broader idea of freedom of researchers to strive for certain applications.

### 1.6.8.2 Empirical Data on Social Conservatism versus Progressivism in Target Countries

The social conservatism-progressivism axis covers a wide range of different values. Most studies that focus on the empirical inquiry of these values appeal to fairly abstract ideas, as for example captured by the Hofstede dimensions. In order to incorporate these abstract conceptualisations, two Hofstede dimensions have been included for the Satori target countries: the uncertainty index and the indulgence vs. restraint index. Some specific values have proven to be reliable indicators of social conservatism or progressivism, notably the justifiability of homosexuality and the importance of tolerance as a child quality. Empirical data on these values from the World Value Survey studies has also been included. Below, the outcomes of the two Hofstede dimensions and the WVS studies are presented:

Country/Study	Hofstede - Uncertainty avoidance index	Hofstede – Indulgence and restraint	WVS – Justifiability of homosexuality	WVS – Tolerance and respect for other people
Austria	70	63		
France	86	48		
Germany	65	40	5.9	66.7
Netherlands	53	68	7.9	86
Poland	93	29	3.6	82.6
Serbia	92	28		
Spain	86	44	7.1	74.1
UK	35	69		
China	30	24	2.2	52.2
India	40	26	4.1	62.4
Saudi-Arabia	80	52		
United States	46	68	5.4	71.8
Brazil	76	59	4.6	64.2
Rwanda			1.5	56.4
Zimbabwe			1.8	63.8
South-Africa	49	63	4.2	52.5

**Table 7: Data from comparative studies on values that indicate the degree of social conservatism or progressivism in the target countries.**

Outcomes of the Hofstede uncertainty index express the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity<sup>116</sup> on a scale from 1 (=not uncomfortable) to 100 (=uncomfortable). The indulgence versus restraint dimension of Hofstede stands for the contrast between a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun and a society that suppresses gratification of needs and regulates it by means of strict social norms. The outcomes of the WVS on homosexuality indicate the response of people to the statement that homosexuality is justifiable on the scale of 1 (= never justifiable) to 10 (= always justifiable).

<sup>115</sup> Macklin, R. The new conservatives in bioethics: Who Are They and What Do They Seek? *Hastings Center Report*, (February), 2006, 13–15.

<sup>116</sup> <http://geert-hofstede.com/dimensions.html>

The outcomes of the WVS on tolerance indicate the percentage of respondents per country who indicated that tolerance and respect for other people are important child qualities<sup>117</sup>.

### **1.6.8.3 Divergence in Social Conservatism versus Progressivism Worldwide**

At the global scale, there are strong differences between both the presence of survival values and the level of tolerance as indicators of social conservatism or progressivism. The indulgence vs. restraint dimension, as an indicator of levels of tolerance, indicates that especially Eastern Asian countries (India and China) and Eastern European countries (Serbia and Poland) score low on this dimension. This illustrates that in those countries a higher level of social constraint applies and less individual freedom is accepted with regards to the way one wants to lead his or her life. Moreover, countries in the English speaking world (UK, US) and countries influenced by Anglo-Saxon culture (the Netherlands, South-Africa), score relatively highly, indicating higher levels of individual freedom of conduct and societal tolerance.

With regards to the specific values of justifiability of homosexuality and tolerance as an important child quality, a difference can be discerned between countries in Western Europe (The Netherlands, Germany, Spain) that score fairly highly on these values, American countries (US, Brazil) that score a little lower and Asian and African countries (China, India, Rwanda, Zimbabwe) that score relatively low on these values.

Finally, the uncertainty avoidance index shows a trend that is not correlated with the measures of survival values or tolerance while countries that have low survival values e.g. France score highly on this dimension, as do countries with a high level of tolerance e.g. Spain. In this category, it seems that European countries, together with Saudi-Arabia and Brazil, score fairly high vis-à-vis Anglo Saxon countries and Asian countries. A possible reason for this difference is the emphasis on individual entrepreneurship in the Anglo-Saxon world and the importance of risk taking for people in China and India for individual survival.

### **1.6.8.4 Divergence in Social Conservatism versus Progressivism in Europe**

At the European level, the most notable difference both regarding the presence of survival values as well as the level of tolerance can be discerned between Western European and Eastern European countries. While ex-Communist states in Eastern Europe display a relatively low level of tolerance and higher levels of survival values, states in Western Europe tend to score highly on levels of tolerance and low on levels of survival values. Nevertheless, European nations generally score highly on the uncertainty index, with higher scores in the East than in the West. A possible explanation for these outcomes is the great influence that social welfare systems have in Europe, which are aimed at risk reduction.

### **1.6.8.5 Conclusions & Prospects for Harmonisation**

Taking into account the empirical differences in the values connected to social conservatism and progressivism, the following tentative conclusions can be drawn:

- The level of survival values is relatively low in the Anglo-Saxon world and in Western Europe, while they are high in East Asia and Africa.

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<sup>117</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014.

- The level of tolerance is particularly high in the Anglo-Saxon world and low in Asia and Africa.
- Uncertainty avoidance is typically high in Europe, probably due to the cultural impact of social welfare systems aimed at risk reduction.

An important reservation regarding these conclusions is the observation that “conservatism scales are unlike other measures of value” because they shift in time<sup>118</sup>. That is, attitudes connected to this scale can change dramatically over time; as can for example be seen in the development of gay rights in Europe. The most robust and therefore most interesting aspect of the values analysed might actually be the level of uncertainty avoidance and the reasons for this level, while uncertainty avoidance might have significant impact on the way that ethics assessment of research and innovation is conducted.

### 1.6.9 Moral Relativism

This section focuses on the specific status of moral relativism across different cultures. Moral relativism does not refer to any specific value, but rather indicates a meta-ethical attitude. This could be conceptualised as the degree to which people base their moral judgements on particular situation instead of on universal principles<sup>119</sup>. Firstly, this section will discuss the significance of moral relativism for ethics assessment of research and innovation. Secondly, it will give an overview of empirical data on moral relativism; followed by a discussion on the divergences in this attitude worldwide and in Europe, and a short conclusion.

#### 1.6.9.1 The Significance of Moral Relativism for Ethics Assessment of R&I

As outlined above, moral relativism does not denote any single value or set of values but rather designates a certain attitude. With regards to the ethical assessment of research and innovation, the degree of moral relativism can have an effect on the acceptance or the rejection of certain ethical standards or procedures. A person who has a strong sense of moral universalism (as the opposite of moral relativism) might either strongly adhere to or strongly condemn certain standards or procedures while a person who appeals more strongly to moral relativism might have a more flexible stance towards these standards and procedures.

Hence, the degree to which moral relativism is prevalent in a society might dictate the desirability of either strict, or more flexible ethical standards or procedures. However, these differences might also lead to difficulties in cross-cultural settings, where certain ethical guidelines can be applied more strictly while others might benefit from a flexible approach.

#### 1.6.9.2 Empirical Data on Moral Relativism in Target Countries

The majority of academic debate on moral relativism is conceptual in nature. However, some empirical studies have been conducted on topics related to the degrees of moral relativism in societies, such as the study by Forsyth et al.<sup>120</sup> The European Social Survey has mapped the

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<sup>118</sup> Henningham, J. P. A 12-item scale of social conservatism. *Personality and Individual Differences*, 20(4), 1996, 517–519. [http://doi.org/10.1016/0191-8869\(95\)00192-1](http://doi.org/10.1016/0191-8869(95)00192-1)

<sup>119</sup> Wainryb, C., The Application of Moral Judgments to Other Cultures: Relativism and Universality. *Child Development*, 64(3), 1993, 924. <http://doi.org/10.2307/1131227>

<sup>120</sup> Forsyth, D. R., E.H. O’Boyle, & M.A. McDaniel. East meets West: A meta-analytic investigation of cultural variations in idealism and relativism. *Journal of Business Ethics*, 83, 2008, 813–833. <http://doi.org/10.1007/s10551-008-9667-6>

opposite of relativism, being universalism. In a similar vein, the Schwartz study focuses on a combination of indicator variables that show the degree to which societies are morally inclusive and can therefore be argued to have a universalist stance.

Country/Study	European Social Survey – universalism	Schwartz – Moral inclusiveness score	Forsyth et. al – Relativism
Austria	0.75	4	0.576
France	0.69	3.25	
Germany	0.78	4	
Netherlands	0.65	4	
Poland	0.51	0	0.542
Croatia*		1	
Spain	0.68	4	0.638
UK	0.67	4	0.690
China		1	0.687
India		3	0.682
Egypt*		2	0.550
United States		4	0.586
Brazil		1.5	
Uganda*		0	
Zimbabwe		3	
South-Africa		2	0.467

**Table 8: Data from comparative studies on moral relativism and on moral absolutism or universalism as the purported counterparts of moral relativism.**

The outcomes of the European Social Survey indicate the mean importance that respondents attach to the universalism of human values<sup>121</sup>. The Schwartz moral inclusiveness scores indicate the “number of following values—equality, broadmindedness, social justice, world at peace—found in a distinct universalism region and not in benevolence, tradition, conformity or tradition regions in multidimensional space analysis”<sup>122</sup>. Hence, in the Schwartz study they indicate the relative importance attached to universalism in comparison with other values. The outcomes of the Forsyth et al. study indicate the relativism mean per country (which is a combined indicator from several studies), of which all outcomes are between 0,400 and 0,750<sup>123</sup>. The target countries Serbia, Saudi Arabia and Rwanda have been replaced by Croatia, Egypt and Uganda in this overview due to missing data for the target countries.

### 1.6.9.3 Divergence in Moral Relativism Worldwide

On the global scale, states in Western Europe and the US can be seen to be particularly morally inclusive. For the rest of the world, some countries like China, Poland and Uganda score considerably low while others like India and Zimbabwe score relatively highly. Schwarz argues that the most likely correlates for differences in inclusiveness are the prevalence of egalitarianism in countries and the level of democratisation, both having a positive effect on moral inclusiveness.

<sup>121</sup> Jowell, R., C. Roberts, R. Fitzgerald, & G. Eva, *Measuring attitudes cross-nationally: lessons from the European Social Survey*. London: SAGE Publications, 2007, p.202

<sup>122</sup> Schwartz, S. H. Universalism Values and the Inclusiveness of Our Moral Universe. *Journal of Cross-Cultural Psychology*, 38(6), 2007, 711–728. <http://doi.org/10.1177/0022022107308992>

<sup>123</sup> Forsyth, D. R., E.H. O’Boyle, & M.A. McDaniel. East meets West: A meta-analytic investigation of cultural variations in idealism and relativism. *Journal of Business Ethics*, 83, 2008, p. 821. <http://doi.org/10.1007/s10551-008-9667-6>

According to Forsyth, relativism should be considered in relation to idealism, in which the degree of relativism is to be interpreted at the level of the individual while the degree of idealism is to be interpreted at the level of the collective<sup>124</sup>. According to this theory, cultures can be either absolutist (with a high degree of idealism but a low degree of relativism; e.g. South Africa and Poland), situationist (with a high degree of idealism and relativism; e.g. Britain and India), exceptionist (with a low degree of idealism and relativism; e.g. US and Austria) or subjectivist (with a low degree of idealism but high degree of relativism; e.g. China and Japan).

#### **1.6.9.4 Divergence in Moral Relativism in Europe**

On the European level, Poland appears to show the lowest level of universalism, the UK and the Netherlands appear to show intermediate levels of universalism, and Germany and Austria show the highest levels of universalism. Conversely, for relativism these outcomes are likely to be reversed for these countries. The Schwartz study on moral inclusiveness and the European Social Survey show similar outcomes to a great extent. Possible explanations for the difference encountered in Europe, also in line with the findings of Forsyth et al., is that relativism is higher in more collectivist countries (e.g. Poland) in contrast with countries that show higher levels of individualism (e.g. Germany). Moreover, the prevailing ethical systems might have an impact on the degree of relativism, while it can be expected to be higher in countries with a utilitarian tradition (e.g. Britain) and lower in countries with a deontological tradition (e.g. Germany). This also corresponds to the extent to which countries are either entrepreneurial or traditional<sup>125</sup>.

#### **1.6.9.5 Conclusions & Prospects for Harmonisation**

First of all, caution is advised when interpreting empirical data on relativism, as is argued by Forsyth et al.<sup>126</sup>. Notably, relativism applies mostly to the individual level, explicating the flexibility the individual has in interpreting certain norms and values. Idealism as conceptualised by Forsyth appeals to a collective morality that is not captured by the measuring of relativism. However, taking such considerations into account we can formulate some tentative conclusions:

- Moral relativism appears to be higher in collectivist countries than in individualist countries. Moreover, it appears to be higher in “entrepreneurial” countries that adhere to a utilitarian tradition than in countries that adhere to a deontological tradition.
- Moral relativism as an individualist notion ought to be understood in relation to the degree of idealism in a country.

With regards to the ethical assessment of research and innovation, special attention must be paid to the interplay between the degree of collectivism or individualism in countries. Moreover, it would be advisable to look into frameworks for ethics assessment that allow for a certain individual flexibility but still can be embedded in a certain collective ideological context.

#### **1.6.10 Democratic Values**

This section focuses on the specific status of democratic structures and democratic values. Firstly, it will discuss the relevance of democratic values for ethics assessment. Secondly, it

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<sup>124</sup> Ibid. p. 817

<sup>125</sup> Ibid.

<sup>126</sup> Ibid. p. 827



will present an overview of available empirical data on democratic values; followed by a discussion on the divergences of democratic values on the global and European scales.

### 1.6.10.1 The Significance of Democratic Values for the Ethical Assessment of R&I

Democratic values can be understood to be important for the ethical assessment of research and innovation in two ways. First of all, research and innovation have a strong impact on the shaping of democratic structures. Decision-making processes are increasingly influenced by the development of new technological systems that shape the systems in which democratic values are projected. This can lead to tensions between the further democratisation of processes of research and innovation and a “technocratisation” of those processes<sup>127</sup>. Technocratisation refers to the application of techniques to accommodate decision-making processes that are restrained by political and cultural frameworks that reduce complex discourses to technological problems. One of the challenges that need to be addressed in the construction of ethics assessment practices is to address the role of technological innovation therein<sup>128</sup>.

Secondly, the democratic values of a country have an impact on the way the ethical assessment of research and innovation is organised. It is to be expected that in countries where democratic values are highly supported, decision-making in ethics assessment is organised more democratically than is the case in countries where democratic values are less supported.

### 1.6.10.2 Empirical Data on Democratic Values in Target Countries

A great amount of empirical data about people’s views on democracy and democratic values has been gathered over the past years. In order to provide a comprehensive overview of the findings of these empirical studies, the Satori project will draw from several different studies that deal with the topic of democracy: the Democracy Index of the Economist Intelligence Unit, the Eurobarometer study on the values of Europeans, the World Value Survey and analyses from the Atlas of European Values. Below is an overview of the outcomes of the most important parameters of the first three studies with regards to the target countries of the Satori project. In the appendix, a number of maps with the outcomes of questions in the World Value Survey and the Atlas of European Values are presented.

Country/Study	Democracy Index	Eurobarometer	WVS – democratic system desirability	WVS – Free elections
Austria	8.54	43%		
France	8.04	34%		
Germany	8.64	49%	90	9.1
Netherlands	8.92	44%	75	8.1
Poland	7.47 (flawed)	37%	59	8.7
Serbia	6.71 (flawed)	36%		
Spain	8.05	37%	88	8.7
UK	8.31	27%		

<sup>127</sup> Harper, T. Democracy in the Age of New Media. *Science and Public Policy*, June 2003.

<sup>128</sup> Nahuis, R., & H. van Lente. Where Are the Politics? Perspectives on Democracy and Technology. *Science, Technology & Human Values*, 33, 2008, 559–581. <http://doi.org/10.1177/0162243907306700>

Country/Study	Democracy Index	Eurobarometer	WVS – democratic system desirability	WVS – Free elections
China	3.00 (authoritarian)		63	7.5
India	7.92 (flawed)		46	5.7
Saudi-Arabia	1.82 (authoritarian)			
United States	8.11		63	8.3
Brazil	7.83			
Rwanda	3.25 (authoritarian)		65	7
Zimbabwe	2.78 (authoritarian)		94	8.7
South-Africa	7.82 (flawed)		42	7

**Table 9: Data from comparative studies on democratic values or democratic indicators.**

The above table displays data from comparative studies on democratic values or democratic indicators. The democracy index rates the democracy of countries on a scale from 1 (democratic) to 10 (non-democratic)<sup>129</sup>. The Eurobarometer indicates the importance people assign to democracy as a European value (percentage of people indicating democracy to best represent the EU)<sup>130</sup>. The WVS survey on democratic systems relates to the desirability of having a democratic system on a scale from 1 (not desirable) to 100 (very desirable) and the degree to which people feel they have free elections in their country on a scale from 1 (no free elections) to 10 (certainly free elections)<sup>131</sup>.

### 1.6.10.3 Divergence in Democracy Worldwide

On the global scale, a significant difference can be observed in the presence of democratic structures in the target countries. While some of these countries can be said to have well-functioning democratic systems in place, like Germany and the Netherlands, others like China and Saudi-Arabia have authoritarian regimes in place that allow for very little democratic governance.

However, an interesting observation can be made in comparing the data from the Democracy Index with the data of the World Value Survey. According to such a comparison, no significant correlation seems to exist between the actual levels of democratic structures in a country and the desirability of democracy. For example, while the Netherlands and China are very far apart with regards to actual democratic structures, the desirability of democracy is only slightly lower in China.

Moreover, an interesting observation is the divergence between the presence of democratic structures and people's perceptions about the presence of these structures. For example, while China seems to be an authoritarian state, a surprisingly significant share of the population seems to appeal to the idea that their leaders are chosen in free elections. This raises the question of whether democratic values only reflect the presence of democratic methods and procedures or are rather a question of perception: of whether people feel to be democratically involved or not.

<sup>129</sup> Economist Intelligence Unit, Democracy Index 2014: Democracy and its discontents. *The Economist*, 2014.

<sup>130</sup> TNS Opinion & Social, Eurobarometer: The Values of Europeans. 2012.

<sup>131</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014

Looking at the global scale, we might concede that the existence of democratic structures is typically prevalent in Western-European and Northern-American countries and parts of the Pacific while they are typically absent in many countries in the Middle East, South-East Asia and large parts of Africa. However, the desirability of a democratic system seems to be generally shared among large parts of the populations of most countries in the world. The difference between the desirable status of democratic structures, the perceived structures and the actual status of democratic structures is an issue that might be important to reflect on later in the Satori project.

#### 1.6.10.4 Divergence in Democracy in Europe

At the European level, democracy is a pervasive system of governance: almost all European countries have a system that can be called democratic to a considerable extent. However, two interesting divergences can be observed. First of all, democratic values seem to be less important in the East of Europe than in the West of Europe. Inhabitants of countries of the former Soviet-Union appear to appeal less to the desirability of a democratic government than inhabitants of the other countries in Europe.

Another interesting observation with regards to democratic values in Europe is that the UK appears to be something of an exception with regards to the extent to which people perceive democracy as a typical “European” value. While the Eurobarometer survey indicates that a significant share of people in Germany and the Netherlands perceive democracy as a value that belongs to their idea of Europe, the share is considerably lower in the UK.

#### 1.6.10.5 Conclusions & Prospects for Harmonisation

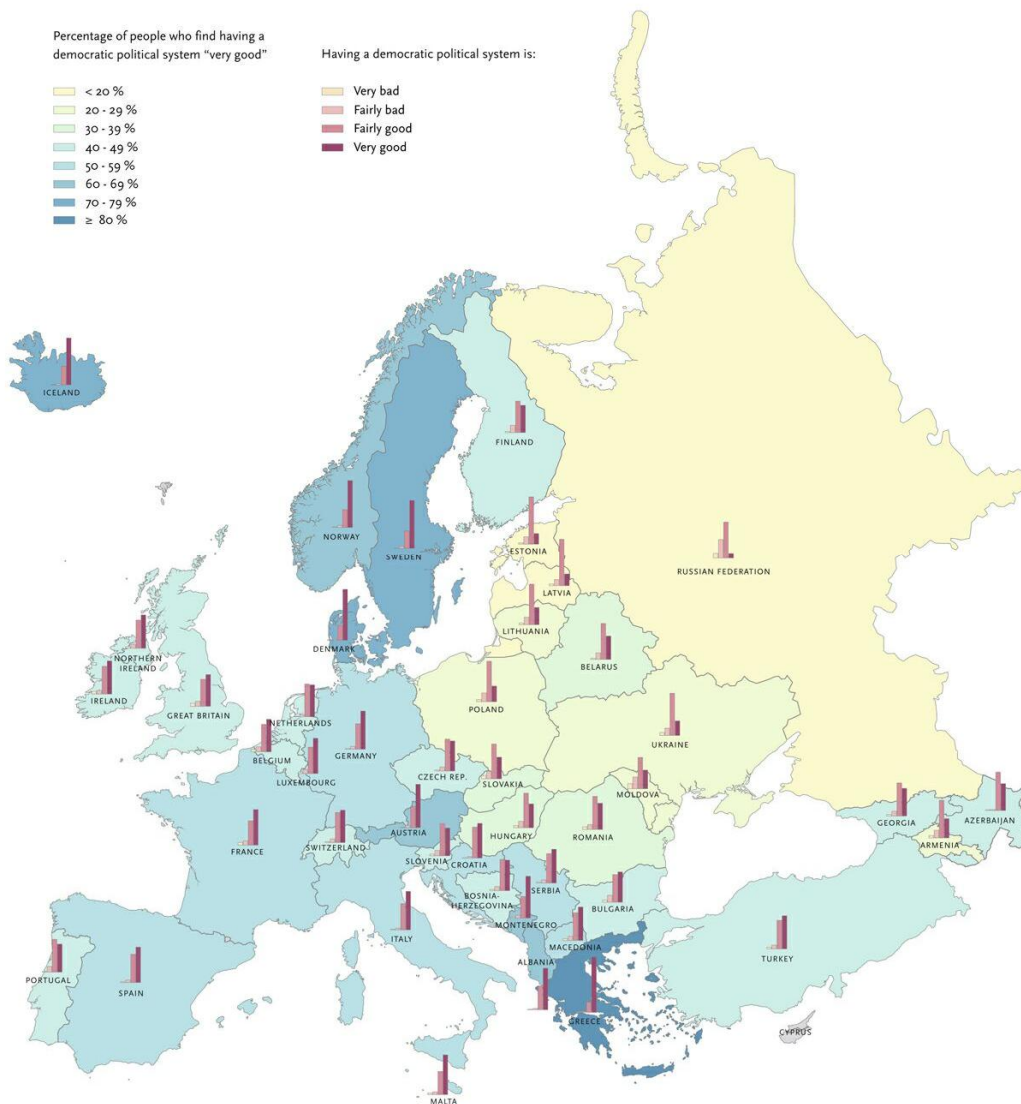
Looking at the differences between democratic structures in the context of the Satori project, the following conclusions can tentatively be drawn:

- Democratic structures are well established in Europe, Northern-America and parts of the Pacific, and less present in the Middle East, South-East Asia and the greater part of Africa.
- Democratic values appear to be shared among world citizens to a considerable extent.
- The perception of democratic structures differs from the actual structures in place.
- Democratic values are prevalent in Europe, but less so in Eastern Europe (in countries of the former Soviet-Union) than in the rest of Europe.

Overall, a convincing case can be made in favour of the harmonisation of democratic structures based on the considerable extent to which democratic values are shared amongst people, especially in Europe. Scholars such as Amartya Sen even argue that democracy might be considered a universal value<sup>132</sup>. An interesting challenge, however, will be to deal with the *perception* of democratic structures vis-à-vis the *presence* of those structures. If a case can be made for the harmonisation or even universalization of democratic values and the corresponding democratic structures, a discussion should follow on *what* those structures should look like. In such a discussion, the role of research and innovation needs to be taken into consideration while technological decision-making processes will require evaluation by reflecting on their basis in democratic values.

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<sup>132</sup> Sen, A. Democracy as a Universal Value. *Journal of Democracy*, 3, 1999, 3–17.



**Figure 16: A map displaying the attitudes of the inhabitants of different countries with regards to the desirability of having a democratic system for national governance<sup>133</sup>.**

### 1.6.11 Integrity and Corruption

This section focuses on the specific status of perceived and measured levels of integrity and corruption. Firstly, it will discuss the significance of integrity and corruption for the ethical assessment of research and innovation. Secondly, it will present empirical data on corruption and integrity for the Satori target countries; followed by a discussion on the divergences of related values on the global and European scales.

#### 1.6.11.1 The Significance of Integrity and Corruption for Ethics Assessment of R&I

Corruption as a negative value and integrity as a positive value are central themes in current deliberations and legislation on research and innovation. Unlike other values in this study, corruption and integrity often correspond to very concrete, delineated practices like data

<sup>133</sup> Halman, L., I. Sieben, & M. van Zundert, M. *Atlas of European Values*, 2011

fabrication, citation fraud etc. It is argued that research integrity is one of the most important factors to consider when examining research ethics<sup>134</sup>.

A tension that appears in discussions about corruption and integrity in research and innovation is one between regulation and scientific productivity<sup>135</sup>, which can lead to over- or under-regulation. One of the ways this problem is dealt with is the protection of whistle blowers<sup>136</sup>, with a focusing on empowering internal possibilities for regulation. Countries have very different ways of dealing with research integrity; sometimes regulating it by means of national law, sometimes by means of non-legal protocols or even by no means of regulation at all<sup>137</sup>.

### 1.6.11.2 Empirical Data on Integrity and Corruption in Target Countries

A great amount of empirical data has been gathered at global and European levels in order to measure integrity and corruption on a country-to-country basis. Two prominent global studies are the global integrity index that is conducted by the CSO Global Integrity and the Corruption perceptions index developed by the CSO Transparency International. Moreover, the World Values Survey contains an indicator study on bribe acceptance that appears to be a good measure for the level of corruption in a country. Finally, a special Eurobarometer issue focuses on the level of corruption per EU member state by asking the citizens about their perception of corruption in their countries. The outcomes of these four studies are outlined below:

Country/Study	Global integrity index 2011	Corruption perceptions index 2014	WVS – Justifiable: bribe acceptance	Eurobarometer - Corruption
Austria		72		14%
France		69		6%
Germany	79	79	1.7	6%
Netherlands		83	1.4	9%
Poland		61	1.4	27%
Serbia	73	41		55%
Spain		60	1.4	63%
UK		78		16%
China	64	36	2	
India	70	38	4	
Saudi-Arabia		49		
United States	85	74	1.8	
Brazil		43	1.6	
Rwanda		49	2.1	
Zimbabwe	56	21	2.4	
South-Africa		44	4.1	

**Table 10: Data from comparative studies on perceived and measured levels of corruption and integrity in the SATORI target countries.**

<sup>134</sup> Guillemin, M., & L. Gillam. Ethics, Reflexivity, and “Ethically Important Moments” in Research. *Qualitative Inquiry*, 10, 2004, p.277.

<sup>135</sup> Steneck, N. Fostering integrity in research: Definition, current knowledge, and future directions. *Science and Engineering Ethics*, 12(1), 2006, p.66. [http://www.nursing.arizona.edu/OSA/PDF/rise\\_materials/N695a/Steneck2006.pdf](http://www.nursing.arizona.edu/OSA/PDF/rise_materials/N695a/Steneck2006.pdf)

<sup>136</sup> Titus, S. L., J. A. Wells, & L.J. Rhoades, Repairing research integrity. *Nature*, 453(June), 2008, 980–982.

<sup>137</sup> Godecharle, S., B. Nemery & K. Dierickx. Guidance on research integrity: no union in Europe. *The Lancet*, 381(9872), 2013, p.4

Outcomes of the global integrity index indicate an overall score per country that takes into account levels of integrity of government agencies, non-governmental organisations and the presence of anti-corruption legal frameworks, and oversight<sup>138</sup>. The corruption perception index indicates the perceived level of corruption per country based on expert opinions; ranging from 0 (= highly corrupt) to 100 (=clean)<sup>139</sup>. The outcomes of the WVS on the justifiability of bribe acceptance indicates the level to which respondents per country on average agreed with “someone accepting a bribe in the course of their duties” as being justified on a scale from 1 (= not justifiable) to 10 (= justifiable)<sup>140</sup>. The percentages shown in the Eurobarometer study indicate the proportion of respondents of each country who agreed with the statement “I am personally affected by corruption in my daily life”<sup>141</sup>.

### 1.6.11.3 Divergence in Integrity and Corruption Worldwide

At the global scale, great divergences can be observed between countries with regards to the level of integrity and corruption. Most of the available data centres around measures and perceptions of corruption in the public sector; so no reliable observations can be drawn with regards to corruption in the private sector – although a certain degree of correspondence can be assumed. Looking at the integrity and corruption indexes, it can be observed that Europe and the US score fairly high while countries in Asia and Africa score relatively low (though greater diversity is displayed by the corruption index in comparison to the integrity index, possibly also due to differences in methodology and scale).

These outcomes are reflected in the outcomes of the World Values Survey on bribery to a certain extent, although differences in scores between countries are quite striking (e.g. between India and China in the corruption index – quite similar – compared to the WVS study – fairly different). A possible explanation for this might be that distinctive kinds of corruption at different levels incite different perceptions of the people affected by corruption.

An important side comment when considering these differences in light of the available data is that the measurement of higher-level corruption might be considerably more difficult and is less likely to be perceived by the general population (hence, for example, the difference between perception of corruption in China in the WVS and the level of corruption indicated for China in the Corruption perception index).

### 1.6.11.4 Divergence in Integrity and Corruption in Europe

At the European level, the greatest difference in perceived levels of corruption is to be found between Southern and Eastern Europe, with fairly high levels of corruption in comparison to Western and Northern Europe – with Denmark as the integrity “champion”<sup>142</sup>. A possible explanation for the higher levels of corruption in Southern Europe is the deeply rooted

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<sup>138</sup> Global Integrity. *Global Integrity Report: 2011*. Washington D.C., 2011.

<sup>139</sup> Transparency International, *Corruption Perceptions Index 2014*. Berlin, 2014.

<sup>140</sup> World Values Survey Association, *World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107*, 2014.

<sup>141</sup> TNS Opinion & Social, *Special Eurobarometer 397: Corruption*, 185, 2011a.  
[http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_364\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_364_en.pdf)

<sup>142</sup> TNS Opinion & Social, *Special Eurobarometer 397: Corruption*, 185, 2011a, p.118.  
[http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_364\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_364_en.pdf)



political clientelism in countries like Spain, Italy and Greece<sup>143</sup>. For Eastern Europe, it is argued that the informal economy – which is more likely to accommodate corrupt practices – has been an important factor in the economic transition after the collapse of the Soviet Union<sup>144</sup>.

### 1.6.11.5 Conclusions & Prospects for Harmonisation

According to the empirical data of the different studies that is presented and the commentaries on these findings, the following tentative conclusions can be drawn:

- At the global scale, corruption levels are relatively low in the US and in Europe compared to countries in Asia and Africa.
- At the European scale, Western and Northern Europe have lower levels of corruption than Southern and Eastern Europe.
- Political clientelism and economic transitions are indicated as reasons for relatively higher levels of corruption.

It is necessary to bear in mind is the importance of varying methodologies and definitions of integrity and corruption as employed by different studies<sup>145</sup>. One important consideration is that the perception of corruption relates more strongly to administrative corruption at the individual level, meaning that corruption at higher levels might go unnoticed. In this respect, the Eurobarometer study also indicates a strong difference between perceived levels of corruption and expected levels of corruption<sup>146</sup>.

### 1.6.12 Privacy and Data Protection

When we try to map and compare attitudes towards privacy and data protection in different countries, we must be careful with the concepts. If, for example privacy means one thing in one country and another thing in another, the resulting data from surveys comparing different countries will be misleading and less meaningful. This worry is underpinned by studies made by the Japanese ethicists Orito and Murata. They show that there is no Japanese term for privacy and they argue that the Western notion of privacy has little support in Japanese context. They draw the following conclusion:

Within the context of these socio-cultural and linguistic circumstances, insistence of the right to privacy as “the right to be let alone” indicates a lack of cooperativeness as well as an inability to communicate with others. The right to privacy, understood as “the individuals’ right to control the circulation of information concerning him or her”, is considered shameful excess of mistrust in relation both to a cooperative society and to those who collect, store,

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<sup>143</sup> Hallin, D. C., & S. Papathanassopoulos. Political clientelism and the media: southern Europe and Latin America in comparative perspective. *Media, Culture & Society*, 24(0503), 2002, 175–195. <http://doi.org/10.1177/016344370202400202>

<sup>144</sup> Wallace, C., & R. Latcheva, Economic Transformation Outside the Law: Corruption, Trust in Public Institutions and the Informal Economy in Transition Countries of Central and Eastern Europe. *Europe-Asia Studies*, 58(1), 2006, 81–102. <http://doi.org/10.1080/09668130500401707>

<sup>145</sup> Knack, S., Measuring Corruption in Eastern Europe and Central Asia : A Critique of the Cross-Country Indicators. *World Bank Policy Research Working Paper*, 2006, 1–64. <http://doi.org/10.1596/1813-9450-3968>

<sup>146</sup> TNS Opinion & Social, *Special Eurobarometer 397: Corruption*, 185, 2011a. [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_364\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_364_en.pdf)

share, and use personal data. Consequently, the sense of a right to privacy is foreign and less important to Japanese society than in Western societies<sup>147</sup>.

Can we conclude that privacy has no meaning in Japan? No, not necessarily. If we in line with many theories of privacy understand privacy as protecting certain basic values like freedom and autonomy<sup>148</sup>, it might also be considered as an important value in Japan assuming that freedom and autonomy are seen as essential.

### 1.6.12.1 The Significance of privacy and data protection for Ethics Assessment of R&I

The protection of privacy and data protection is crucial for research involving humans. In medical research, the basis for privacy can be found in the tradition of confidentiality of patient information going back to the Hippocratic oath. In social and behavioural research, the protection of the research subjects' privacy and data protection is a basic value, normally a constraint for when research is allowed. The protection of privacy and data protection is also necessary to uphold trust for the research among the public. Principles of confidentiality and secrecy, and the guarantee of anonymity of research subjects are methods for privacy protection.

### 1.6.12.2 Empirical data on privacy and data protection

What then does international surveys on opinions on privacy report? Do they point at differences or similarities between countries regarding views on privacy and surveillance? The Surveillance Project provides statistics for three of the SATORI targets countries; Brazil, China and the USA. The survey contains a number of questions that reveal views on privacy and privacy-relates attitudes and a sample of their questions is presented below<sup>149</sup>.

<b>Question asked:</b>	<b>Brazil</b>	<b>China</b>	<b>USA</b>
To what extent do you have a say in what happens to your personal information?	17% <sup>150</sup>	26%	12%
When it comes to the privacy of personal information, what level of trust do you have that your government is striking the right balance between national security and individual rights?	3%	9,7%	10%
Have you ever done the following for the purpose of protecting your personal information? Refused to give information to a business	25%	48%	77%
Have you ever done the following for the purpose of protecting your personal information? Refused to give information to a governmental agency	12%	28%	34%
When it comes to privacy, how worried are you about providing personal information on websites, such as your name, address, date of birth, and gender? Worried about providing personal information	60%	21%	22%

<sup>147</sup> Orito, Y., & K. Murata, Privacy protection in Japan: Cultural influence on the universal value. *Ethicom* 2005. 2005

<sup>148</sup> Collste, G. Global ICT-ethics: the case of privacy, in *Journal of Information, Communication & Ethics. Society*, 6(1), 2008.

<sup>149</sup> The Surveillance Project. The Globalization of Personal Data Project: An International Survey on Privacy and Surveillance, Summary of Findings, 2008.

<sup>150</sup> The numbers are rounded

<b>Question asked:</b>	<b>Brazil</b>	<b>China</b>	<b>USA</b>
To what extent do you think it is appropriate for a government agency to share citizen's personal information with other government agencies?	13%	7%	11%

**Table 11: Data from the Surveillance Project 2008, The Globalisation of Personal Data Project: An International Survey on Privacy and Surveillance. Summary of Findings November 2008.**

Perhaps surprisingly, according to this survey, the Chinese respondents thought they had most control over their personal information and the American the least. There is a general low trust in governments' balancing between national security and individual rights; the lowest in Brazil and the highest in the US. Distrust of business handling personal information was highest in the US and lowest in Brazil. Governmental agencies are generally more trusted; most trusted in the US and least in Brazil. The Brazilians are much more hesitant of providing personal information on websites in comparison with Americans and Chinese.

Another study compared American, Chinese and Indian user's privacy concerns on social network sites. The result is summarised: "The US sample was the most privacy concerned, followed by the Chinese and Indian samples...users' desires to restrict their information on SNS /Social networks/ so that either certain people (friends, family, co-workers) cannot see or only certain people can see (desire-to-restrict score). Somewhat surprisingly, the Chinese sample had the highest level of desire, while the US sample had the lowest<sup>151</sup>.

In a report to World Economic Forum 2014 William Dutton et al. compares NIW (New Internet Worlds) i.e. countries that recently have got access to Internet and OIW (Old Internet Worlds) i.e. countries that for a longer time has had accessed Internet, and discuss beliefs on trust, the Internet and global values. They point out that there is a looming trust in the Internet globally, but with some exceptions. They write: "These attitudes and beliefs might well signal a looming crisis of trust in the freedom, privacy, security and value of the Internet as a global information and communication resource. However, there are also some indicators of positive change. For example, users in the emerging countries of the Internet world, such as China and Brazil, are among the most active in originating content, such as in posting their views and opinions online. They are more often using the Internet as a medium of expression, and therefore have as great a stake as other users worldwide in maintaining freedom of expression, privacy and security online<sup>152</sup>. Furthermore, there is a general concern about surveillance,

There is widespread global concern over censorship, privacy and authenticity online. Concern over online censorship was relatively high and tended to be stronger in NIW countries. In contrast, concern over online surveillance increased with Internet penetration (ibid). Dutton et al found that users in OIW are more protective online: "Despite concerns over online privacy, many users reported infrequently taking action to protect their privacy. In addition, while there is general support for privacy and security online, there are widespread beliefs that too much personal information is being gathered online. While users from the Old and New Internet Worlds value privacy, users from the OIW appear to be more protective of their personal data and its security online – perceiving greater risks to privacy and security. Consistent with this concern, users in the OIW were also more likely to believe that there have been violations of their privacy online. Finally, there is a deficit of trust in new forms of

<sup>151</sup> Wang, Y., G. Norcie, & L.F. Cranor, Who Is Concerned about What? A Study of American, Chinese and Indian Users' Privacy Concerns on Social Network Sites, 2011.

<sup>152</sup> Dutton, W., H. Law, G., Bolsover, G., & Dutta, S. The Internet Trust Bubble Global Values, Beliefs and Practices. *World Economic Forum*, 2014.

information online, such as the collective intelligence of collaborative networks, and social media as a source of information. Given a general weakness of trust in online information, users from the NIW indicated more trust in online sources and actors than OIW users. Given more years of experience online, it would be reasonable to expect a greater level of trust in the OIW. But the opposite is the case” (ibid).

However, they also found a general agreement of the need for a free and open Internet: ”There is a surprising degree of convergence in values, concerns and patterns of use among worldwide Internet users, which are generally supportive of a free and open Internet” (ibid).

What are the attitudes to privacy issues and data protection in the European Satori target countries? In 2011 a special Eurobarometer investigating Europeans’ attitudes to privacy and data protection was published. In this report five questions revealing the respondents’ attitudes are reported. The first three questions relate to how concerned people are of their personal information being disclosed.

<b>Country/Study:</b>	<b>Disclosing information is not a big issue QB35</b>	<b>You don’t mind disclosing personal information in return for free services online QB37</b>	<b>Not concerned of disclosure of personal information online QB23</b>	<b>Average</b>
Austria	36	31	37	34.6
France	23	23	23	23
Germany	30	26	26	27.3
Netherlands	39	29	51	39.6
Poland	44	27	22	31
Serbia				
Spain	37	25	29	30.3
UK	30	27	19	25.3

**Table 12: Data from the special Eurobarometer study on privacy and data protection<sup>153</sup>**

The results for the target countries show some interesting differences. On average the Netherland seems to be least worried about disclosure of personal information. In particular, the Netherland differs from the other regarding disclosure of personal information online. Most concerned about disclosing personal information are France and United Kingdom.

The next two questions concerns the importance of protection of privacy-sensitive information:

<sup>153</sup> TNS Opinion & Social, Special Eurobarometer: Attitudes on Data Protection and Electronic Identity in the European Union, 2011b.

Country/Study:	Should you approve before personal information is collected? QB24	Should your DNA data be protected by EU protection rules? QB33	Average
Austria	93	89	91
France	92	88	90
Germany	95	92	93.5
Netherlands	95	91	93
Poland	88	86	87
Serbia			
Spain	92	89	90.5
UK	94	89	91.5

**Table 13: Data from the special Eurobarometer study on privacy and data protection<sup>154</sup>**

There is a general strong concern for the protection of privacy-sensitive information. Nine out of ten think that it is very important that privacy-sensitive information is protected. Poland scores the lowest and Germany and the Netherlands the highest.

### 1.6.12.3 Conclusions and Prospects for Harmonisation

As was stressed in the beginning of this study, one should be cautious when interpreting the results of surveys on privacy and data protection because of the possibilities of different understandings of the concept of privacy.

There seems to be a general mistrust of both public and private agencies' protection of privacy. Furthermore, the surveys do not provide support for simplistic assumptions about differences between collective Asian and individual Western values. What can be said in relation to the SATORI project is probably only that most people consider privacy protection important and, hence, would also be in support of including privacy protection as an important factor for the ethical assessments of research and innovation.

### 1.6.13 The Role of Religion

This section focuses on the specific status of religious values at the global and the European level and their relation to research and innovation. First of all, it will discuss the significance of religion in ethics assessment of research and innovation. Secondly, it will present an overview of empirical data on the role of religion from three different studies. Thirdly, it will discuss divergences in the role of religion on the global and the European level; followed by a conclusion and a presentation of some prospects for harmonisation.

#### 1.6.13.1 The Significance of the Role of Religion for Ethics assessment of R&I

Religion plays an important role in the formation of people's moral beliefs and has a strong influence on certain areas of ethics assessment in research and innovation. This is the case both at the individual level and the societal level. At the individual level, religion provides a

<sup>154</sup> TNS Opinion & Social, Special Eurobarometer: Attitudes on Data Protection and Electronic Identity in the European Union, 2011b.

system of meanings which facilitate feelings of social psychological integration<sup>155</sup>. Religion also shapes the institutions and legislation in a society<sup>156</sup>.

In the context of research and innovation, religion (notably monotheistic religions) generally occupies an anthropocentric stance, focusing primarily or even almost exclusively on research in medicine and bioethics<sup>157</sup>. Research that deals with stem cell experimentation or human enhancement technologies are subject to particular scrutiny from religious (predominantly Christian) interest groups. However, it is difficult to generalise on the influence of religion in ethics assessment, while different religions have diverging ideas about issues in research and innovation. Still, in Europe the Christian doctrines are most prevalent. Moreover, the context in which ethics assessment takes place might be influenced by religious values (e.g. the ethics committee in a religious hospital).

### 1.6.13.2 Empirical Data on the Role of Religion in Target Countries

Most of the empirical studies on religiosity focus on the question of whether people are religious and deem religion important in their lives. However, certain studies are more explicitly focused on the relation between scientific research and religion. Three major empirical studies on these questions can be identified: the Global index of religiosity and atheism, which maps the percentages of respondents per country who deem themselves to be convinced atheists; the World Values Survey, which provides an overview of respondent's religious conviction on a country-by-country basis; and the Eurobarometer and the Word Values Survey, which indicate the level to which respondents prefer either religious or scientific judgements. Below, the outcomes of the three studies are displayed:

Country/Study	Global Index of Religiosity and Atheism	Eurobarometer – Science & Technology	WVS – Religion: Importance in life	WVS – Religion vs. Science
Austria	10%	38%		
France	29%	29%		
Germany	15%	38%	-24	-66
Netherlands	14%	23%	-47	-78
Poland	5%	39%	60	-38
Serbia	3%	42%		
Spain	9%	45%	-35	-33
UK		36%		
China	47%		-69	-67
India	3%		65	35
Saudi-Arabia	5%			
United States	5%		38	-20
Brazil	1%		79	-15
Rwanda			45	17
Zimbabwe			91	38
South-Africa	4%		69	61

<sup>155</sup> Kennedy, E. J., & L. Lawton, L. The effects of social and moral integration on ethical standards: A comparison of American and Ukrainian business students. *Journal of Business Ethics*, 15(8), 1996, p.902. <http://doi.org/10.1007/BF00381858>

<sup>156</sup> Thomas, S. M., Taking religious and cultural pluralism seriously: the global resurgence of religion and the transformation of international society, 29(3), 2000, p.815, <http://doi.org/10.1177/03058298000290030401>

<sup>157</sup> Brouillett, M., & L. Turner. Bioethics, religion, and democratic deliberation: policy formation and embryonic stem cell research. *HE C Forum*, 17(1), 2005, 49–63.



**Table 14: Data from comparative studies on the role of religion, indicating the perception of the importance of religion, the prevalence of membership of religious institutions and the perceived relation between religion and science.**

Data drawn from the global index of religiosity and atheism displays the percentage of respondents per country who indicated that they are “convinced atheists”<sup>158</sup>. The outcomes of the Eurobarometer study on science and technology indicate the percentages of respondents per country who totally agreed with the statement “we depend too much on science and not enough on faith”<sup>159</sup>. The outcomes of the WVS on the importance of religion indicate the average responses to the statement “religion is important in my life” on a scale of -100 (= not important) to 100 (= very important). The outcomes of the WVS on conflict between religion and science indicate the average responses to the statement “whenever science and religion conflict, religion is always right” on a scale of -100 (= strongly disagree) to 100 (= strongly agree).

### **1.6.13.3 Divergence in the Role of Religion Worldwide**

At the global scale, the role of religion per country varies by world region. Although atheism does not belong to a majority conviction in any country in the world, it is most prevalent in European countries and in China. For China, one of the main reasons for the high level of atheism is the official atheist stance of the Chinese government<sup>160</sup>. In Europe, Western European countries (e.g. Germany, the Netherlands and France) display high proportions of people stating that they are convinced atheists.

Looking at the importance of religion in people’s lives, the World Values Survey shows that specifically Western European countries and China attach little importance to religion while India, Brazil and African countries all display a high level of importance attached to religion. The United States is a country in the Western world that displays a relative high importance of religion in comparison with most of the Western European countries.

With regards to the perceived relation between science and religion, it is striking to observe that the importance attached to religion does not directly correlate with a perceived prevalence of religious judgement over the judgements in science. For example, while Polish respondents attach high importance to religion in their lives, they think to a far lesser extent that religious judgement prevails over scientific judgement. This shows the importance of taking into account the different ways in which religious life can be delineated by culture and country. In some countries, religion might prevail in many aspects of life (e.g. in theocracies like Iran) while in other countries religion might be deemed important for private life but not for public life.

### **1.6.13.4 Divergence in the Role of Religion in Europe**

At the European level, a difference can be discerned between Western and Northern European countries on the one hand, where religion plays a less important role and people are generally

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<sup>158</sup> WIN-Gallup International, *Global Index of Religiosity and Atheism*, Washington D.C., 2012.

<sup>159</sup> European Commission. Special EUROBAROMETER 340: Science and Technology, June 2010, 1–163. [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_340\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_340_en.pdf)

<sup>160</sup> DuBois, T. D. Religion and the Chinese state: three crises and a solution. *Australian Journal of International Affairs*, 64(3), 2010, 344–358. <http://doi.org/10.1080/10357711003736501>

more inclined to be convinced atheists, and Southern and Eastern Europe where religion remains an important factor and less people are inclined to state that they are convinced atheists. With regards to the prevalence of religious judgement over scientific judgement, however, the differences are less striking. The outliers in this respect are the Netherlands on one hand (relatively favouring scientific judgement) and Spain on the other (relatively favouring religious judgement). However, it is important to observe that higher levels of religiosity do not directly result in a negative attitude towards scientific research.

### **1.6.13.5 Conclusions & Prospects for Harmonisation**

Although the relation between religious values and ethics assessment of research and innovation remains unclear, some general conclusions might be drawn that can benefit the SATORI research:

- At the global scale, religious values have a stronger influence in non-Communist Asia, Africa, South-America and Northern America to a lesser extent. They have a weaker presence in Western Europe and Communist Asia (notably China).
- Less religious countries tend to assign greater importance to scientific judgment in comparison to religious judgement. However, this link is relatively weak, as some countries that show high levels of importance of religion nonetheless assign prevalence to scientific judgment.

It might be interesting in the further course of research to investigate the link between the importance of religion in a country and the preference of religious judgment over scientific judgement. Such an analysis might explain why the data between for example Poland, with very diverging outcomes between those two variables, and South Africa, with very similar outcomes for both variables, are so far apart.

### **1.6.14 The role of government**

This section focuses on the different perceptions of the actual and desirable roles of governments between countries and the importance of these differences for research and innovation. Although this study does not directly focus on a separate value, the preference of a stronger or weaker role of government reflects ideological structures that are rooted in different value systems<sup>161</sup>. Firstly, this section will discuss the significance of this dimension of the role of government for ethics assessment of research and innovation. Secondly, it will provide an overview of empirical data on the role of government across different countries. Thirdly, it will analyse these data and present some conclusions.

#### **1.6.14.1 The Significance of the Role of Government for Ethics Assessment of R&I**

In the context of research and innovation, the role of government can have two significant implications. The first implication concerns the difference between publicly and privately funded researches, with a stronger or weaker government influencing the relative share of publicly funded research. Secondly, the role of governance concerns the level of influence governments have in the conduct of research and innovation. This latter point strongly relates to the issue of freedom and autonomy as discussed earlier, with the autonomy of researchers implying less government interference in their work. Finally, the level of a government's

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<sup>161</sup> Potrafke, N. Does government ideology influence deregulation of product markets? Empirical evidence from OECD countries. *Public Choice*, 143, 2010, 135–155. <http://doi.org/10.1007/s11127-009-9494-z>

direct responsibility for the ethics assessment of research and innovation can influence the ethics assessment practices.

#### 1.6.14.2 Empirical Data on the Role of Government in Target Countries

With regards to the different perceptions and preferences of government interference between the Satori target countries, empirical data is available for three relevant indicators as part of the Eurobarometer and the World Values Survey. The Eurobarometer study focuses on a general conception of state interference of European citizens. The World Values Survey questions focus on the desirability of government interference, both with regards to interference in businesses and in the lives of citizens. The table below displays the outcomes of the three indicator studies.

Country/Study:	Eurobarometer	WVS – Private vs. state ownership of business	WVS – Government responsibility
Austria	56%		
France	55%		
Germany	57%	5.1	4.8
Netherlands	55%	5.5	5.8
Poland	59%	6.5	4.5
Serbia			
Spain	73%	5.4	4.4
UK	68%		
China		5.7	4.7
India		5.4	4.7
Saudi-Arabia			
United States		3.7	6.2
Brazil		5.2	4
Rwanda		3.7	3.5
Zimbabwe		5	3.8
South-Africa		6.2	5.8

**Table 15: Data from comparative studies on indicators of the presence and desirability of government interference.**

The outcomes of the Eurobarometer study indicate the percentage of respondents of each country who responded to the statement “the state interferes too much with our lives” with “totally agree”<sup>162</sup>. The results of the WVS on private vs. state ownership indicate the average score per country of the average response to the statement “private ownership of business and industry should be increased” on a scale from 1 (=should be increased) to 10 (=should not be increased). The outcomes of the WVS on government responsibility indicate the average score per country in response to the statement “the government should take more responsibility to ensure that everyone is provided for” on a scale from 1 (=the government should take more responsibility) to 10 (=the government should not take more responsibility)<sup>163</sup>.

<sup>162</sup> TNS Opinion & Social, Eurobarometer: The Values of Europeans. 2012.

<sup>163</sup> World Values Survey Association, World Values Survey, Wave 6 2010-2014 OFFICIAL AGGREGATE v.20141107, 2014.

### 1.6.14.3 Divergence in Role of Government Worldwide and in Europe

At the global scale, the greatest divergence can be found between different preferences of respondents' with regards to the responsibility of the government for the well-being of its citizens. Interesting exceptions in this respect are the Netherlands, the US and South Africa. A possible explanation for this difference is that countries with an Anglo-Saxon culture (of which the US is a clear example and the Netherlands and South Africa are to a certain extent) tend to place greater emphasis on the individual responsibility of citizens vis-à-vis state responsibility in comparison to other countries.

Another way of interpreting the role of government is by looking at the different value systems underlying the governmental and corporate sectors in countries. Becker and Connor show in a case study of Japan and Canada that Japanese culture is more homogeneous with regards to the values held by people working in the governmental and the corporate sector than is the case for Canadian culture<sup>164</sup>. This might point to a greater difference between the governmental and the corporate sector in the English-speaking world and in East Asia. With regards to innovation, some studies have indicated a strong relation between corporate culture and the amount of radical innovation<sup>165</sup>.

At the European level, an interesting divergence can be discerned between the North-West of Europe, as the region that least favours increased government responsibilities, and the East and the South of Europe as regions that favour increased government responsibilities (see figure 2). The Eurobarometer shows also an outlier position for the UK, which might also be due to the differences between the English speaking world and other European countries.

### 1.6.14.4 Conclusions & Prospects for Harmonisation

A significant conclusion that can be drawn from the analyses is that the actual situation in a country with regards to the role of government does not necessarily reflect the desirability of such a situation. For example, with regards to the state ownership of companies, the outcomes of China and the Netherlands are very similar although the state owned companies are much more prevalent in China than in the Netherlands. However, some generalisations can be made:

- An important worldwide difference between the perception and preference of the role of government seems to exist between the English speaking world and other countries.
- The role of government corresponds to the role of the corporate sector. With regards to research and innovation, a lesser role of government in these areas is likely to correspond to a greater role of the corporate sector. Moreover, an increased role of the corporate sector might lead to more radical innovations.

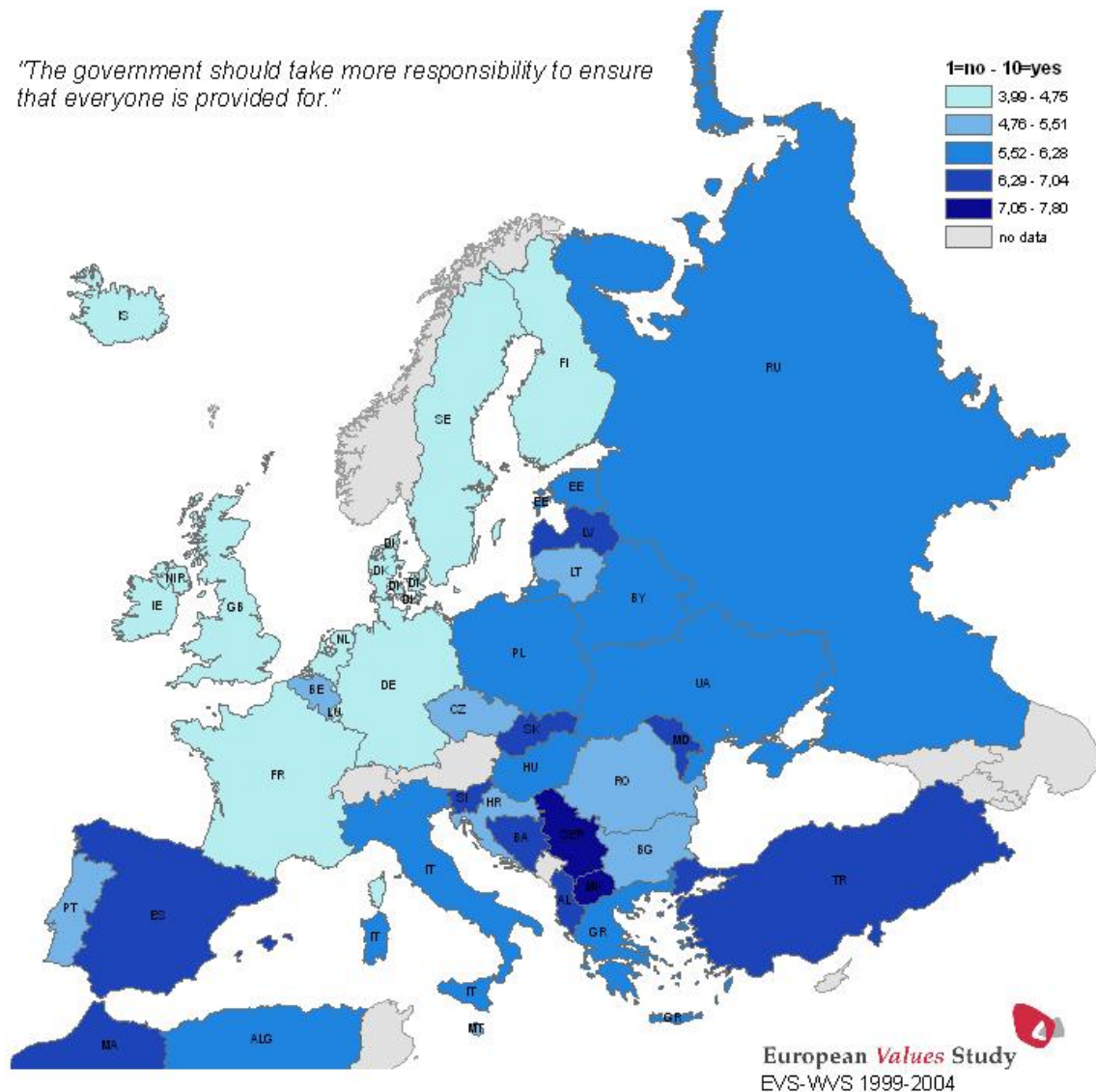
The prospects for harmonisation in Europe appear to lie in two main areas: first of all, harmonisation efforts appear to have to take into account the difference in the role of government between the UK and the European mainland; secondly, differences between

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<sup>164</sup> Becker, B. W., & P.E. Connor. Self-selection or socialization of public- and private-sector managers? A cross-cultural values analysis. *Journal of Business Research*, 58, 2005, 111–113. [http://doi.org/10.1016/S0148-2963\(02\)00481-2](http://doi.org/10.1016/S0148-2963(02)00481-2)

<sup>165</sup> Tellis, G. J., J.C. Prabhu, & R.K. Chandy, Radical Innovation Across Nations: The Preeminence of Corporate Culture. *Journal of Marketing*, 73(January), 2009, 3–23. <http://doi.org/10.1509/jmkg.73.1.3>

North-Western Europe and the East and South of Europe regarding the responsibility of governments would need to be taken into account.



**Figure 23:** An overview map of the European Values Study with the average scores of respondents per country, indicating the extent to which they agree with the statement “the government should take more responsibility to ensure that everyone is provided for” on the scale of 1 (=government should not take more responsibility) to 10 (=government should take more responsibility)<sup>166</sup>.

### 1.6.15 Attitudes towards Science and Technology: Worldwide

This section focuses on attitudes towards science and technology at a global level. First, a discussion of the relevance of attitudes towards science and technology for the ethical assessment of research and innovation is presented. Next, it will present an empirical analysis based upon surveys tracking attitudes towards science and technology. Lastly, this section

<sup>166</sup> Halman, L., I. Sieben, & M. van Zundert, M. *Atlas of European Values*, 2011

will examine divergences and prospects for harmonisation for ethical assessment practices based upon these findings.

### **1.6.15.1 The significance of attitudes towards science and technology for ethical assessment R&I**

The role of science and technology in different societies provides the contexts within which the ethical assessment of research and innovation takes place. While international instruments recognise the status of science and technology and the right of all to enjoy the benefits of scientific progress,<sup>167</sup> there are differing attitudes as to what these benefits constitute with significant variation in countries' commitments to upholding this right.

What constitutes “science” and the role it should play helps determine what constitutes ethical science and how it should be assessed and conducted in different countries. Questions such as whether “individual considerations should take precedence over the interest of society and science” demonstrate the varying degree of freedom given to research conducted in the name of science. More critical for ethical assessment is the consideration of the appropriate cultural imprimatur/qualification of those conducting the review and on what level the ethical assessment should be taking place. Questions such as “who should review?” and “which domain or disciplines qualify as science” relate to the role of science and technology within society.

### **1.6.15.2 Empirical Data on Attitudes towards Science and Technology in Target Countries**

The table below shows data from the Eurobarometer study on the values of Europeans, and on the World Value Survey as related to questions on attitudes towards science and technology.

<b>Country/Study</b>	<b>Eurobarometer*</b>	<b>WVS** V193</b>	<b>V197</b>	<b>V192</b>	<b>V193</b>	<b>V195</b>
Austria	21%					
France	41%					
Germany	32%	7.94	7.3	7.43	7.94	5.03
Netherlands	48%	7.27	7.2	7.38	7.27	4.11
Poland	17%	8.27	7.9	7.63	8.27	4.44
Serbia						
Spain	29%	6.85	7.1	6.90	6.85	4.61
UK	43%					
China		8.16	8.3	8.33	8.16	5.26
India		6.45	6.3	5.88	6.45	5.82
Saudi-Arabia						
United States		7.25	7.3	7.19	7.25	4.95
Brazil		7.58	6.3	7.01	7.58	5.38

<sup>167</sup> Article 13 of the American Declaration of the Rights and Duties of Man, the Ninth International Conference of American States, 04.1948, Article 27 of the Universal Declaration of Human Rights, the General Assembly of the United Nations, 10.12.1948, Article 15 of the International Covenant on Economic, Social and Cultural Rights, Resolution 2200A (XXI) of the General Assembly of the United Nations, 16.12.1966– binding norm. Universal Declaration of Human Rights and Bioethics.



Country/Study	Eurobarometer*	WVS** V193	V197	V192	V193	V195
South-Africa		7.29	7.1	7.39	7.29	6.58
Nigeria			6.9			

**Table 16: \*Eurobarometer study indicating the public perceptions of science, research and innovation, illustrating people’s levels of interest in scientific discoveries and technological developments.**

Note: \*\*WVS -Attitudes to science and technology: world; V193: We depend too much on science and not enough on faith; V197: world, it refers to the world is better off, or worse off, because of science and technology; V192: Science and technology are making our lives healthier, easier, and more comfortable; V193: Because of science and technology, there will be more opportunities for the next generation; V195: One of the bad effects of science is that it breaks down people’s ideas of right and wrong.

### 1.6.15.3 Divergence in Attitudes toward Science and Technology Worldwide

In their study comparing attitudes towards science and science literacy, Allum et al<sup>168</sup> note that Eurobarometer and other surveys conducted over the past fifteen years have afforded the opportunity for cross-cultural comparisons of attitudes and knowledge about science (European Commission, 2001; INRA, 1993). Empirical results from these surveys suggest that there is a good deal of diversity across Europe, North America and other parts of the world in public attitudes towards science, and perhaps even greater variation in levels of science literacy.

Allum et al (2008) were considering the relationship between attitudes and knowledge about science and science literacy. As might be expected, they found great diversity between regions of the world. Attitudes towards science are often placed in contrast to the role of religion, morals, or conceptions of good and progress. While religion and science are not necessarily antithetical towards each other, the considerations often exist, as demonstrated by the responses to the questions in the World Values Survey.

Contemporary debates highlighting the attitudes towards science and technology are demonstrated in current discussions around the world regarding, but not limited to: nanotechnology<sup>169</sup>; the production and consumption of genetically modified foods<sup>170</sup>; life-sustained technologies in medical settings; research on the human genome; homeopathic vs. evidence-based medicine; nuclear power; and state funding of scientific research and the sharing of its benefits.

### 1.6.15.4 Conclusions & Prospects for Harmonisation

As with most values, there is not necessarily a single principle or value which prevails over the rest when considering the broader context of attitudes towards sciences and technology and its divergence between target countries. Attitudes towards science and technology differ

<sup>168</sup> Allum, N., P. Sturgis, D. Tabourazi, & I. Bruton-Smith, Science Knowledge and attitudes across cultures: A meta-analysis. *Public Understanding of Science (Bristol, England)*, 17, 2008, 35–54.

<sup>169</sup> Scheufele, D. A., Religious beliefs and public attitudes toward nanotechnology in Europe and the United States. *Nature Nanotechnology*, 4(2), 2009, 91–94.

<sup>170</sup> Frewer, L. Societal Issues and Public Attitudes towards Genetically Modified Foods. *Trends in Food Science & Technology*, 14(4), 2003, 319–332.

not only on a geographic and political scale, but within individual societies as well. However, discussions such as the current revision of the Recommendation on the Status of Scientific Researchers highlight the prospect for basic frameworks, which can be adopted to allow for the harmonisation of scientific and innovation research.

### **1.6.16 Attitudes towards Science and Technology in Europe**

This section focuses on the different attitudes towards science and technology in a European context. First of all, it will briefly discuss the significance of these attitudes for ethics assessment of research and innovation. Secondly, it will provide an overview of the empirical data on the attitudes of Europeans to science and technology – all drawn from the special Eurobarometer study on science and technology. Thirdly, it will discuss the differences between target countries in Europe with regards to the attitudes to science and technology; followed by a short conclusion.

#### **1.6.16.1 The Significance of Attitudes to Science and Technology for Ethics assessment of R&I**

Attitudes towards science and technology that are prevalent in a society can be expected to have direct consequences for the way ethics assessment is conducted. Public resistance to developments in science and technology can lead to policy changes with regards to the ways research and innovation is assessed, and can even lead to their total abandonment. Examples of public pressure on research and innovation can be found in the areas of nuclear power R&I, certain kinds of information technology and biotechnologies<sup>171</sup>. A significant factor in the levels of resistance is the “newness” of a technology while “new” technologies are more likely to incite public resistance than established ones.

However, it is also argued that the overall public perception of science and technology does not directly translate into the level to which the public supports or rejects a certain kind of research or innovation<sup>172</sup>. Rather, a decisive aspect of public opinion might be the overall preference of “naturalness”, which relates to the extent to which research and innovation impacts aspects of animal or human nature.

#### **1.6.16.2 Empirical Data on Attitudes to Science and Technology in Target Countries**

The data used for this value study is based on a Eurobarometer special issue on science and technology, which provides a very thorough analysis of different aspects of the attitudes of Europeans towards science and technology. The questions of interest to this study concern the public trust in scientists, the perceived advantage of science and technology, the impact of science and technology on morality and the extent to which scientific endeavours ought to be limited. An overview of the empirical data is displayed below:

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<sup>171</sup> Bauer, M. Resistance to new technology and its effects on nuclear power, information technology and biotechnology. Cambridge University Press, 1995, p.20,21

<sup>172</sup> Frewer, L. J., C. Howard, & R. Shepherd. Public concerns in the United Kingdom about general and specific applications of genetic engineering: risk, benefit, and ethics. *Science, Technology & Human Values*, 22(1), 2007, p.117. <http://doi.org/10.1177/016224399702200105>

Country	Eurobarometer - Trust in scientists on controversial issues	Eurobarometer – Science & Technology and health and comfort	Eurobarometer – Science & Technology and morality	Eurobarometer – Limits to science
Austria	56%	64%	70%	35%
France	65%	66%	78%	38%
Germany	70%	57%	70%	21%
Netherlands	60%	65%	59%	29%
Poland	48%	69%	59%	36%
Serbia	67%	74%	74%	42%
Spain	57%	72%	62%	35%
UK	49%	76%	53%	38%

**Table 17: Data from comparative studies on attitudes to science and technology in the European target countries.**

The outcomes of the Eurobarometer study on trust in scientists that deal with controversial issues indicate the percentage of respondents per country who agreed with the statement “we can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry”. The outcomes of the Eurobarometer study on science & technology and health and comfort indicate the percentage of respondents per country who agreed with the statement “science and technology make our lives healthier, easier and more comfortable”. The outcomes of the Eurobarometer study on science & technology and morality indicate the percentage of respondents per country who agreed with the statement “science and technology can sometimes damage people’s moral sense”. The outcomes of the Eurobarometer study on limits to science indicate the percentage of respondents per country who agreed with the statement “science should have no limits to what it is able to investigate”<sup>173</sup>.

### 1.6.16.3 Divergence in Attitudes to Science and Technology in Europe

At the European level, no great differences can be discerned between the target countries with regards to their general attitudes towards science and technology. Overall, respondents agree with the idea that science and technology increase their personal quality of life. Nonetheless, some significant divergences between the outcomes of the different studies can be discerned. First of all, a discrepancy exists between the perception of the advantages of science and technology and trust in scientists and the perception of moral influence of science and technology. In contrast with the generally positive view of science and technology, most Europeans indicate that their trust in scientists when dealing with controversial issues is considerable lower while business interests might influence processes in research and innovation. Secondly, most Europeans agree that science and technology might negatively impact people’s morality and that at least some limits should apply to the reach of scientific investigations.

On a country-to-country basis, the greatest differences can be observed between Germany on the one hand and the UK and Serbia on the other. Respondents in Germany are relatively less positive about the impact of science and technology and are more insistent on the importance

<sup>173</sup> European Commission. Special Eurobarometer 340: Science and Technology, June 2010, 1–163. [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_340\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_340_en.pdf)

of limitations to scientific endeavour than are the respondents in the UK and Serbia. It is argued that education has a strong influence on the perception of science and technology<sup>174</sup>. Hence, a possible explanation of this difference might be the educational setting in Germany compared to the UK and Serbia, possibly also caused by historical factors like the role of science and technology during the Second World War.

#### 1.6.16.4 Conclusions & Prospects for Harmonisation

Looking at the differences between the target countries and in light of the academic discussions on the attitudes towards science and technology, some tentative conclusions can be drawn:

- Most Europeans agree with the idea that science and technology have a positive impact on their quality of life.
- The greatest difference at the European level can be found between Germany on the one hand, displaying a higher level of distrust in science and technology, and the UK and Serbia on the other, displaying lower levels of distrust.
- The generally positive view on science and technology does not correspond to similar high levels of trust in scientists or in the moral neutrality of science.
- Certain limits on scientific investigations are generally preferred in Europe.

In light of these conclusions, it might be worthwhile to pursue a further investigation into the differences regarding certain specific aspects of attitudes to science and technology. First of all, a connection between specific scientific issues that are deemed controversial (e.g. nuclear energy, genetic modification) and the underlying values could be elucidated. Secondly, it would be interesting to inquire into the relation between the levels of trust in democratic public structures in certain countries versus the levels of trust in scientific research. With regards to the general attitudes towards science and technology and the values leading to these attitudes, literature suggests that investigations ought to focus on the role of education and views of peers and family<sup>175</sup>.

#### 1.6.17 Attitudes to Biotechnology in Europe

This section focuses on the specific status of the attitudes towards biotechnology in a European context. It takes a specific focus on issues concerning biotechnology, a field that is highly sensitive concerning ethical problems. Firstly, it will discuss the significance of attitudes towards biotechnology in Europe for the ethical assessment of research and innovation. Secondly, it will present empirical data on the perceptions and desirability of different aspects of biotechnology in the European Satori target countries; followed by a discussion about the differences in Europe on these issues and a short conclusion.

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<sup>174</sup> Osborne, J., S. Simon, & S. Collins. Attitudes towards science: a review of the literature and its implications. *International Journal of Science Education*, 25(9), 2003, 1049–1079. <http://doi.org/10.1080/0950069032000032199>

<sup>175</sup> Papanastasiou, C., & E.C. Papanastasiou, Major Influences on Attitudes toward Science. *Educational Research and Evaluation*, 10(3), 2004, 239–257. <http://doi.org/10.1076/edre.10.3.239.30267>

### 1.6.17.1 The Significance of Attitudes to Biotechnology in Europe for Ethics assessment of R&I

The biotechnology sector maintains a high level of research and development<sup>176</sup>, both with regards to public funding (e.g. over \$ 452,- public biotechnology R&D expenditure in Spain) and private funding (e.g. Denmark showing a 23,8% share of biotechnology R&D of the total amount of private R&D). Hence, biotechnology research and innovation represents first of all a significant share of all research and innovation across Europe and worldwide. Moreover, biotechnology R&I deals with many issues that directly affect questions of human nature (e.g. stem cell research), of “naturalness” (e.g. animal cloning) and general health concerns (e.g. Nano technologies aimed at consumers).

Europe as a whole has a fairly strong voice in the international debate on biotechnologies, but this common ground has a basis in a consensus resulting from quite diverging points of view across the European states<sup>177</sup> (Falkner, 2007). Nevertheless, while biotechnology is a field of research to which a considerable level of regulations and reviews already apply, it can function as an exemplary field in providing precedents on best practices and structures of ethics assessment.

### 1.6.17.2 Empirical Data on Attitudes to Biotechnology in European Target Countries

The empirical data for this value study draws from a special Eurobarometer issue on Biotechnology in Europe. First of all, this study will focus on the expressed desirability of two specific fields of R&I that fall within the scope of biotechnology; being genetically modified food and animal cloning. Secondly, it will present data concerning the desirability of the work of certain groups in the field – specifically of university scientists and ethics committees. Below, an overview of the data for the different studies can be found:

Country	Eurobarometer – GM food	Eurobarometer – Animal Cloning	Eurobarometer – Benevolence of university scientists	Eurobarometer – Benevolence of ethics committees
Austria	60%	70%	74%	66%
France	55%	66%	86%	61%
Germany	64%	69%	73%	56%
Netherlands	43%	50%	90%	78%
Poland	53%	52%	76%	63%
Serbia	55,44%*			
Spain	44%	46%	79%	61%
UK	40%	50%	70%	51%

**Table 18: Data about the attitudes of Europeans towards biotechnology**

The outcomes of the Eurobarometer study on genetically modified food indicate the percentage of respondents per country who agreed with the statement “GM foods are *not* good for you and your family”. \*The Serbian outcome originates from a different study, and indicates the percentage of Serbian respondents who agreed with the statement that “it is

<sup>176</sup> Beuzekom, B. Van, & A. Arundel, OECD Biotechnology Statistics, 2009. *OECD*, 103. <http://doi.org/10.1787/9789264073937-en>

<sup>177</sup> Falkner, R. The political economy of “normative power” Europe: EU environmental leadership in international biotechnology regulation. *Journal of European Public Policy*, 14(4), 2007, 507–526. <http://doi.org/10.1080/13501760701314326>

immoral and unethical to modify the genes of plants and animals”<sup>178</sup>. The outcomes of the Eurobarometer study on animal cloning indicate the percentage of respondents per country who agreed with the statement “animal cloning in food production is *not* good for you and your family”. The outcomes of the last two Eurobarometer studies on the benevolence of certain groups in the area of biotechnology indicate the percentages of respondents per country who indicated that university scientists and ethics committees working in the field of biotechnology do a good job for society<sup>179</sup>.

### 1.6.17.3 Divergence in Attitudes to Biotechnology in Europe

In Europe, attitudes are generally reserved or negative with regards to biotechnologies, and it also argued that Europeans are highly ambivalent about them<sup>180</sup>. Most Europeans oppose the idea that genetically modified food and animal cloning is beneficial to them or their families. However, genetic testing or research for regenerative medicine are opposed less fiercely, though in those areas people also feel that strict regulations are needed<sup>181</sup>. More generally, it seems that biotechnology in the food sector faces greater public opposition than biotechnology in the medical sector.

With regards to the differences in Europe, the strongest outliers are Germany and Austria on the one hand, being relatively reserved about the benefits of biotechnological research, and the UK, Spain and the Netherlands on the other hand, being relatively positive about its benefits. A possible explanation of this difference can be the historical factor of the Second World War, while post-war programs of genetic modification were combatted because they echoed the eugenic practices in Germany during the war<sup>182</sup>.

Despite the generally reserved view on biotechnologies among Europeans, this view does not seem to translate into a negative perception of the work of scientists in the field of biotechnology. Support for the work of scientists is generally high among Europeans, with as much as 90% of the respondents in the Netherlands indicating that scientists working in biotechnology are doing a good job. Notably, support for the work of scientists in biotechnology is significantly higher than the support of the work of ethics committees; with especially France, the UK and Spain showing great differences between the perceived benevolence of scientists and the benevolence of ethics committees. Still, most Europeans have a positive perception of the work of ethics committees in the field of biotechnology.

### 1.6.17.4 Conclusions & Prospects for Harmonisation

According to the empirical data and the discussion of the data, we can draw some general conclusions on the attitudes to biotechnology in Europe:

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<sup>178</sup> Brankov, T. P., T. Sibalija, K. Lovre, D. Cvijanovic, & J. Subic, The impact of biotechnology knowledge on the acceptance of genetically modified food in Serbia. *Romanian Biotechnological Letters*, 18(3), 2013, 8295–8306.

<sup>179</sup> European Commission, *Special Eurobarometer on Biotechnology*, February 2010, 13–18.

<sup>180</sup> Concerted Action of the European Commission. Europe ambivalent on biotechnology. *Nature*, 387, June 1997, 845–847. <http://doi.org/10.1038/43051>

<sup>181</sup> Gaskell, G., M. W. Bauer, J. Durant, & N.C. Allum. Worlds apart? The reception of genetically modified foods in Europe and the U.S. *Science (New York, N.Y.)*, 285(5426), 1999, 384–387. <http://doi.org/10.1126/science.285.5426.384>

<sup>182</sup> Weber, K., R. Hayagreeva, & L.G. Thomas, From Streets to Suites: How the Anti-biotech Movement Affected German Pharmaceutical Firms. *American Sociological Review*, 74, 2009, 106–127. <http://doi.org/10.1177/000312240907400106>



- Europeans are generally negative or at least ambivalent about R&I in the area of biotechnology. Germany and Austria have the most reserved view while the UK, Spain and the Netherlands show a more positive attitude towards biotechnology.
- An interesting difference can be observed between the negative perception of biotechnologies among Europeans and the positive perception of the work of scientists in this field.
- Another notable difference is the higher level of approval of the work of scientists in the field of biotechnologies compared to the level of approval of the work of ethics committees.

Prospects of harmonisation for ethics assessment in the area of biotechnology are fairly good, while a great amount of regulations already exist in this field. Moreover, there seems to be a considerable level of shared concerns among Europeans. Nonetheless, specific attention will need to be paid to the weighing of advantages (e.g. medical benefits) and the disadvantages (e.g. risks of eugenics) by Europeans and to the influence of historical factors in the shaping of shared perceptions on biotechnology.

### 1.6.18 Animal Rights and Welfare

This section focuses on animal rights and welfare on a global level. First, a discussion of the relevance of animal rights and welfare for ethics assessment of research and innovation is presented. Next, it will present an empirical analysis based upon surveys tracking attitudes towards animal rights and welfare. Lastly, it will consider divergences and prospects for harmonisation for ethical assessment practices based upon the earlier findings.

#### 1.6.18.1 The significance of Animal Rights and Welfare for Ethical Assessment of R&I

Animal rights and welfare most often affect ethical assessment practices in research and innovation when animals are included in the research being conducted. As noted in an earlier SATORI report, “a variety of animal species are used for animal experiments around the world including rats, mice, rabbits, guinea pigs, hamsters, cats, dogs, (mini-pigs), primates, goats, sheep, birds, fish etc.”<sup>183</sup> As such, there has been various literature and policies aimed at addressing the use of animals in research.<sup>184</sup> Animals are also factored into ethical assessment practices when they are the target group for clinical interventions, such as in veterinary medicine, or when research and innovation practices have a direct or indirect effect on the welfare of animals. The latter can be seen when environmental changes take place as a result of research and innovation, such as the effects of climate change, chemical dumping into biospheres and the industrialisation of grazing or feeding grounds. Animal consumption practices can factor into ethical assessment, especially where animals are being produced or modified strictly for human or other animal consumption in the food supply chain.

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<sup>183</sup> Dr Hadwen Trust, Frequently Asked Questions about the DHT and Alternatives to animal experimentation. <http://www.drhadwentrust.org/about-us/faqs>

<sup>184</sup> For example, see Beauchamp, T.L., F.B. Orlans, R. Dresser, D.B. Morton, J.P. Gluck, *The Human Use of Animals: Case Studies in Ethical Choice*, 2<sup>nd</sup> ed. Oxford University Press, New York, 2008 or Knight, Andrew, *The Costs and Benefits of Animal Experimentation*, Palgrave Macmillan, 2011.

### 1.6.18.2 Empirical Data on Animal Rights and welfare in Target Countries

Included below is a summary of data from the Eurobarometer study on the values of Europeans, using various data sets considering Animal values. Target countries for which data is available are highlighted<sup>185</sup>.

Country	Animal welfare issues	Square of animal welfare issues	Animal rights issues	Unnatural practices on animals	Killing animals
China	72.8	5.533	62.8	57.5	58.1
United Kingdom	85.9	7.362	63.4	75.0	37.6
Serbia	85.4	7.279	71.5	71.8	67.0
Spain	81.8	6.756	67.3	79.6	47.0

**Table 19: Differences between nation in mean acceptability of issues relating to Animal welfare, Animal rights, Unnatural practices on animals, and Killing animals.**

Country	Animals in experimentation	Wildlife	Animals as spiritual symbols	World issues
China	72.1	66.0	47.9	9.6
United Kingdom	70.0	57.2	46.0	9.6
Serbia	72.9	56.1	59.0	9.5
Spain	68.1	68.3	62.8	10.6

**Table 20: Differences between nation in mean acceptability of issues relating to Animals in experiments, Wildlife, Using animals as spiritual symbols and World issues.**

High values indicate low levels of acceptance (country means with different superscripts are significantly different,  $P < 0.05$ , by Student's *t*-test).

Country	Importance on a scale of 1-10
Germany	8.1
United Kingdom	7.8
France	7.8
Austria	7.7
Netherlands	7.6
Poland	7.5
Spain	6.9

**Table 21: Average response to QC4: Please tell me on a scale of 1-10 how important is it to you that the welfare of farmed animals is protected?**

<sup>185</sup> <http://www.ufaw.org.uk/documents/phillips.pdf>

Country	% Respondents answering “improved”
Germany	61
United Kingdom	59
France	63
Austria	63
Netherlands	71
Poland	67
Spain	46

**Table 22: Percentage of respondents answering positively on the question QC6: In general, over the last 10 years do you think that the welfare–protection of farmed animals in (our country) has improved?**

Country	Yes, certainly	Yes, probably	No, probably not	No, certainly not	DK
Germany	80	11	4	2	3
Netherlands	78	14	3	2	3
France	70	21	2	1	5
UK	69	20	3	1	7
Austria	53	27	12	6	3
Poland	46	44	3	1	6
Spain	60	21	2	1	16

**Table 23: Do you believe that imported foods from outside the EU should respect the same conditions of animal welfare–protection as those applied in the EU? (See page 32-33)<sup>186</sup>**

Europeans are divided when considering if scientists should be allowed to experiment on animals like dogs and monkeys. On this question, 44% of respondents at the EU27 level are in agreement and 37% of respondents are in disagreement<sup>187</sup>.

Country	Totally agree + tend to agree	Neither agree nor disagree	Tend to disagree + totally disagree	Don’t know
Spain	65	14	18	3
Poland	49	17	30	4
United Kingdom	44	14	42	0
Germany	37	19	39	1
Austria	36	18	39	1
France	33	14	45	2
Netherlands	45	14	29	1

**Table 24: QC6.7 Scientists should be allowed to experiment on animals like dogs and monkeys if this could help sort out human health problems. Special EB 340: 3.5 (Eurobarometer)**

<sup>186</sup> [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_270\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_270_en.pdf)

<sup>187</sup> [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_340\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_340_en.pdf)

Country	Totally agree + tend to agree	Neither agree nor disagree	Tend to disagree + totally disagree	Don't know
Spain	81	7	11	1
Poland	69	12	12	4
Netherlands	68	11	11	1
United Kingdom	67	9	9	0
Germany	60	14	14	2
Austria	58	19	19	3
France	56	16	16	7

**Table 25: QC6.13 Scientists should be allowed to do research on animals like mice if it produces new information about human health problems.**

Country	Agree in %
France	88
Austria	86
Germany	84
Poland	82
Netherlands	81
Spain	81
UK	68

**Table 26: Option: We have a duty to protect the rights of animals whatever the cost\Answers: Agree. Source: Special EB 225: 1.4.2 (Eurobarometer)<sup>188</sup>**

### 1.6.18.3 Divergence in Attitudes toward Animal Rights and Welfare Worldwide

Limited survey data exists outside of Europe and North America that specifically addresses questions of animal rights and welfare. However, various projections and observations can still be made. While European and North American countries (predominantly the United States and Canada) have expressed considerations regarding “animal rights” - which is largely framed in terms of a rights discourse explaining why the predominance of literature referring to animal rights exists in countries within which “rights” exist as a foundational political model - concepts of animal welfare are present in other target countries as well. For example, in predominantly Muslim Saudi Arabia and parts of Nigeria, there are religious restrictions on the consumption of animal meat and the practices which go into the production and slaughter of animals. (As Table 1 above notes, Iran is an outlier when considering “Unnatural killing practices.”) Divergent attitudes have led to varying amounts political action. Animals in research and for consumption are the most highly regulated areas. Notably, the UK has a comprehensive Animal Welfare Act, tracing its routes to 1911 legislation. Spiritual guidelines on animal welfare, especially in Islam, can be traced back to the origins of the religion.

### 1.6.18.4 Conclusions & Prospects for Harmonisation

As with most values, there is not necessarily a single principle or value which prevails over the rest when considering the broader context animal rights and welfare and the divergence between target countries. Animal rights and welfare considerations differ not only on a geographic and political scale, but within individual societies as well. There have been recent legislative and political attempts to help reconcile the use and standardisation of animal rights considerations in research, notable with EU Directive 2010/63/EU (“The Directive is firmly based on the principle of the Three Rs, to replace, reduce and refine the use of animals used

<sup>188</sup> [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_225\\_report\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_225_report_en.pdf)

for scientific purposes.”<sup>189</sup>). Horizon 2020 and FP7 stipulate that research must address to the following considerations:

- “Relevance and justification of the (a) use of animals including their origin, estimated numbers, species and life stages and (b) procedures.
- Application of methods to replace, reduce and refine the use of animals in procedures.
- The planned use of anaesthesia, analgesia and other pain relieving methods.
- Reduction, avoidance and alleviation of any form of animal suffering, from birth to death where appropriate.
- Use of humane end-points.
- Experimental or observational strategy and statistical design to minimise animal numbers, pain, suffering, distress and environmental impact where appropriate.
- Reuse of animals and the accumulative effect thereof on the animals.
- The proposed severity classification of procedures.
- Avoidance of unjustified duplication of procedures where appropriate.
- Housing, husbandry and care conditions for the animals.
- Methods of killing.
- Competence of persons involved in the project.

The values espoused provide a general framework for the consideration of animals, but only as it applies to animal use in research. Comprehensive harmonisation would need to consider not only the use of animals in research, but the consequences of research and innovation on animal welfare.

### **1.6.19 Environmental values**

This section focuses on an analysis of the value of environment. First, it will examine the importance of the environment to ethics assessment in research and innovation. It will then provide an overview of available empirical data from the world value survey; followed by the analysis of this data at the European and global scale.

#### **1.6.19.1 The Significance Environmental Values for Ethics Assessment of R&I**

The ethical assessment of research and innovation (R&I) is highly influenced by the value attached by humans to their natural environment. Human views on nature motivate different types of actions that make use of natural and human resources and R&I technology, and which modify the natural environment to suit human needs and requirements. Value judgements related to the environment provide criteria for evaluating whether these actions are desirable (right) or not (wrong), both for humans and for the environment, and serve as moral justification for decision-makers in the development of public policies on the environment, as well as for individuals in raising awareness about environmental issues and adopting environmentally friendly lifestyles. Environmental moral judgements also determine how we assess the environmental implications of the decisions taken or of the projects proposed for implementation.

Science plays a particularly important role in explaining humanity’s relationship with the natural world, understanding the Earth’s carrying capacity and impacts of human activity. However, science alone is not enough; it needs ethics, on the one hand, in order to ensure

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<sup>189</sup> SATORI report: “The Use of Animals in Research” 2014

scientific integrity and accountability of R&I activities and, on the other hand, to provide justifications of moral responsibilities of human beings towards nature.

Since the 18<sup>th</sup> century, modern technological applications of scientific R&I have led to industrialisation which greatly improved the quality of human life. At the same time, industrial civilization, the military applications of science, and population explosion have led to a global environmental damage, unsustainable use of natural irreplaceable resources, and gross deficiencies, harmful to the physical, mental and social health of man, in the man-made environment, particularly in the living and working environment. Furthermore, science has also provided evidence that human activity provokes dangerous global warming and negative effects of climate change<sup>190</sup>. In response to this evidence, the need was formulated “to defend and improve the human environment for present and future generations has become an imperative goal for mankind”.<sup>191</sup>

Environmental policies and practices today are influenced by both anthropocentric (i.e. human-centred) and non-anthropocentric (i.e. ecological) approaches to the environment, taking into account the interests of human and non-human life for present and future generations. Environmental awareness has led to the proclamation of the human right to a healthy environment and the responsibility of the present generations “to bequeath to future generations an Earth that will not one day be irreversibly damaged by human activity”<sup>192</sup>, as well as to the development of the concept of “sustainable development”, which established interrelatedness between environment and economic and social development and which has become a goal for both developing and developed nations.

The concept of “sustainable development” was first formulated in the 1987 Report “Our Common Future” of the World Commission on Environment and Development<sup>193</sup> (WCED), as development which “meets the needs of the present without compromising the ability of future generations to meet their own needs”. Thus, sustainable development places its focus on the interests of humans, rather than those of the natural environment for its own sake. When environmental protection is mentioned it is in the context of ensuring a resource base for economic and social development.

The importance of the environment for R&I should be considered within the general framework of the values, principles and targets that were adopted on 8 September 2000 in the United Nations Millennium Declaration (UN, 2000). The Millennium Declaration inscribes six fundamental shared values as essential to international relations in the twenty-first century, and respect for nature was listed as one of these values, along with freedom, equality, solidarity, tolerance and shared responsibility<sup>194</sup>. To translate these values into action, the 2000 Millennium World Summit adopted eight Millennium Development Goals, with Goal 7 aimed at ensuring environmental sustainability through a series of specific targets. The ethical

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<sup>190</sup> For more details, see: the Intergovernmental Panel on Climate Change (IPCC) web site: <http://www.ipcc.ch/> and -IPCC Fifth Assessment Report. IPCC. 2015: <http://www.ipcc.ch/report/ar5/>.

<sup>191</sup> The Stockholm Declaration adopted by the first United Nations Conference on the Human Environment (UNCHE) held in Stockholm, Sweden, on 5-16 June 1972.

<sup>192</sup> Article 4 of the Declaration on the Responsibilities of the Present Generations towards Future Generations, adopted at the twenty-ninth session of the United Nations Educational, Scientific and Cultural Organisation (UNESCO), held in Paris, France, in November 1997.

<sup>193</sup> Report of the World Commission on Environment and Development: Our Common Future. Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment. 1987. United Nations: <http://www.un-documents.net/wced-ocf.htm>

<sup>194</sup> Environmental Ethics and International Policy, ed. by Henk A.M.J ten Have. 2006. UNESCO, 226 pp.



concerns about the environment relate to activities that lead to environmental deterioration, which include anything that impedes access to basic requirements in safe drinking water, sanitation, or adequate shelter, energy, health care and food security.

The issues of justice and equity are an integral part of modern environmental problems and should be duly integrated into ethics assessment of R&I activities, ensuring that the risk of creating or exacerbating the global divide in access to resources, markets, capital or in working conditions and human rights standards is duly evaluated.

The divide between the views of the countries of the North and the countries of the South was particularly evident during the preparation of the Rio+20 Conference, particularly regarding issues of climate change and preservation of biodiversity. However, the negotiation process led to the adoption of the 2012 Rio outcome document “The Future We want”, in which Member States reaffirmed the principles and commitments made in the 1992 Rio Declaration: the concepts of the centrality of human beings to the concerns of sustainable development (Principle 1); the indivisibility of the fate of the humankind from that of the Earth; the importance of the environment for present and future generations, ensuring its equal footing with development (Principles 3 and 4); the primacy of poverty eradication (Principle 5); the special consideration given to the developing countries (Principle 6); the principle of common but differentiated responsibilities (Principle 7). It also enshrined two important economic principles: the polluter pays (Principle 16; and the precautionary approach (Principle 15), which attempts to answer the question of when to constrain activities that risk harming the environment in the future. It introduced principles of participation and the importance of specific groups for sustainable development (Principles 10, 20, 21, 22). The Rio Declaration requested Member States to put in place adequate legislative measures for environmental protection.

All States, in the industrialised and developing world, whose interests and views on policy issues related to development and environmental protection are different and often contrasting, need to cooperate with one other as closely as possible in order to meet the increasing global environmental challenges<sup>195</sup>. For this, it is necessary to determine certain universal environmental ethical principles and to establish minimum environmental standards. The 1972 Stockholm United Nations Conference on the Human Environment marked the beginning of modern environmental law, which is at present the fastest growing area of international law. Since that time, more than 50 global and regional environment-related treaties have been adopted<sup>196</sup>. The work taking place under these agreements and within their institutions has made a substantial impact on the elaboration of the conceptual framework and institutional arrangements necessary to manage complex and interrelated social, economic and environmental issues<sup>197</sup>.

One of the clearest examples of the close links between the value of the natural environment and ethics assessment of R&I is the emergence of the processes relating to integrating

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<sup>195</sup> Beyerlin, U. Bridging the North-South Divide in International Environmental Law. 2006. Max-Planck-Institut für ausländisches öffentliches Recht und Völkerrecht; available at: [http://www.zaoerv.de/66\\_2006/66\\_2006\\_2\\_a\\_259\\_296.pdf](http://www.zaoerv.de/66_2006/66_2006_2_a_259_296.pdf).

<sup>196</sup> United Nations Information Portal on Multilateral Environmental Agreements (InforMEA): <http://www.informea.org/>.

<sup>197</sup> Environment Canada and the University of Joensuu – United Nations Environment Programme Course on International Environmental Law-making and Diplomacy. “Multilateral Environmental Agreement Negotiator’s Handbook”. 2007. University of Joensuu, available at: [http://unfccc.int/resource/docs/publications/negotiators\\_handbook.pdf](http://unfccc.int/resource/docs/publications/negotiators_handbook.pdf).

environmental considerations in public works, known as Environmental Impact Assessment (EIA). EIA refers to the evaluation of the effects likely to arise from major projects (or other actions) significantly affecting the natural and man-made environment prior to a decision being taken on whether or not a proposal should be given approval to proceed.

EIA originated in the USA with the National Environmental Policy Act (NEPA), which came into force on 1 January 1970, and which has gone on to serve as an example for legislation on EIA in over 100 countries<sup>198</sup>. The European Union adopted Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment on 27 June 1985 (amended three times in 1997, 2003, 2009<sup>199</sup>), which is compulsory for all member countries and which is seen as one of the European Union's "principle pieces of environmental legislation"<sup>200</sup>.

At the global level, the requirement of a State to conduct Environmental Impact Assessments in respect of activities that are likely to significantly affect the environment has been reflected in Principle 17 of the Rio Declaration on Environment and Development (1992), Article 5 of the Legal Principles for Environmental Protection and Sustainable Development, adopted by the Experts Group on Environmental Law of the World Commission on Environment and Development (Annex I of the Report of the World Commission on Environment and Development: Our Common Future, 1987), and in the 1987 Goals and Principles of Environmental Impact Assessment, developed under the auspices of UNEP by the Working Group of Experts on Environmental Law and which were adopted by the UNEP Governing Council at its 14th session, and recommended to States to be considered for use as a basis for preparing appropriate national measures including legislation. Such a requirement in the context of trans-boundary impacts has also been incorporated in several regional agreements, including the United Nations Economic Commission for Europe (UNECE) Convention on Environmental Impact Assessment in a Trans-boundary Context (1991), and UNEP's Regional Seas Programmes. Similar requirements also figure in a number of resolutions of international bodies, e.g. the 1984 Economic Commission for Africa Council Resolution on Environmental and Development in Africa, and the 1984 European Economic Community Council Directive on Assessment of the Effects of Major Public and Private Projects on the Environment.

### **1.6.19.2 Empirical Data on Environment in Target Countries**

This study is based on data from the Human Development Index (HDI), Environmental Performance Index (EPI), and World Values Survey related to people's views on the importance of protection of the environment vis-à-vis economic growth, as well as with regard to their participation in demonstrations on environmental issues, and their financial support for environmental organisations. It shall also review how environmental protection rights are embedded in national policies and legal frameworks.

Tables 1 and 2 show the relationship between development and environment indicators, illustrating that developed industrialised countries have higher scores in the Human Development Index and the Environmental Performance Index.

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<sup>198</sup> Wood, Ch., *Environmental Impact Assessment: A Comparative Review*, Pearson Education Limited, 2003, p. 4 and p.17.

<sup>199</sup> For more information: <http://ec.europa.eu/environment/eia/eia-support.htm>.

<sup>200</sup> See CEC, *Environmental Impact Assessment Guidance on Screening*, Brussels, 2001, CEC.

The replies of the World Values Survey for 2010-2014 to the question “protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs?” (Table 3) demonstrate public awareness about environmental issues and concerns around these issues, and reflect the conflicting social values of environmental protection and development.

This data indicates that in emerging economies of the South with high economic growth rates, intensive industrialisation, urbanisation and growing problems of air and water pollution, loss of biodiversity, soil degradation and deforestation often lead to high levels of awareness and prioritisation of environmental concerns, with, for example 60,3% of respondents in Brazil and 56,6% in China in favour of environmental protection, while only 30,1% in Brazil and 28% in China believe that economic growth and creating jobs should be the top priority, even if the environment suffers to some extent. These concerns are also reflected in the development of national environmental legislation, policies and governance structures.

On the other hand, in developed industrialised countries, fewer respondents are today in favour of the environment to the detriment of economic growth (with only 47,7% of respondents in Germany and 40,9% in the Netherlands). The number of respondents privileging the economy above environmental concerns is even higher in Spain (57,9%) and the USA (60,2%). This distribution of preferences in highly developed economies may also reflect their belief that they possess the economic and technological means to control the worst effects of degradation of the environment and climate change, and may therefore continue their policies aimed at furthering their own economic growth and welfare. These replies are also reflected in high levels of public satisfaction with environmental policies in place, with 67% in Germany and 66% in the Netherlands, 59% in the USA and 41% in Spain. The replies in the USA and Spain may reflect the fact that, struck by the economic crisis in 2008-2013, these countries prefer to ensure that their economies regain economic growth by all means, including by reducing public spending on environmental protection. Furthermore, the interests of economic growth, even to the detriment of the environment, are supported by 48.2% of respondents in India, with only 38,1% in favour of prioritising the environment. Preference is also given to economic growth by respondents in Poland (51,2% for economy and 37,6% for environment), Rwanda (41,7% for economy and 22,1% for environment with 36,2% of other replies), South Africa (60,6% for the economy and 38,3% for the environment), and Zimbabwe (with 62,3% prioritising economic development over the environment, compared to 37,3% privileging the environment).

The overall results of the replies to the question on whether respondents had “given money to ecological organisation over the last two years” in the 11 countries (Brazil, China, Germany, India, Netherlands, Poland, Rwanda, South Africa, Spain, USA, and Zimbabwe) illustrate that the vast majority (83,8%) did not give any funds. A similar situation can be observed in replies to the question about whether, over the past two years, respondents had “participated in demonstration for environment”, to which 91,1% of people responded negatively. These figures show that the high importance given to environmental protection compared to economic growth in Brazil and China is not translated into a financial support of ecological actions by individuals in these countries – a situation also found in other target countries. This situation probably reflects the belief that it is the duty of public authorities and the private sector at the local, national and international levels to undertake sector-specific measures required for meaningful environmental protection. There is scientific evidence to suggest that only coordinated, concerted and collective action can be effective in mitigating global climate change. At the same time, personal responsibility for environmental protection and climate

change mitigation through civil engagement for environmental issues, though important, may be perceived as less urgent in attaining measurable results.

It is also worth mentioning that in Austria, Brazil, France, Germany, India, Poland, the Netherlands, Rwanda, Saudi Arabia, Serbia, South Africa, Spain, and Zimbabwe, environmental rights have been inscribed into constitutional provisions, which increase the public's role and citizen participation in environmental decision making. The Chinese Constitution does not mention the right to a healthy environment but protects “the rational use of natural resources and rare animals and plants”. The new Environmental Protection Law of China came into force on 1 January 2015. In the USA, the right to a healthy environment is not recognised, while environmental protection is regulated by the 1969 National Environmental Policy Act. In the United Kingdom, a joint committee of the House of Commons and the House of Lords recommended that the right to a healthy environment be included in a proposed UK Bill of Rights, while the protection of the environment is regulated by the environmental laws that are shaped by the European legislation.

Country	Type of economy	Type of economy by income	Rates of growth of real GDP, 2006-2013 <sup>201</sup>	Human Development Index (HDI) Rank, 2013	Environmental Performance Index (EPI), 2014	Research and development expenditure (% of GDP) 2005–2012	Perceptions about government Actions to preserve the environment % satisfied 2007-2013
Austria	Developed	High-Income	1,3	21 (very high)	6	2,8	61
Brazil	Developing	Upper Middle-Income	3,5	79 (high)	77	1,2	46
China	Developing	Upper Middle-Income	10,1	91 (high)	118	1,7	72
France	Major Developed	High-Income	0,7	20 (very high)	27	2,3	53
Germany	Major Developed	High-Income	1,3	6 (very high)	6	2,8	67
India	Developing	Lower Middle-Income	7,2	135 (medium)	155	0,8	40
Poland	Developed	High Income	3,9	35 (very high)	30	0,7	47
Netherlands	Developed	High Income	0,9	4 (very high)	11	1,8	66
Rwanda	Developing	Low	Heavily	151	146	...	90

<sup>201</sup> World Economic Situation and Prospects 2015, UN, 2015.

[http://www.un.org/en/development/desa/policy/wesp/wesp\\_archive/2015wesp\\_full\\_en.pdf](http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2015wesp_full_en.pdf)

Country	Type of economy	Type of economy by income	Rates of growth of real GDP, 2006-2013 <sup>201</sup>	Human Development Index (HDI) Rank, 2013	Environmental Performance Index (EPI), 2014	Research and development expenditure (% of GDP) 2005–2012	Perceptions about government Actions to preserve the environment % satisfied 2007-2013
		Income Landlocked country	indebted poor country	(low)			
Saudi Arabia	Developing	High Income Fuel exporting	5,9	34 (very high)	35	0,1	56
Serbia	In transition	Upper Middle-Income	1,6	77 (high)	31	0,9	25
South Africa	Developing	Upper Middle-Income	3,0	118 (medium)	72	0,9	42
Spain	Developed	Developed	0,2	27 (very high)	7	1,4	41
Zimbabwe	Developing	Low Income Landlocked country		156 (low)	No data	...	58
United Kingdom	Major Developed	High Income	0,8	14 (very high)	12	1,8	71
United States	Major Developed	High Income	1,2	5 (very high)	33	2,9	59

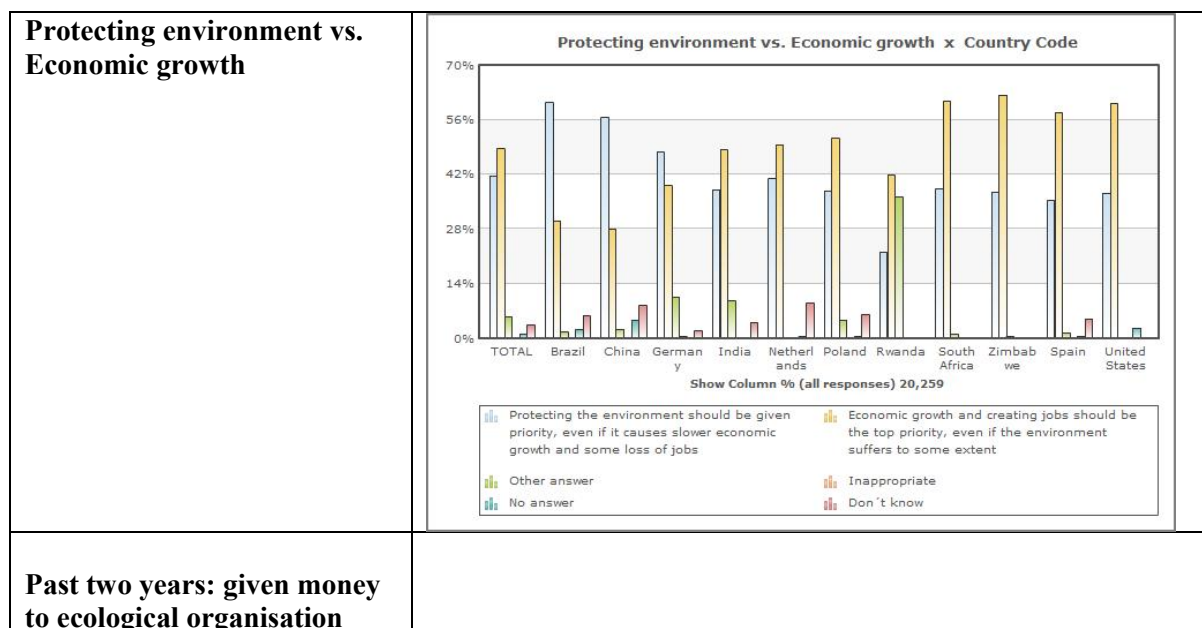
**Table 27: Target countries, main human development and environmental indicators<sup>202</sup>**

EPI Global Rank	Country	Environmental Performance Index (EPI) 2014 Score	Major problems
6	Germany	80,47	Fisheries, forests
7	Spain	79,79	Fisheries, forests, biodiversity and habitat
8	Austria	78,32	Forests
11	Netherlands	77,75	Fisheries, forests, climate and energy
12	United Kingdom	77,35	Fisheries, forests, climate and energy

<sup>202</sup> Source: “Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience”. UNDP, 2014, <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf> .

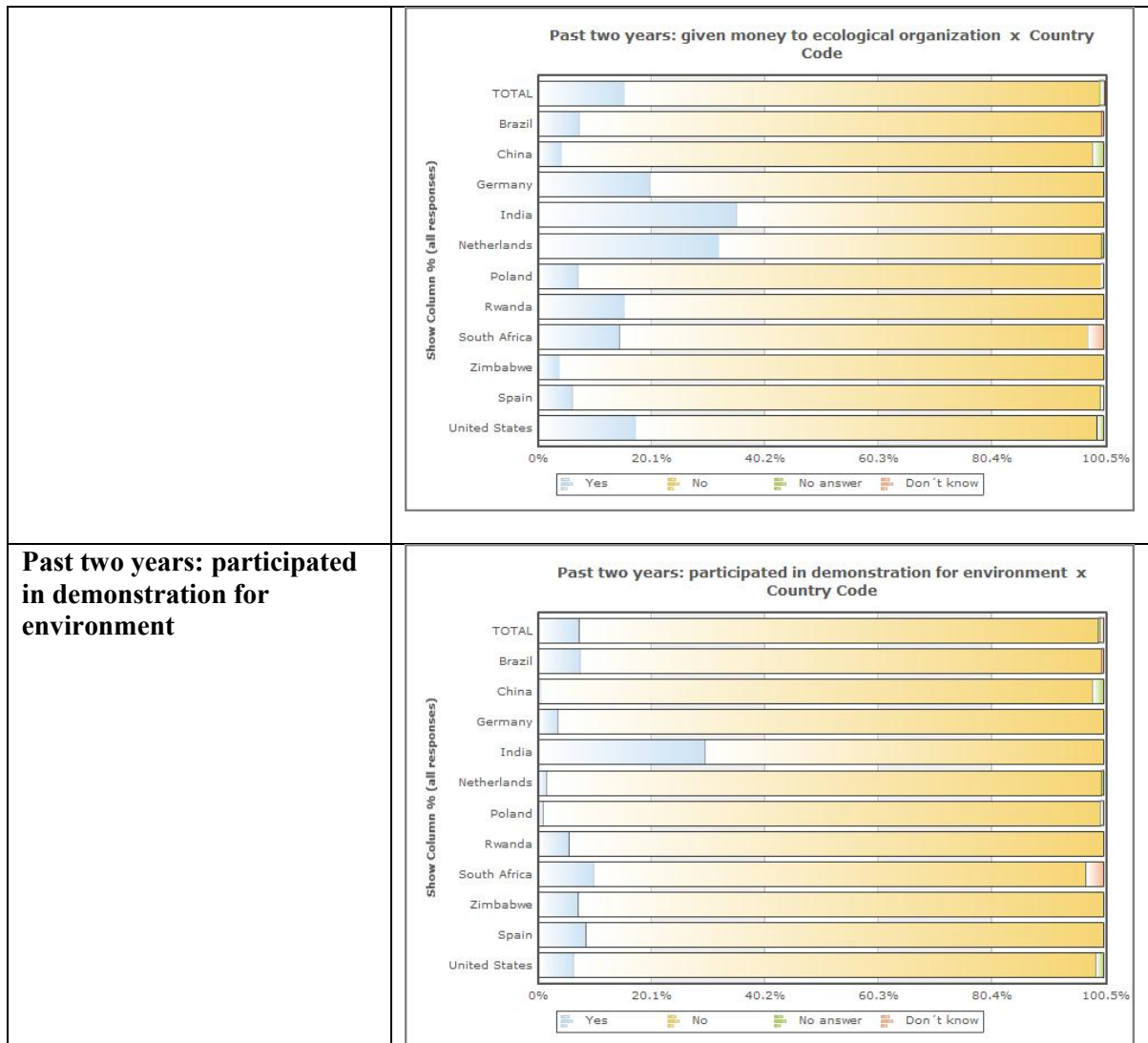
EPI Global Rank	Country	Environmental Performance Index (EPI) 2014 Score	Major problems
27	France	71,05	Fisheries, forests, climate and energy, biodiversity and habitat
30	Poland	69,53	Fisheries, forests, water and sanitation
31	Serbia	69,13	Water resources
33	United States of America	67,52	Fisheries, forests, climate and energy
35	Saudi Arabia	66,66	Fisheries, water resources, climate and energy
72	South Africa	53,51	Fisheries, water resources, water and sanitation, climate and energy, health impacts
77	Brazil	52,97	Water resources, forests (deforestation in the Amazon ), fisheries, water resources, climate and energy
118	China	43	Pollution of air, water resources, water and sanitation, fisheries, forests, agriculture
146	Rwanda	35,41	Water, water and sanitation, health impacts
155	India	31,23	Water resources, air quality, water and sanitation, fisheries, forests, climate and energy, biodiversity and habitat, health impacts

**Table 28: The Environmental Performance Index<sup>203</sup> (EPI)**



<sup>203</sup> The Environmental Performance Index (EPI) is constructed through the calculation and aggregation of 20 indicators reflecting national-level environmental data. These indicators are combined into nine issue categories, each of which fit under one of two overarching objectives. The two objectives that provide the overarching structure of the 2014 EPI are Environmental Health and Ecosystem Vitality. Environmental Health measures the protection of human health from environmental harm. Ecosystem Vitality measures ecosystem protection and resource management. These two objectives are further divided into nine issue categories that span high-priority environmental policy issues, including air quality, forests, fisheries, and climate and energy, among others. Underlying the nine issue categories are 20 indicators calculated from country-level data and statistics. Figure 1, below, illustrates the 2014 EPI framework and the objectives, issue categories, and indicators. Source: <http://epi.yale.edu/our-methods>





**Table 29: World Values Survey: 2010-2014<sup>204</sup>**

### 1.6.19.3 Divergence on Environmental issues in Europe and Worldwide

*The European Environment - State and Outlook 2015 Report (SOER 2015)* states that in 2015, Europe stands roughly halfway between the initiation of EU environmental policy in the early 1970s and the EU's 2050 vision of 'living well within the limits of the planet'<sup>205</sup>. Over the last 40 years, the implementation of environment and climate policies has delivered substantial benefits for the functioning of Europe's ecosystems and for the health and living standards of its citizens. Reduced pollution, the protection of nature and better waste management have all contributed to the current situation, where in many parts of Europe, the local environment is arguably in as good a state today as it has been since the start of industrialisation.

Despite the environmental improvements of recent decades, there are considerable challenges facing Europe today. European natural capital is being degraded by socio-economic activities such as agriculture, fisheries, transport, industry, tourism and urban sprawl. Global pressures on the environment have grown at an unprecedented rate since the 1990s, driven by economic

<sup>204</sup> <http://www.worldvaluessurvey.org/WVSONline.jsp>

<sup>205</sup> The 2050 vision is set out in the EU's 7th Environment Action Programme (EU, 2013).

and population growth, and changing consumption patterns. Reduced pollution has significantly improved the quality of Europe's air and water, but loss of soil functions, land degradation and climate change remain major concerns. A high proportion of protected species (60%) and habitat types (77%) are considered to be in unfavourable conservation status, and Europe is not on track to meet its overall target of halting biodiversity loss by 2020, even though some more specific targets are being met. Looking ahead, climate change impacts are projected to intensify and the underlying drivers of biodiversity loss are expected to persist. The analysis of the implementation of various international and regional agreements and laws related to the environment shows that there are many implementation gaps, overlaps, and lack of quality standards<sup>206</sup> at the national and local levels.

In many developing countries the environmental situation has degraded due to the pollution of air, water and soil from industrial processes, pulp and paper plants, tanning operations, mining, and unsustainable forms of agriculture; nuclear waste; resource shortage; population growth; loss of biodiversity and deforestation; global warming and extreme weather events due to climate change.<sup>207</sup>

#### 1.6.19.4 Conclusions & Prospects for Harmonisation

Despite significant developments in global environmental consciousness, environmental concerns are still often seen as a restriction to human activity and economic growth. As such, processes such as the Environmental Impact Assessment remain a compulsory administrative procedure, aiming to integrate environmental considerations into all stages of projects, to reduce environmental harm and ensure the sustainability of human activities.

The principles of Environmental Impact Assessment are human-centred, including the precautionary principle; the best evidence principle; the preventive actions principle; the rectification of environmental damage at source principle; the principle which states that all possible effects on the environment should be taken into account at the earliest possible stage in the technical planning and decision-making processes; the principle which prescribes that environmental impact studies and assessment should be carried out prior to authorisation of public works; the principle of consultation with the public as a key feature of environmental assessment procedures; the polluter should pay principle; and the harmonisation of the principles of the assessment of environmental effects, in particular with reference to the projects subject to assessment, with the main obligations of the developers and the content of the assessment.

The global character of environmental problems creates conditions for the harmonisation of the principles for the environmental impact assessment of projects, in particular with regard to the type of projects subject to assessment, the main obligations of developers, the content of

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<sup>206</sup> For example, see the Report on the application and effectiveness of the EIA Directive of CEC, COM(2009) 378 final, Brussels, 23.7.2009,

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009DC0378&from=EN>.

<sup>207</sup> This environmental degradation represents a major cause of death, disease and disability, estimated responsible for an estimated 25% of death and disease globally, reaching nearly 35% in regions such as sub-Saharan Africa. This includes environmental hazards in the workplace, home and broader community/living environment. A significant proportion of the overall environmental impact on health can be attributed to relatively few key areas of risk. These include: poor water quality, access, and sanitation; vector-borne diseases; poor ambient and indoor air quality; toxic substances; and global environmental change. In many cases, simple preventive measures exist to reduce such risks, although systematic incorporation of such measures into policy has been more of a challenge.

the assessment and the participation of the competent authorities and the public. Such a harmonisation, guided by the best practices in the most environmentally-friendly countries like Switzerland, Luxembourg, Australia, Singapore, the Czech Republic, Germany, Spain, Austria, Sweden, Norway, the Netherlands, the United Kingdom, Denmark, Iceland, Slovenia, New Zealand, Portugal, Finland, Ireland, and Estonia<sup>208</sup>, and contributes to a high level of protection of the environment and of human health.

Despite significant differences around the world in beliefs, value systems and practices relating to the environment, meaningful consensus has been found on a number of global ethical environmental principles.<sup>209</sup> Since the 1972 Stockholm United Nations Conference on the Human Environment, more than 50 global and regional environmental related treaties have been adopted, demonstrating the common desire to limit human impact on the environment, to reconcile differences, and to bring human environmental needs and preferences in line with global social and economic factors.

## 1.7 CONCLUSION AND DISCUSSION

The aim of this chapter has been to investigate the differences and similarities between value systems across the world and specifically in Europe, and the way these differences might influence regional and national practices in ethics assessment. In this concluding section, we will first of all briefly summarise the most notable findings in the previous sections. Secondly, we will use these findings as the basis for our discussion about the implications of value system characteristics on the practice of ethics assessment and prospects for harmonisation, both globally and specifically within Europe. Thirdly, we will reflect on the limitations of our approach, stipulate certain reservations that need to be taken into account when interpreting our findings and list some recommendations.

### 1.7.1 Differences and similarities in value systems

The framework that is central to the analyses in this chapter is one of *descriptive moral relativism*. This framework allows for describing empirical differences in values between individuals and groups of people but contrasts with meta-ethical relativism which states that there is not one best or absolute moral value system but that systems are suitable relative to a historical and cultural context. Because our approach allows for establishing differences in values by means of empirical enquiry, we used empirical value studies as our major source of information. The main studies we gathered our data from are the Eurobarometer studies that are initiated by the European Commission, the European Values Survey and predominantly the World Values Survey: a global study in which inhabitants of almost a hundred countries are included in a survey in which they can express their views on values like democracy, equality and personal autonomy.

In our discussion about the differences and similarities between regional value systems we used three different waves of the Inglehart-Welzel cultural map (the research waves of 1996,

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<sup>208</sup> The top twenty countries classified by the highest score of their 2014 Environmental Performance Index (EPI). <http://epi.yale.edu/our-methods>.

<sup>209</sup> These major principles include: avoiding harming people or the environment by failing to act in response to environmental dangers or by responding to them in an ill-conceived way; environmental justice, both distributive and participative; intergenerational equality; respect for nature; the intellectual and moral solidarity of humankind; environmental sustainability understood as embracing the protection of biodiversity and the integrity of ecosystems as the very basis of life on Earth; the principle of common but differentiated responsibility. (COMEST, UNESCO: <http://www.unesco.org/new/en/social-and-human-sciences/themes/comest/>).

2008, and 2015). We found that the regional value system of Europe is characterised by two characteristics. Firstly, by a trend towards “Europeanism”, which indicates an increasing number of people in Europe that believe that Europeans share certain values (which, however, does not necessarily entail that they actually do so). Secondly, it is characterised by a shift from materialist (e.g., economic) to post-materialist (e.g., environmental) values; that nonetheless often conflict. Out of our more detailed analysis of the European value system, the following major findings resulted from the investigation:

- Economic and political changes might strongly impact the value system of a country or region
- The major contemporary historical-cultural clusters in Europe are:
  - The Nordic countries with considerably maternalistic and egalitarian values.
  - The Western European countries in which economic and pragmatic values are dominant and which show a strong switch from material to post-material values.
  - The Southern European countries in which paternalistic and traditional values are more common
  - The Central European countries that have embraced market economy and tilt towards the values of the Western European countries
  - The post-communist countries have a value system that arguably still shows a path-dependency with regards to the value system of the communist era, with more collectivist and authoritarian values, which leads to higher levels of corruption and problems with democratic governance.

Next to Europe, we analysed four other major value systems. The African value system is predominantly communitarian and duty-based rather than rights-based. The most noticeable cultural divide in Africa is the one between the Catholic South and the Islamic North. Though values tend to shift towards individualistic values and gender and political equality, autocratic rule is still preferred by parts of the African people and gender equality values are not generally supported. Latin America constitutes a fairly coherent cultural zone. In this zone, self-expression values are relatively high, as are traditional and family values. Moreover, the support of democratic values is relatively low, as is the support of gender-equality values. The value system of North America is specifically characterised by a high level of self-expression values, and fairly moderate levels of traditional and secular-rational values. Most notably, the US shows high levels of individualist, traditional and materialist values. The value system of Asia is very diverse but can be very generally characterised by two main clusters: of the Confucian countries in the East that show high levels of secular-rational values and in some cases self-expression values and religious countries in the South that show high levels of traditional values. Both Asian regions have value systems that are more duty-based than rights-based.

### **1.7.2 Implications for harmonisation of ethics assessment globally**

In order to render the abovementioned analyses fruitful for the core research done in the SATORI project, we will subsequently discuss the implications of our analysis for the prospects of harmonisation of ethics assessment across value systems; starting with a consideration of ethics assessment at the global scale. The first, general remark that can be made is that we have not encountered any differences in values between global value systems

that would *categorically* hinder harmonisation of practices in ethics assessment. We argue that this is the case because some stronger divergences in values that have been found (for example, between traditional and rational-secular values) have not been shown to absolutely block alignment of ethics assessment practices. Rather, it seems that political (e.g. democratic) values and economical values (e.g. acceptance of corruption) hinder the harmonisation of ethics assessment practices but these values are shown to be apt to change over time. However, the differences between global value systems are considerable when looking at certain sets of values. We can therefore stipulate a number of concerns that might guide future attempts aimed at harmonising global practices of ethics assessment.

### **Traditional and secular-rational values in ethics assessment**

While the differences in survival and self-expression values have been shown to be significantly dependent on non-moral factors like the development of a country's economy, the differences between traditional and secular-rational values seem to be more embedded in the moral-cultural background of societies. In line with a Weberian analysis of culture and religion, we can cautiously state that Western, protestant countries as well as East Asian, Confucian countries show higher levels of secular-rational values compared to other parts of the world like Africa, South America and to a lesser extent Southern Europe. An implication for the harmonisation of ethics assessment practices worldwide would be that certain traditional and religious values might be considered more important than certain benefits gained from science in traditional societies. For example, the use of embryos in biomedical scientific research might be a highly contested issue on a global scale. However, as we also stipulated in the aforementioned analysis of the role of religion: the importance attached to religious values does not directly correlate to a lesser importance attached to scientific judgement.

### **Individual rights and social gain**

An aspect of ethics assessment that will need to be taken into account when attempting to harmonise global practices in ethics assessment, is the balancing out between individual rights and social benefits. Though we have not established any significant differences between value systems with regards to the importance attached to values like autonomy, freedom and equality of individuals, ethics assessment practices need to take into account a balancing of these values vis-à-vis values connected to the social good. It can be concluded from our analysis of value systems that in societies in which individual rights are of lesser importance and the social good is deemed of greater importance certain risks imposed on individuals in virtue of success of the scientific research might be easier accepted. Moreover, individual moral relativism has been shown to be more prevalent in collectivist countries which might indicate that ethics assessment practices in those countries would need to adhere to stricter guidelines.

### **The importance of political stability and economic prosperity**

One of the main conclusions that can be drawn from our analysis is that political stability and economic prosperity have major impacts on value systems. An implementation of a global harmonised system of practices for ethics assessment can therefore only be expected to be successful if considerable attention is paid to these issues. Most notably, political and economic turmoil result in higher levels of survival values which are generally not supportive of values like individual freedom, democracy, (gender) equality and environmental values.



Moreover, these factors lead to higher levels of corruption that typically arise from systems with high levels of political clientism or that go through intense periods of economic transition. Corruption-related issues like scientific integrity are given a lot of attention in countries that have recently witnessed either economic or political transitions, like Serbia and China.

### **The role of government**

The final aspects of value systems at the global scale that might influence attempts aimed at harmonisation of practices of ethics assessment is the role of government. In some countries like China and France, the practices of ethics assessment show a high level of government involvement and a centralised organisation with binding requirements. In other, most notably English speaking countries, government involvement is relatively low and procedures of ethics assessment are decentralised and often deal with non-binding mechanisms. It is shown that the role of government is dependent on differences in cultural traditions, with the Anglo-Saxon countries as a value system that generally resists government involvement vis-à-vis most other value systems in the world that do prefer government involvement to a certain extent<sup>210</sup>. Because the preferred role of government can have strong implications for the way ethics assessment practices are organised (e.g. for whether they are centralised or rather decentralised and whether the composition of ethics committees is controlled by the state), the differences in values connected to the preferred role of government need to be taken into account in the Satori project.

#### **1.7.3 Implications for harmonisation of ethics assessment in Europe**

Next to the implications for harmonisation of ethics assessment procedures on a global scale, we focus especially on Europe. Generally, the differences between value systems within Europe can be said to be considerably less significant than the differences between global value systems. The prospects for harmonisations of ethics assessment practices are therefore good within Europe. However, some important differences in value systems need to be taken into account when attempting to harmonise the assessment procedures across EU countries.

#### **The utilitarian/deontology divide in Europe**

Anglo-Saxon countries and countries that are culturally closely related (most notably the Netherlands) have a culture that is more based on utilitarian principles and that attaches high importance to economic and pragmatic reasons for actions. Central Europe, most notably characterised by Austria and Germany, has a culture that is more grounded in a rule-based, deontological ethics. This difference has an ideological origin (with Kant's deontological system being predominant in continental Europe and utilitarian ethics being predominant in the Anglo-Saxon countries), and a historical origin, for the Second World War has had a tremendous effect on especially German policy making in terms of ethics assessment. Notable differences that result from this divide in Europe are the difference in the role of government in the English speaking world (weaker) and in central Europe (stronger) and the general trust in science and technology in the English speaking world (higher) and in continental Europe (lower). Finally, central European countries like Germany and Austria have a more pro-active approach towards ethics assessment (anticipating ethical problems) while the English speaking countries have a more reactive approach (reacting on ethical issues when they

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<sup>210</sup> Bevir, M., R.A.W. Rhodes, & P. Weller, Traditions and Governance: Interpreting the Changing Role of the Public Sector in Comparative and Historical Perspective. *Public Administration*, 81, 2003, 1–17.



occur). Other European countries show either a combination of these systems (like the Nordic countries) or lean towards one of both systems (like Southern Europe, which leans towards a duty-based approach). Accounting for these differences in values would need to be part of a dialogue when attempting to harmonise frameworks for ethics assessment in research and innovation.

### **Formalised and non-formalised procedures for ethics assessment**

In line with the former different, countries in Europe differ in terms of level of formalisation of procedures for ethics assessment. This is partly due to the abovementioned difference in values but also due to historical and political-economical reasons. For example, while the ethics assessment procedures in the UK are fairly informal due to their historical and ideological origins (utilitarian ethics, high level of autonomy of research performing institutions), the informal nature of ethics assessment procedures in Serbia can rather be ascribed to the recent political and economic turmoil in the country and their underdeveloped status. In order to harmonise formal and informal systems of ethics assessment, a dialogue should be set up that focuses both on deeper historical-cultural differences and on the underdeveloped status of certain systems of ethics assessment (and the correlated political and economic circumstances).

### **Science vs. the scientist**

An interesting aspect of the value system of Europe in general is that the scientist as a professional character is almost universally trusted (and perhaps even admired), though science and technology as such are often not fully trusted. More decisively, the mistrust in science and technology appears to be issue-based, since trust in e.g. biomedical research is generally lower than trust in scientific research in general. For this reason, it might be valuable to gain a better understanding through research of the issues that are most sensible for the European public.

#### **1.7.4 Reflection on limitations and recommendations**

As we stressed throughout the text and especially in section 1.3, certain limitations of our study should be taken into account when interpreting the presented results. First of all, the empirical studies on which we based our results have certain drawbacks: they might not be fully representative of the value systems that they study; certain questions might have invoked undesired answers due to ambivalence in the meaning of terms (for example: democracy might mean something different in the US and in China); and they do not allow for reliable long-term investigations (especially Eurobarometer studies, that only provide a “snapshot” of a single year). Secondly, the selection of countries as our main units of study for the inquiry into value systems is arbitrary; for it leaves out very interesting differences between other demographic categories like differences between country side and urban populations, differences between religions, differences between socio-economic strata and differences between higher and lower educated populations. However, because most empirical studies take the country-level as their level of analysis, we focused on countries as well in order to get the most comprehensive picture. Finally, the empirical data are interpreted rather than statistically analysed; which means that they are merely inputs for the personal interpretations of the authors of possible differences between value systems.

To finalise the conclusion, we present a number of recommendations that can guide the formulation of a harmonised framework for ethics assessment practices by Satori as well as future inquiries into differences between value systems:

- Include (research) activities aimed at reconciling traditional and rational-secular values in the formulation of a harmonised framework for ethics assessment.
- Include (research) activities aimed at reconciling the rather informal system of ethics assessment with a non-binding nature in Anglo-Saxon countries with the formal system of ethics assessment with a binding nature in continental Europe.
- Discuss economic and political preconditions for the implementation of a harmonised framework for ethics assessment.
- Frame discussions about ethical guidelines according to considerations of balancing individual rights and the social good.

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## 2 PART 2: INTERNATIONAL FRAMEWORKS AND REGULATORY DIFFERENTIATION

### 2.1 INTRODUCTION

The purpose of this section is to analyse international frameworks with particular focus on ethical assessment: what values are they based on, which norms do they prescribe, how widely are they supported, how do they fit with national legislation and regulation in selected countries, where is there a good fit and where not, and why would this be the case?

The section consists of two major parts. The first one is a three-step analysis (taking into consideration purpose of the frameworks, key values regarding research and innovation, and the impact on research and innovation) of the following categories of frameworks:

- a. General human rights frameworks (Universal Declaration of Human Rights, the European Convention on Human Rights, European Charter of Fundamental Rights);
- b. Environmental frameworks (Rio Declarations and Conventions, Espoo (EIA) Convention, Aarhus Convention);
- c. Biological and Chemical Weapons conventions;
- d. Data protection frameworks (Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data, the EU Data Protection Directive, General Data Protection Regulation, International Declaration on Human Genetic Data);
- e. Principles for the social sciences (International Principles for Social Impact Assessment, Code of Ethics of the International Sociological Association, The American Psychological Association's Ethical Principles of Psychologists and Code of Conduct);
- f. Frameworks for researchers and good research practices (Code of conduct for responsible nanoscience and nanotechnologies, European Code of Conduct for Research Integrity, European Charter for Researchers, Declaration on Science and use of Scientific Knowledge);
- g. Biomedical ethical frameworks (Nuremberg Code, Helsinki Declaration, Oviedo Convention, Operational Guideline for Ethics Committees that Review Biomedical Research, International Ethical Guideline for Biomedical Research Involving Human Subjects, Universal Declaration on Bioethics and Human Rights, Universal Declaration on the Human Genome and Human Rights).

In the second part, we discuss frameworks in China and the USA. It is a four-step analysis taking into account the purposes of the frameworks, key values regarding research and innovation, impact on research and innovation, and their position in the national legal system. We analyse the following categories of frameworks:

- a. Impact assessment frameworks (Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on Environmental Impact Assessment, National Environmental Policy Act, Principles and Guidelines for Social Impact Assessment in the USA);
- b. Frameworks regarding human subject research (Belmont Report, Federal Policy for the Protection of Human Subjects, Interim Rules for Ethical Review of Biomedical Research Involving Human Subjects, Good Clinical Practice).



The Annex contains a table detailing the position of the frameworks discussed in the first part of the section in the UK, France, Germany, Austria, Spain, Poland, Serbia and the Netherlands, analysing whether they are binding or referred to in national legislation. It also describes controversial aspects of the frameworks.

## 2.2 FRAMEWORKS IN EUROPE

### 2.2.1 General human rights frameworks

#### Purpose of the frameworks

General human rights frameworks strive towards the **protection of human rights and fundamental freedoms**. The preamble of the Universal Declaration of Human Rights states that the document aims to “*promote respect for these rights and freedoms*”.<sup>211</sup> The goals of the EU Charter of Fundamental Rights and the European Convention on Human Rights (ECHR) are phrased in similar ways.

#### Key values regarding research and innovation

The Charter in Article 13 refers to the issue of research by establishing the **freedom of research** – “*the arts and scientific research shall be free of constraint*”.<sup>212</sup> According to the official explanations relating to the Charter, this freedom is deduced from the right of freedom of expression and should be exercised having regard to Article 1, which states that “*human dignity is inviolable*”<sup>213</sup> and may be subject only to limitations authorised by Article 10 of the ECHR (freedom of expression).<sup>214</sup> Although the ECHR itself does not expressly refer to the freedom of sciences it can be deduced from the right to freedom of expression, and has been mentioned in case law (e.g. *Hertel v. Switzerland*, *Aksu v. Turkey and Perincek v. Switzerland*). As far as the Universal Declaration is concerned, relevant principles are stipulated in Articles 19 (freedom of opinion and expression) and 26 (right to free education).

#### Impact on research and innovation

Scientific freedom is not absolute and may be subject to limitations. In this context, above all Article 10 of the ECHR should apply, and certain restrictions can be imposed if they are

necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary.<sup>215</sup>

The Charter lays down specific rules that must be complied with when conducting research. Particularly important are:

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<sup>211</sup> United Nations, The Universal Declaration of Human Rights, 1948. <http://www.un.org/en/documents/udhr/>

<sup>212</sup> Charter of Fundamental Rights of the European Union, 12.12.2007. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012P/TXT>

<sup>213</sup> Ibid.

<sup>214</sup> Praesidium of the Convention, Explanations Relating to the Charter of Fundamental Rights (2007/C 303/02), 14.12.2007. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2007:303:0017:0035:en:PDF>

<sup>215</sup> Convention for the Protection of Human Rights and Fundamental Freedoms, 04.11.1950. [http://www.echr.coe.int/Documents/Convention\\_ENG.pdf](http://www.echr.coe.int/Documents/Convention_ENG.pdf)

- Article 3 “**Right to the integrity of the person**”, which states above all that the informed consent of the person concerned must be respected and eugenic practices and reproductive cloning of human beings are prohibited;
- Article 8 “**Protection of personal data**”, according to which “everyone has the right to the protection of personal data concerning him or her”<sup>216</sup> including those used for scientific purposes.
- Article 37 “**Environmental protection**”: “a high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development”.<sup>217</sup> What is significant in this context, in preparing its policy on the environment, the Union takes account of available scientific and technical data.

## 2.2.2 Environmental frameworks

### Purpose of the frameworks

The environmental frameworks aim at:

- protecting the environment for both present and future generations (Rio Declaration and Conventions);
- guaranteeing the rights to information and participation in decision-making relating to environmental issues (Aarhus Convention);
- regulating the manner in which environmental impact assessments should be carried out (Espoo Convention).

### Key values regarding research and innovation

The most important value identified by this category of frameworks is **sustainable development**. According to Principles 1 and 2 of the Rio Declaration on Environment and Development, human beings are regarded as “centre of concerns for sustainable development”, are “entitled to a healthy and productive life in harmony with nature”, and States have the responsibility to ensure that their activities do not cause damage to the environment.<sup>218</sup> Another relevant provision is principle 5, according to which “in order to achieve sustainable development environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it”.<sup>219</sup> The Aarhus Convention emphasises, in the context of sustainable development, that it is necessary that all the stakeholders, including individual citizens, non-governmental organisations and private actors, are involved in environmental matters.<sup>220</sup>

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<sup>216</sup> Charter of Fundamental Rights of the European Union, 12.12.2007. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012P/TXT>

<sup>217</sup> Ibid.

<sup>218</sup> Rio Declaration on Environment and Development, 1992.

<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

<sup>219</sup> Ibid.

<sup>220</sup> For more information: <http://www.unece.org/env/pp/introduction.html>

### Impact on research and innovation

All the actions expected to have an influence on the environment should take into account the **precautionary principle**, according to which when there is a significant likelihood of a serious threat to the environment, special countermeasures shall be taken. Importantly, the “lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.<sup>221</sup> Relevant in the context of the precautionary principle are the assessment of the negative impacts of undertakings on the environment and the minimisation of those risks to the furthest possible extent. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity lays down a **risk-assessment procedure** with regard to “potential adverse effects of live modified organisms on the conservation and sustainable use of biological diversity”.<sup>222</sup> The procedure should be as follows:

1. Identifications of new characteristics (either genotypic or phenotypic) of the living modified organisms, which might have negative impacts on biological diversity;
2. Evaluation of likelihood of these impacts coming true;
3. Evaluation of consequences of the adverse effects;
4. Estimation of overall risks;
5. Recommendations.

The Espoo (EIA) Convention specifies the rules of carrying out environmental impact assessment in the transboundary context and stresses that involvement of the public is significant in this context.

With regard to research and innovation, particularly important is also Article 12 of the Convention on Biological Diversity, which states that the States shall promote research contributing to the **sustainable use and conservation of biological diversity** as well as provide special training concerning this matter. The Rio Conventions emphasise the significance of international cooperation in terms of research regarding environmental matters. They also establish special advisory bodies:

- Subsidiary Body on Scientific and Technological Advice (Convention on Biological Diversity) – a multidisciplinary body, whose main task is to carry out technological and scientific assessments regarding biological diversity and to advise on programmes concerning sustainable use and conservation of biological diversity;
- Subsidiary Body for Scientific and Technological Advice (United Nations Framework Convention on Climate Change) – its task is to give advice on scientific and technological matters regarding the Convention;
- Committee on Science and Technology (United Nations Convention to Combat Desertification) – it advises on scientific and technological issues with regard to desertification and mitigating the effects of droughts.

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<sup>221</sup> Principle 15, Rio Declaration. <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

<sup>222</sup> Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2000. <http://bch.cbd.int/protocol/text/>

### 2.2.3 Biological and Chemical conventions

#### Purpose of the frameworks

Biological and chemical weapons conventions (e.g. Chemical Weapons Convention, Biological Weapons Convention) strive toward the prohibition and destruction of weapons of mass destruction. They proscribe the development, production, acquisition or stockpiling any kind of chemical or biological weapons.

#### Key values regarding research and innovation

The Conventions seek to **maintain peace** and are aimed at complete disarmament. Although the Convention forbids the use the chemical and biological agents and weapons for military purposes, they can be used for peaceful purposes. Importantly, the provisions of the conventions shall not be interpreted in a way hampering technological development, provided that it is in compliance with general obligations.

#### Impact on research and innovation

As mentioned previously, biological and chemical weapons can only be used for peaceful purposes. Article II of the Chemical Weapons Convention (CWC) specifies which activities should be regarded as such:

- a. industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;
- b. protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons;
- c. military purposes not connected with the use of chemical weapons and not dependent on the toxic properties of chemicals as a method of warfare;
- d. law enforcement including domestic riot control purposes.<sup>223</sup>

The Third and Fourth Review Conferences reaffirmed that Biological Weapons Convention prohibits the use of biological or microbiological agents and toxins harmful to humans, animals and plants that cannot be justified by protective, prophylactic or other peaceful purposes.<sup>224</sup>

The Conventions are linked with the issue of **dual-use**, which means that even though research may be intended for peaceful purposes, there is still a likelihood that it might be misused. Therefore, it is important that researchers are made aware of the risks involved. What is more, research facilities should be protected from unauthorised access, and appropriate codes of conduct should be drawn up.

The Chemical Weapons Convention extensively regulates inspection procedures. The verification activities are performed by designated inspectors and their outcome is a report,

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<sup>223</sup> Convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction, 03.09.1997. [http://www.opcw.org/index.php?eID=dam\\_frontend\\_push&docID=6357](http://www.opcw.org/index.php?eID=dam_frontend_push&docID=6357)

<sup>224</sup> BWC Implementation Support Unit, Additional understandings and agreements reached by review conferences relating to each article of the Biological Weapons Convention, 2007. [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/66E5525B50871CAEC1257188003BDDD6/\\$file/BWC\\_Text\\_Additional\\_Understandings.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/66E5525B50871CAEC1257188003BDDD6/$file/BWC_Text_Additional_Understandings.pdf)

which contains information on whether the research has complied with the Convention's provisions.

## 2.2.4 Data protection frameworks<sup>225</sup>

### Purpose of the frameworks

These frameworks protect the fundamental rights and freedoms of every individual, in particular their right to privacy with regard to the automatic processing of personal data, and ensure that personal data are not misused in any way. For example, the aims of the International Declaration on Human Genetic Data are:

- to ensure the respect of human dignity and protection of human rights with regard to processing of genetic data;
- to lay down principles guiding the States in the formulation of legislation and policies regarding processing of genetic data;
- to set out guidance on best practices for public and private institutions.<sup>226</sup>

### Key values regarding research and innovation

The most important value with regard to data protection is the **right to privacy**. In this context, one should mention para. 2 of the preamble of the EU Data Protection Directive, according to which although the purpose of the data-processing systems is to serve man, they must also respect the fundamental rights and freedoms of natural persons, such as the right to privacy, economic and social progress, trade expansion and the well-being of individuals.<sup>227</sup> Also significant is Article 2, which states that Member States shall “neither restrict nor prohibit the free flow of personal data” between them for the reasons connected with the protection of individuals with regard to processing of personal data.<sup>228</sup> Similar provisions are included in proposed General Data Protection Regulation.

The Convention for the Protection of Individuals recognises that there exists a certain conflict between the right to privacy and the freedom of information – there is a risk that unlimited freedom to process information may significantly affect other freedoms including privacy and non-discrimination, and it is important to maintain balance between them.<sup>229</sup>

The International Declaration on Human Genetic Data, in Article 7, states that collected genetic data should not lead to discrimination and stigmatization of an individual or a group. There are three core principles regarding processing of human genetic data: access (no one

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<sup>225</sup> The General Data Protection Regulation is still under negotiations, and it is unclear what the final version will look like. This report is based on the version approved by European Council, available at: <http://data.consilium.europa.eu/doc/document/ST-9565-2015-INIT/en/pdf>

<sup>226</sup> The International Declaration on Human Genetic Data, 2003. [http://portal.unesco.org/en/ev.php-URL\\_ID=17720&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=17720&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>227</sup> European Parliament and the Council, Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, 24.10.1995. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31995L0046&qid=1422450588741&from=EN>

<sup>228</sup> Ibid.

<sup>229</sup> Explanatory Report to the Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data. <http://conventions.coe.int/Treaty/EN/Reports/HTML/108.htm>

should be denied access to his genetic data), privacy and confidentiality (states should ensure the protection of privacy of the individuals and confidentiality of their genetic data).<sup>230</sup>

### Impact on research and innovation

Personal data can only be processed if certain conditions are met. The frameworks contain very similar provisions regarding this matter. Data should be processed fairly and lawfully, collected for explicit and legitimate purposes, adequate, relevant and accurate, and retained only for the time necessary.

Not all types of data can be processed. Restrictions apply to the processing of the following types of data: data regarding racial origin, political opinions, religious beliefs, health, sexual life and criminal convictions. There are, however, situations in which it is permissible to process such data. Pursuant to Article 6 of the Convention for the Protection of Individuals, the restrictions will not apply if domestic law provides appropriate safeguards. The Data Protection Directive in Article 8 states that it is permissible to process these special types of data if:

- the person concerned has given consent;
- it is necessary for the purposes of carrying out obligations of the data controller;
- it is necessary to protect vital interests of a person, who is physically or legally incapable of giving consent;
- processing is carried out with appropriate guarantees by a non-profit organisation for its legitimate purposes;
- it is necessary for preventive medicine, medical diagnosis, provision of care or treatment and the management of health-care services.

Chapter 2 of the Data Protection Directive regulates the manner in which data should be processed and contains significant provisions regarding scientific research. The most important articles are Articles 11 and 13. According to the former, in the event that data are obtained from other sources than from the data subject, the controller is obliged to provide the person concerned with the following information: controller's identity, purpose of data processing, and other relevant information, such as categories of data, recipients and the existence of the right to access and the right to rectify data. However, under para. 2, this general rule does not apply in situations where data is processed for statistical purposes and for the purposes of historical or scientific research. Similarly, the rule shall not apply if it is impossible to provide the types of information mentioned, if it involves disproportionate effort, or if the recording or disclosure of data is expressly regulated by law. In such cases Member States are obliged to establish appropriate safeguards. As far as Article 13 is concerned, under para. 1, Member States can restrict the Directive's provisions, especially in the areas of national security, defence, public security, prevention and prosecution of criminal offences, investigation of breaches of ethics for regulated professions, and protection of rights and freedoms.<sup>231</sup>

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<sup>230</sup> The International Declaration on Human Genetic Data, 2003. [http://portal.unesco.org/en/ev.php-URL\\_ID=17720&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=17720&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>231</sup> European Parliament and the Council, Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, 24.10.1995. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31995L0046&qid=1422450588741&from=EN>



According to Article 83 of the proposed General Data Protection Regulation, if “personal data are processed for scientific, statistical or historical purposes, Union or Member States law may, subject to appropriate safeguards for the rights and freedoms of data subject,” provide for derogations of general rules regarding e.g. information to be provided where the data have not been obtained from the data subject or the right to access.<sup>232</sup> However, such derogation should be necessary “for the fulfilment of the specific purposes”.<sup>233</sup>

According to the International Declaration on Human Genetic Data, collecting human genetic data is allowed only if prior, **free, informed and express consent** is obtained for the collection of human genetic data. The person concerned should also have the possibility to decide whether he wants to be informed on the research results.<sup>234</sup>

In order to ensure that the provisions of the Declaration on Human Genetic Data are complied with, independent, multidisciplinary and pluralist **ethics committees** should be established on international, regional and national levels.<sup>235</sup>

### 2.2.5 Principles for the social sciences

#### Purpose of the frameworks

The Ethics Code of the American Psychological Association (APA)<sup>236</sup> and the Code of Ethics of the International Sociological Association<sup>237</sup> aim at protecting the welfare of those affected by the work of psychologists and sociologists respectively. As far as International Principles for Social Impact Assessment<sup>238</sup> are concerned, their aim is to provide standards for social impact assessment (SIA) practice.

#### Key values regarding research and innovation

The APA’s Ethics Code is based on the freedom of inquiry and expression in research, teaching and publication. General principles that the psychologists should follow are beneficence and non-maleficence, fidelity and responsibility, integrity, justice and respect for people’s rights and dignity.

Sociologists, as scientists, should “cooperate locally and transnationally on the basis of scientific correctness alone, without discrimination on the basis of scientifically irrelevant factors such as age, sex, sexual preference, ethnicity, language, religion or political affiliation”.<sup>239</sup>

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<sup>232</sup> Proposal for a Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), 2015. <http://data.consilium.europa.eu/doc/document/ST-9565-2015-INIT/en/pdf>

<sup>233</sup> Ibid.

<sup>234</sup> The International Declaration on Human Genetic Data, 2003. [http://portal.unesco.org/en/ev.php-URL\\_ID=17720&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=17720&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>235</sup> Ibid.

<sup>236</sup> American Psychological Association, Ethical Principles of Psychologists and Code of Conduct, 2002. <http://www.apa.org/ethics/code/principles.pdf>

<sup>237</sup> International Sociological Association, Code of Ethics, 2001. [http://www.isa-sociology.org/about/isa\\_code\\_of\\_ethics.htm](http://www.isa-sociology.org/about/isa_code_of_ethics.htm)

<sup>238</sup> International Association for Impact Assessment, International Principles for Social Impact Assessment, 2003. <http://www.iaia.org/publicdocuments/sections/sia/IAIA-SIA-International-Principles.pdf>

<sup>239</sup> International Sociological Association, Code of Ethics, 2001. [http://www.isa-sociology.org/about/isa\\_code\\_of\\_ethics.htm](http://www.isa-sociology.org/about/isa_code_of_ethics.htm)

The International Principles for Social Impact Assessment refer to fundamental human rights, including gender equality, justice and freedom from fear. The document mentions also the environment in the social context and its relevance for people's health and quality of life. The principles are divided into three categories: principles for development in general seeking to influence the shape of policies and projects, principles specific to SIA practice and principles referring to the Rio Declaration of 1992 and the Declaration on the Right to Development of 1986.

### Impact on research and innovation

The APA regulates in detail the procedures of protecting privacy and confidentiality. Psychologists are obliged to keep the confidential information private and secure, and they can only disclose it if the participant has granted his permission or it is required by the law. The importance of informed consent is also highly emphasised. Psychologists are expected to provide the information in language that can be understood by the person concerned. If such person is legally incapable of giving informed consent, psychologists should “(1) provide an appropriate explanation, (2) seek the individual's assent, (3) consider such persons' preferences and best interests, and (4) obtain appropriate permission from a legally authorised person, if such substitute consent is permitted or required by law”.<sup>240</sup> The Code of Ethics stipulates also the issue of **deception in research**. It states that it is only acceptable, if research has significant scientific, educational or applied value and there are no non-deceptive alternatives. The participants should be made aware about this fact as soon as possible and should be given the opportunity of withdrawing their data from the study. As far as research on animals is concerned, animals must be acquired, kept, used and disposed in compliance with national standards. Pain and discomfort must be minimised (anaesthesia needs to be used for surgical procedures) and harmful or painful procedures are only acceptable if there are no other alternatives. The Code states that any violation of its provisions should be resolved informally or if such violation is considered serious, it should be resolved informally or through the relevant institutional authorities, state or national ethics committees or licensing boards.

The Code of Ethics also puts a great emphasis on the **protection of privacy**. Sociologists are expected to respect anonymity and privacy in both qualitative and quantitative research. Personal information can only be disclosed, if the person concerned has given his consent. The Code of Ethics states also that “sociologists who are being given access to records are expected to respect the privacy conditions under which the data were collected”.<sup>241</sup> However, they can use data gathered in historical archives. The issue of covert research is also regulated and should be avoided, unless data cannot be obtained otherwise. There are no procedures regarding the supervision of the compliance with Code's provisions and the Preamble states that it “relies principally upon the self-discipline and self-control of those to whom it applies”.<sup>242</sup>

The International Principles for Social Impact Assessment can be adapted to analyse, monitor and manage social consequences of research and innovation. In this context, particularly important is the participation of the public in developing SIA procedures.

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<sup>240</sup> American Psychological Association, Ethical Principles of Psychologists and Code of Conduct, 2002. <http://www.apa.org/ethics/code/principles.pdf>

<sup>241</sup> International Sociological Association, Code of Ethics, 2001. [http://www.isa-sociology.org/about/isa\\_code\\_of\\_ethics.htm](http://www.isa-sociology.org/about/isa_code_of_ethics.htm)

<sup>242</sup> Ibid.

## 2.2.6 Frameworks on status of researchers and good research practices

### Purpose of the frameworks

These frameworks set out general provisions regarding the way research should be carried out in order to prevent any cases of misuse.

### Key values regarding research and innovation

According to the European Code of Conduct for Research Integrity, in order to ensure independence and impartiality of research, it should be based on the following principles: honesty, reliability, objectivity, transparency, open communication with the public, duty of care, fairness and the responsibility for future generations.<sup>243</sup>

The European Charter for Researchers, emphasises that research should be carried out in compliance with ethical principles and researchers are expected to follow both ethical standards of their discipline and national and institutional codes of conduct.<sup>244</sup>

The Declaration on Science and the use of Scientific Knowledge, recognises that scientists should follow high ethical standards. In order to ensure scientific integrity, scientific professions should establish codes of conduct based on international human rights law.<sup>245</sup>

The UNESCO Recommendation on the Status of Scientific Researchers, refers to the following rights and freedoms: intellectual freedom, freedom of research, freedom of expression, freedom of movement, non-discrimination, right of association.<sup>246</sup>

Research in the area of nanosciences is expected to be based on the following principles: meaning (research must be comprehensible to the public and must respect fundamental rights), sustainability, precaution, inclusiveness (research should be transparent to stakeholders), excellence, innovation, and accountability.<sup>247</sup>

### Impact on research and innovation

The European Code of Conduct for Research Integrity provides detailed provisions regarding the way in which **scientific misconduct** should be handled. The following principles should be followed: integrity of the process, uniformity, fairness, confidentiality and no detriment. The European Code of Conduct for Research Integrity states that each country should draw up its own best practice rules. The following recommendations should be taken into account:

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<sup>243</sup> European Science Foundation, All European Academies, The European Code of Conduct for Research Integrity, 2010.

[http://www.esf.org/fileadmin/Public\\_documents/Publications/Code\\_Conduct\\_ResearchIntegrity.pdf](http://www.esf.org/fileadmin/Public_documents/Publications/Code_Conduct_ResearchIntegrity.pdf)

<sup>244</sup> European Commission, The European Charter for Researchers, 2005.

[http://ec.europa.eu/euraxess/pdf/brochure\\_rights/am509774CEE\\_EN\\_E4.pdf](http://ec.europa.eu/euraxess/pdf/brochure_rights/am509774CEE_EN_E4.pdf)

<sup>245</sup> UNESCO, Declaration on Science and the use of Scientific Knowledge, 1999.

[http://www.unesco.org/science/wcs/eng/declaration\\_e.htm](http://www.unesco.org/science/wcs/eng/declaration_e.htm)

<sup>246</sup> UNESCO, Recommendation on the Status of Scientific Researchers, 1974. [http://portal.unesco.org/en/ev.php-URL\\_ID=13131&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=13131&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>247</sup> European Commission, A code of conduct for responsible nanosciences and nanotechnologies research, 2009. [http://ec.europa.eu/research/science-society/document\\_library/pdf\\_06/nanocode-apr09\\_en.pdf](http://ec.europa.eu/research/science-society/document_library/pdf_06/nanocode-apr09_en.pdf)

1. Availability and access – data should be stored in a secure place and be archived for the period of minimum 5 years;
2. Proper research procedures – research findings should be kept confidential and the scientists must seek to minimise the harmful effects of their undertaking on the environment;
3. Responsible research procedures - human and animal subjects shall be treated with respect and care. Human trials shall comply with the requirement of informed consent. As far as experiments on animals are concerned, they can only be conducted if there are no other alternatives;
4. Publication-related conduct – the results of research should be made public as early as possible;
5. Reviewing and editorial issues – reviews should be objective and accurate.

The European Charter for Researchers recognises the importance of research. However, it also highlights that it can be subjected to limitations, especially with regard to intellectual property protection. Researchers' performance should be evaluated by an independent committee, which should in particular take into consideration research creativity and results (e.g. publications and patents), as well as the national and international collaboration.

The Declaration on Science and the use of Scientific Knowledge, in para. 27, states that “the new relationship between science and society is necessary to cope with such pressing global problems as poverty, environmental degradation, inadequate public health, and food and water security, in particular those associated with population growth”.<sup>248</sup> The Declaration highlights the importance of developing national legislation as well as institutional and economic basis for enhancing scientific and technological capacity in both private and public sectors. This process should take into account needs of developing countries with regard to research and innovation.

When it comes to nanotechnologies, national and local ethics committees as well as other competent authorities should “evaluate the manner of applying ethical review requirements to dual-use nanotechnology research”.<sup>249</sup>

### 2.2.7 Biomedical ethical frameworks

#### Purpose of the frameworks

Biomedical ethical frameworks are especially aimed at:

1. protecting **human dignity** (Universal Declaration on the Human Genome and Human Rights, Universal Declaration on Bioethics and Human Rights, Declaration of Helsinki, Oviedo Convention);
2. providing guidelines for **ethics committees** to ensure the quality of biomedical research (Operational Guideline for Ethics Committees that Review Biomedical Research);
3. making recommendations on how fundamental biomedical principles could be applied to low-resource countries (International Ethical Guideline for Biomedical Research Involving Human Subjects);

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<sup>248</sup> UNESCO, Declaration on Science and the use of Scientific Knowledge, 1999.

[http://www.unesco.org/science/wcs/eng/declaration\\_e.htm](http://www.unesco.org/science/wcs/eng/declaration_e.htm)

<sup>249</sup> European Commission, A code of conduct for responsible nanosciences and nanotechnologies research, 2009. [http://ec.europa.eu/research/science-society/document\\_library/pdf\\_06/nanocode-apr09\\_en.pdf](http://ec.europa.eu/research/science-society/document_library/pdf_06/nanocode-apr09_en.pdf)

4. setting out principles regarding the accessibility of human subject research (Nuremberg Code).

#### Key values regarding research and innovation

The values of particular importance with regard to bioethics and biomedicine (recognised by most of the frameworks) include: **protection of life and health, inviolability of human dignity as well as protection of privacy and confidentiality of research subject**. For instance, the Declaration of Helsinki, in para. 11 declares, that “it is the duty of physicians who participate in medical research to protect life, health, dignity, integrity, right to self-determination, privacy, and confidentiality of personal information of the research subject”.<sup>250</sup> It should be noted that in the context of medical research, the **interests of individuals outweigh the sole interest of science or society**.<sup>251</sup> As far as the principle of privacy and confidentiality is concerned, according to the Universal Declaration on Bioethics and Human Rights, personal information should not be used and disclosed for other purposes than those for which it was collected.

According to the International Ethical Guidelines for Biomedical Research Involving Human Subjects, when carrying out research on humans, three basic ethical principles should be followed: **respect for persons, beneficence and justice**.<sup>252</sup> Respect for persons includes respect for autonomy of those capable of deliberation about their personal choices as well as protection against abuse of those with impaired or diminished autonomy. Beneficence refers to the obligation to maximise benefits and minimise harm. As far as the principle of justice is concerned, it incorporates the obligation to treat each person in accordance with what is morally right and proper.<sup>253</sup>

Other significant values are **personal integrity and non-discrimination**. The importance of the former is particularly emphasised in article 8 of the Universal Declaration on Bioethics and Human Rights, which states that “in applying and advancing scientific knowledge, medical practice and associated technologies, human vulnerability should be taken into account. Individuals and groups of special vulnerability should be protected and the personal integrity of such individuals respected”.<sup>254</sup> As far as non-discrimination is concerned, according to the Oviedo Convention, no one should be discriminated on the grounds of genetic heritage.<sup>255</sup>

#### Impact on research and innovation

The Oviedo Convention in Article 16 specifies research on a person can be undertaken when:

- there are no other alternatives of comparable effectiveness;
- the risks involved are not disproportionate to the potential benefits;

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<sup>250</sup> World Medical Association, Declaration of Helsinki, 1964.

<http://www.wma.net/en/30publications/10policies/b3/>

<sup>251</sup> UNESCO, Universal Declaration on Bioethics and Human Rights, 2005, Article 3.

[http://portal.unesco.org/en/ev.php-URL\\_ID=31058&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=31058&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>252</sup> Council for International Organizations of Medical Sciences, International Ethical Guidelines for Biomedical Research Involving Human Subjects, 2002. [http://www.cioms.ch/publications/layout\\_guide2002.pdf](http://www.cioms.ch/publications/layout_guide2002.pdf)

<sup>253</sup> Ibid.

<sup>254</sup> UNESCO, Universal Declaration on Bioethics and Human Rights, 2005.

<http://www.unesco.org/new/en/social-and-human-sciences/themes/bioethics/bioethics-and-human-rights/>

<sup>255</sup> Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, 1997. <http://conventions.coe.int/treaty/en/Treaties/Html/164.htm>

- the research project has been approved by a competent body;
- the person concerned has been informed of their rights;
- the person concerned has given express consent.<sup>256</sup>

As for genetic tests, they may be carried out only for health purposes or for scientific research, provided that it is linked with health purposes. Any modifications of the human genome may be undertaken solely for preventive, diagnostic or therapeutic purposes.<sup>257</sup>

All of the frameworks recognise that no medical experiment can be carried out without obtaining the **voluntary consent** of the person concerned. The Nuremberg Code sets out conditions, which should be met in order to ensure that the consent is truly “voluntary”:

- the subject of the experiment should have a legal capacity to give consent;
- he must be given free choice, which means that force, fraud, deceit, duress and other forms of coercion are not acceptable;
- in order to reach a deliberate decision, he should have sufficient knowledge and understanding of the experiment and, therefore, he or she shall be duly informed about: “*the nature, duration and the purpose of the experiment*”, methods, which are planned to be used, reasonably expected risks as well as the possible effects on participant’s health.<sup>258</sup>

In order to ensure that all of the bioethical rules and procedures are met, each country should establish **independent, multidisciplinary and pluralist ethics committees**. They should be focused mainly on assessing ethical issues related to research projects involving human beings, providing advice on ethical problems, assessing scientific and technological developments, and raising awareness with regard to bioethics.<sup>259</sup> Detailed regulations on how ethics committees should operate are specified in the Operational Guidelines for Ethics Committees that Review Biomedical Research<sup>260</sup>. According to the Guidelines, the main task of ethics committees is the review of research proposals, which should in particular take into account scientific design and conduct of the study, recruitment of research participants, care and protection of research participants, protection of the confidentiality, informed consent process, and consultations with local concerned communities. The decisions should be reached through consensus. If the consensus appears unlikely, the ethics committee should vote.<sup>261</sup>

As far as research involving vulnerable persons is concerned, in order to protect their rights and welfare, special justification is required. The International Ethical Guidelines for Biomedical Research regulate two vulnerable groups: children and individuals not capable of giving adequately informed consent. Research on children can only be carried out if:

- it cannot be carried out with adults;
- the purpose of the research is to obtain knowledge of particular importance to health needs of children;
- parent or legal representative has given permission;

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<sup>256</sup> Ibid.

<sup>257</sup> Ibid.

<sup>258</sup> Nuremberg Code, 1947. <http://www.hhs.gov/ohrp/archive/nurcode.html>

<sup>259</sup> UNESCO, Universal Declaration on Bioethics and Human Rights, 2005, article 19. [http://portal.unesco.org/en/ev.php-URL\\_ID=31058&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=31058&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>260</sup> WHO, Operational Guidelines for Ethics Committees That Review Biomedical Research, 2000.

<http://www.who.int/tdr/publications/documents/ethics.pdf>

<sup>261</sup> Ibid.



- “the agreement (assent) of each child has been obtained to the extent of the child’s capabilities”;
- child refusal will be respected.<sup>262</sup>

Similar rules apply to individuals not capable of giving adequately informed consent due to mental or behavioural disorders. Research on this particular group is acceptable if:

- it cannot be carried out on persons whose capacity to give adequately informed consent is not impaired;
- its purpose is to obtain knowledge significant to particular health needs of persons with mental or behavioural disorders;
- the consent has been obtained to the extent of subject’s capabilities;
- “in cases where prospective subjects lack capacity to consent, permission is obtained from a responsible family member or a legally authorised representative”.<sup>263</sup>

The additional Protocol to the Oviedo Convention lays down that **every research project should be examined for its ethical acceptability by an independent ethics committee from a multidisciplinary point of view**. This examination must take into account the protection of dignity, rights, safety and well-being of participants. The Appendix to the Additional Protocol describes the information that shall be provided to the ethics committee: description of the project (researchers, justification, methods and summary), information regarding participants, their consent and information given (justification, criteria, risks, monitoring, privacy, access to information) and other information such as payments and rewards and possible conflicts of interests.<sup>264</sup>

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<sup>262</sup> Guideline 14. Council for International Organizations of Medical Sciences, International Ethical Guidelines for Biomedical Research Involving Human Subjects, 2002.

[http://www.cioms.ch/publications/layout\\_guide2002.pdf](http://www.cioms.ch/publications/layout_guide2002.pdf)

<sup>263</sup> Ibid., Guideline 15.

<sup>264</sup> Additional Protocol to the Convention on Human Rights and Biomedicine, concerning Biomedical Research, 2005. <http://conventions.coe.int/treaty/en/Treaties/Html/195.htm>

## 2.3 FRAMEWORKS IN CHINA AND THE USA

### 2.3.1 Impact assessment frameworks

#### 2.3.1.1 USA

##### Purpose of the frameworks

In the USA there are two major frameworks touching upon the issue of impact assessment – the National Environmental Policy Act (NEPA) and Principles and Guidelines for Social Impact Assessment in the USA. The main purpose of the former is to ensure evaluation of the potential environmental consequences of a proposal before decisions are made by federal agencies.<sup>265</sup> It also established national policy aimed at protection, maintenance and enhancement of the environment.<sup>266</sup> The purpose of the Principles and Guidelines for Social Impact Assessment is to “assist agencies and other institutions in implementing SIA<sup>267</sup> within the context of NEPA process”.<sup>268</sup>

##### Key values regarding research and innovation

NEPA strives to prevent and eliminate damage to the environment and stimulating the health and welfare of humans. It recognises, therefore, the importance of environmental well-being.<sup>269</sup> It also, by creating the opportunity for the individuals and communities to participate in decision-making processes, reflects “the belief that citizens have a right to know, and to be heard, when their government proposes actions that may affect them”.<sup>270</sup>

Social Impact Assessment is based on the following six principles:<sup>271</sup>

1. Achieve extensive understanding of local and regional populations and settings to be affected by the proposed action, program or policy;
2. Focus on the key elements of the human environment related to the proposed action, program or policy;
3. The SIA is based upon sound and replicable scientific research concepts and methods;
4. Provide quality information for use in decision-making;
5. Ensure that any environmental justice issues are fully described and analysed;
6. Undertake project, program or policy monitoring and evaluation and propose mitigation measures if needed.

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<sup>265</sup> For more information: <http://www.ecy.wa.gov/programs/sea/sepa/handbk/hbch09.html>

<sup>266</sup> Please compare: <http://www.epa.gov/compliance/basics/nepa.html>

<sup>267</sup> SIA – Social Impact Assessment

<sup>268</sup> The Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, “Principles and guidelines for social impact assessment in the USA”, *Impact Assessment and Project Appraisal*, Vol. 21, No. 3, September 2003, pp. 231–250.

<sup>269</sup> The National Environmental Policy Act [42 U.S.C. 4321 et seq.].  
[https://ceq.doe.gov/laws\\_and\\_executive\\_orders/the\\_nepa\\_statute.html](https://ceq.doe.gov/laws_and_executive_orders/the_nepa_statute.html)

<sup>270</sup> Dreher, R.G., “NEPA Under Siege: The Political Assault on the National Environmental Policy Act”, 2005.

<sup>271</sup> The Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, “Principles and guidelines for social impact assessment in the USA”, *Impact Assessment and Project Appraisal*, Vol. 21, No. 3, September 2003, pp. 231–250.

### Impact on research and innovation

Although NEPA does not directly refer to research and innovation, it can be considered as guidance and a reference point expressing general values and principles for federal projects related to the environment. Furthermore, NEPA introduces EIA scientific methods, making more reliable instruments for the assessment of potential environmental implications.<sup>272</sup> NEPA imposes on federal agencies the obligation to prepare a so-called Environmental Impact Statement, which should include:

1. The environmental impact of the proposed action;
2. Any adverse environmental effects which cannot be avoided should the proposal be implemented;
3. Alternatives to the proposed action;
4. The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity;
5. Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.<sup>273</sup>

As far as SIA is concerned, it is believed to provide “the best source of scientific knowledge necessary to understand the social and cultural consequences of planned and unplanned actions”.<sup>274</sup> It should be carried out by professional social scientists and shall ensure that data regarding study participants are kept confidential. What is also important, the special interests of the disadvantaged, at-risk and minority populations should be taken into account.<sup>275</sup>

### Position in the national legislation, support for the frameworks

1. The National Environmental Policy Act is a binding document. Its values and principles are widely shared. However, there are some controversies regarding its effectiveness. In particular, it gives directions for the governmental bodies declaring values that should be expressed in public policy, but it does not grant any individual rights and does not regulate individual behaviour.<sup>276</sup>
2. The Principles and Guidelines for Social Impact Assessment in the USA document is not legally binding, for its role, as mentioned above, is only to assist the agencies as well as other institutions to implement the SIA procedure.<sup>277</sup>

The values and principles expressed in NEPA are widely shared.<sup>278</sup> The greatest controversy about NEPA regards the interpretation of NEPA and its actual effectiveness. NEPA, as a

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<sup>272</sup> Caldwell, L.K., „The National Environmental Policy Act: An Agenda for the Future”, Indiana University Press, 1999, p. 57.

<sup>273</sup> The National Environmental Policy Act [42 U.S.C. 4321 et seq.].  
[https://ceq.doe.gov/laws\\_and\\_executive\\_orders/the\\_nepa\\_statute.html](https://ceq.doe.gov/laws_and_executive_orders/the_nepa_statute.html)

<sup>274</sup> The Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, “Principles and guidelines for social impact assessment in the USA”, *Impact Assessment and Project Appraisal*, Vol. 21, No. 3, September 2003, pp. 231–250.

<sup>275</sup> Ibid.

<sup>276</sup> Caldwell, L. K., “The National Environmental Policy Act: An Agenda for the Future”, 1999.

<sup>277</sup> The Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, “Principles and guidelines for social impact assessment in the USA”, *Impact Assessment and Project Appraisal*, Vol. 21, No. 3, September 2003, pp. 231–250.

policy act, gives directions to the governmental bodies determining values to be expressed in public policy.<sup>279</sup> It, however, does not grant any individual rights and does not regulate individual behaviour.<sup>280</sup> NEPA is criticised mostly for the “burden and confusion of procedural requirements and the failure to satisfy the substantive intent of the Act”.<sup>281</sup>

The initial version of the Principles and Guidelines (1993) was well received by the SIA community at large. Nevertheless, the actual use was disappointing. The document was criticised for unclear identification of target group, internal inconsistency, and confusion about its purpose.<sup>282</sup> The updated version of the Principles and Guidelines is criticised for making very little change to address the recognised challenges, particularly giving an inadequate attention to the policy, plan and program levels.<sup>283</sup>

### 2.3.1.2 China

#### Purpose of the frameworks

The most important frameworks with regard to impact assessment in China include the Environmental Protection Law of the People’s Republic of China, and the Law of the People’s Republic of China on Environmental Impact Assessment. The first one aims at protecting and improving the environment, preventing pollution and other public hazards, safeguarding public health, promoting ecological civilization improvement and facilitating sustainable economic and social development.<sup>284</sup>

The Law of the People’s Republic of China on Environmental Impact Assessment aims to implement the strategy of sustainable development and to prevent negative impacts, which construction projects may have on the environment.<sup>285</sup>

#### Key values regarding research and innovation

Both frameworks recognise that the protection of the environment should be considered a basic national policy.

#### Impact on research and innovation

According to Article 7 of the Environmental Protection Law, the state “supports scientific and technological research and development and application of environmental protection; encourages the development of environmental protection industry; facilitates the

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<sup>278</sup> Caldwell L. K., “The National Environmental Policy Act: An Agenda for the Future”, Indiana University Press, February 22, 1999, Introduction p. xvi.

<sup>279</sup> Caldwell L. K., “The National Environmental Policy Act: An Agenda for the Future”, Indiana University Press, February 22, 1999, Introduction p. xvi.

<sup>280</sup> Ibid.

<sup>281</sup> R. Bjorkland, “Monitoring: The missing piece. A critique of NEPA monitoring”, pp. 129–134 in *Environmental Impact Assessment Review* 43 (2013), p. 130.

<sup>282</sup> Vanclay, F, 'Principles for social impact assessment: A critical comparison between the international and US documents', *Environmental Impact Assessment Review*, vol. 26, no. 1, 2006, pp. 3-14, p. 7.

<sup>283</sup> Ibid., p. 8.

<sup>284</sup> Environmental Protection Law of the People’s Republic of China, 1989. Unofficial English translation: <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>

<sup>285</sup> Law of the People’s Republic of China on Environmental Impact Assessment, 2002. <http://www.china-eia.com/en/policiesregulations/lawsregulations/4659.htm>

environmental protection of information technologies; and improves the scientific and technological level of environmental protection science”.<sup>286</sup>

The aim of the environmental impact assessment is to analyse and predict the potential impacts, which might arise from the implementation of construction projects, to establish adequate countermeasures and to perform follow-up monitoring. According to Article 6, the state should support the scientific methods and techniques regarding the environmental impact assessment.<sup>287</sup>

### Position in the national legislation, support for the frameworks

Both frameworks are legally binding.

The business sector has openly and publicly supported the revised Environmental Protection Law.<sup>288</sup> Nevertheless, there was a claim that the support was only a marketing strategy. In reality, until the EP Law is strictly enforced, the business will not put too much effort on compliance with the regulation. China struggles with corruption, particularly at the local level, and has addressed this problem through several new regulations.<sup>289</sup> The EP Law is related to anti-corruption policy and laws.<sup>290</sup> There is a risk that companies either bribe or even pay fines to get on with business and continue their wrongdoing.

As regards the Law on EIA, according to China Watch, the public involvement in China's EIA process has been limited in the two years following implementation.<sup>291</sup> The main problems were access to information (insufficient or blocked), limited and unrepresentative participation, and a lack of public awareness and education about the EIA process.<sup>292</sup> As a result, public feedback seemed to be minimal and ineffective. Moreover, EIA assessors are trained and certified by the State Environmental Protection Administration and its branches. Therefore, their credibility was questioned due to their close association with the agency and with local officials and investors.<sup>293</sup>

#### **2.3.1.3 Comparison between the US and Chinese frameworks**

Many of the Chinese environmental laws were inspired by and modelled on the US environmental laws.<sup>294</sup> However, despite a great number of environmental protection rules, the problem remains with the enforcement and the fact that some rules are no longer

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<sup>286</sup> Environmental Protection Law of the People's Republic of China, 1989. Unofficial English translation: <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>

<sup>287</sup> Law of the People's Republic of China on Environmental Impact Assessment, 2002. <http://www.china-eia.com/en/policiesregulations/lawsregulations/4659.htm>

<sup>288</sup> Interview with Anson Wong, Assistant Director of the China Economy and Sustainable Development Centre at CKGSB, “Public Education “Key” to Future of China's Environment”, (the date of publication not indicated), [http://english.ckgsb.edu.cn/news\\_content/public-education-%E2%80%9Ckey%E2%80%9D-future-china%E2%80%99s-environment#.VVCd8U1NeM8](http://english.ckgsb.edu.cn/news_content/public-education-%E2%80%9Ckey%E2%80%9D-future-china%E2%80%99s-environment#.VVCd8U1NeM8).

<sup>289</sup> Ibid.

<sup>290</sup> Ibid.

<sup>291</sup> WORLDWATCH Institute, “China to Strengthen Public Participation in Environmental Impact Assessments”, (the date of publication not indicated), <http://www.worldwatch.org/china-strengthen-public-participation-environmental-impact-assessments>.

<sup>292</sup> Ibid.

<sup>293</sup> Ibid.

<sup>294</sup> Christine A. Fazio and Ethan I. Strell, “Comparing and Contrasting U.S. and Chinese Environmental Law”, New York Law Journal, 23 February 2012, <http://www.clm.com/publication.cfm?ID=366>.

workable.<sup>295</sup> There are several similarities between the Chinese and the US values and norms regarding the EIA process. Both of them refer to public participation; broader spectrum of effects/comprehensive consideration of the impact on all the various environmental factors and the ecological system; professional approach to EI process based on scientific methods. There is a difference between the scope and main addressees of the crucial Chinese and US laws and regulations on EIA. While the US focuses on federal agencies, Chinese regulation include a broader scope of recipients (all units and individuals). The main impact on research and innovation of both Chinese and US laws and regulations on EIA concerns the EIA process, particularly the methodology. Similar to the US regulation, the Chinese Law on EIA requires developers of plans and projects to provide an environmental document to the State Environmental Protection Administration (SEPA) or its local counterpart before commencing construction of any project.<sup>296</sup>

Both the Chinese and US frameworks were welcomed with much enthusiasm and criticism. The NEPA and the Chinese EP Law and Law on EIA have been criticised for their lack of actual effectiveness. The US EIA system highlights controversies towards objectivity of EIA institutions, particularly the White House Council on Environmental Quality (CEQ) because of its links with industry. The environmental analyst Roger Harrabin, working for the BBC, called CEQ “a hard-line group of advisers with close links to the US oil industry”.<sup>297</sup> This is true of the Chinese EIA system, which despite a great number of environmental protection laws, regulations and guidelines, struggles with the problem of corruption.

## 2.3.2 Frameworks regarding human subject research

### 2.3.2.1 USA

#### Purpose of the frameworks

The main objective of the *Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research* is to outline basic ethical principles with regard to research involving human subjects.<sup>298</sup> The Report influenced the adoption of the Federal Policy for the Protection of Human Subjects (also referred to as the “Common Rule”),<sup>299</sup> which applies to 17 Federal agencies and offices.<sup>300</sup>

#### Key values regarding research and innovation

The Belmont report recognises three general principles relevant for research involving humans:

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<sup>295</sup> Library of Congress, *China: Environmental Protection Law Revised*, Last update: 06 June 2014, [http://www.loc.gov/lawweb/servlet/lloc\\_news?disp3\\_l205404014\\_text](http://www.loc.gov/lawweb/servlet/lloc_news?disp3_l205404014_text).

<sup>296</sup> Paul, Hastings, Janofsky and Walker for Mondaq, “China: China’s New Environmental Impact Assessment Qualification Rules”, Last Updated: 22 November 2006, <http://www.mondaq.com/x/44430/Environmental+Law/Chinas+New+Environmental+Impact+Assessment+Qualification+Rules>.

<sup>297</sup> Roger Harrabin, BBC News, *Mixed outcomes at climate talks*, 5 October 2006, <http://news.bbc.co.uk/2/hi/science/nature/5408798.stm>.

<sup>298</sup> For more information: <http://www.hhs.gov/ohrp/humansubjects/commonrule/>

<sup>299</sup> Ibid.

<sup>300</sup> Please compare: <http://ori.hhs.gov/education/products/ucla/chapter2/page04b.htm>



- **Respect for persons** – the principle of respect for persons is based on the value of autonomy, which means that research subjects should enter into research voluntarily and should be provided with adequate information about their participation. In cases of individuals with diminished autonomy, there is a requirement for extensive protection of those individuals.
- **Beneficence** – according to this principle, persons should be treated with respect and their well-being shall be secured. There are two rule complementary to this principle: “do not harm” and “maximise possible benefits and minimise possible harms”.<sup>301</sup>
- **Justice** – this principle recognises that burdens and benefits should be distributed equally.<sup>302</sup>

### Impact on research and innovation

According to the Common Rule, research assessment should be based on the three rules provided by the Belmont Report. In addition, the following factors should also be taken into account:<sup>303</sup>

1. risk to human research subjects should be minimised;
2. risk to human research subjects is reasonable in relation to anticipated benefits;
3. selection of subjects should be equitable;
4. informed consent should be “sought from each prospective subject or the subject’s legally authorised representative”,<sup>304</sup>
5. informed consent should be properly documented;
6. data should be monitored to ensure the safety of the research subjects;
7. privacy should be protected and data kept confidential.

Furthermore, all research involving human subjects requires ethical assessment and approval by an Institutional Review Boards (IRB). Approval is also mandatory for data collection. In most cases, the IRB establishes the assessment procedures.<sup>305</sup>

### Position in national legislation

The Belmont Report has become the US standard for ethical assessment of human subject research.<sup>306</sup> Nevertheless, it throws up some controversies. In particular, some believe that the framework is overly protective of research participants, and the principles are too abstract.<sup>307</sup> As far as the Common Rule is concerned, 18 federal agencies and offices support it, including Department of Health and Human Services.<sup>308</sup>

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<sup>301</sup> The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, “Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979. <http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html#xbenefit>

<sup>302</sup> Ibid.

<sup>303</sup> Code of Federal Regulations, 2009. <http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.111>

<sup>304</sup> Ibid.

<sup>305</sup> Ibid.

<sup>306</sup> Miller, Richard B., “How the Belmont Report Fails”, *Essays in Philosophy*, Vol. 4, Issue 2, Article 6, 2003.

<sup>307</sup> Beauchamp, Tom L., “The Belmont Report”, 2008, in eds. Ezekiel J. Emanuel et al., *The Oxford Textbook of Clinical Research Ethics*. Oxford University Press, 2008; Miller, Richard B., „How the Belmont Report Fails”, *Essays in Philosophy*, Vol. 4, Issue 2, Article 6, 2003.

<sup>308</sup> Please compare: <http://www.hhs.gov/ohrp/humansubjects/commonrule/>

### International context

The Belmont report shares the principle - that the autonomy of research subject shall be respected - with widely accepted international frameworks such as the Nuremberg Code, the Declaration of Helsinki, and CIOMS. The Belmont report shares to a large extent the central tenets in international regulations, such as the standards for informed consent, the need for assessing the risks and the benefit of the research, and the criteria for selection of research subjects. Nevertheless, there are some differences between the codes. The Belmont report was developed to provide broader ethical principles than e.g. developed in the Nuremberg Code. The Belmont report also includes the recommendation to assess the ratio of benefit to harm, which is not included in the Nuremberg code.

There is a consistent standard between The Common Rules, The Belmont report, and international frameworks such as the Declaration of Helsinki in regard to the framework for the establishment of ethical committees.

### **2.3.2.2 China**

#### Purpose of the frameworks

The purpose of the Interim Rules for Ethical Review of Biomedical Research Involving Human subjects, is to “protect human life and health, to safeguard human dignity, and to protect legitimate rights and interests of human subjects”,<sup>309</sup> whereas the Good Clinical Practice aims at ensuring the safety of research subjects.<sup>310</sup>

#### Key values regarding research and innovation

The Interim Rules for Ethical Review recognise the well-established international principles of biomedical ethics: principle of autonomy, principle of beneficence, principle of non-maleficence and the principle of justice. The Good Clinical Practice refers to principles of the Declaration of Helsinki.

#### Impact on research and innovation

Article 14 of the Interim Rules states that ethical review of biomedical research subjects should respect the rights of subjects to autonomous decisions and the safety of the participants. Good Clinical Practice in Article 12 stipulates that the ethics committee, when assessing an application, should examine the following aspects:

- the qualifications and experience of investigator;
- determination as whether the ethical principles are fully considered;
- determination as whether the methods for recruiting subjects are proper;
- determination as whether there is a treatment or insurance provided for those, who are harmed during the clinical trial;
- determination as to whether recommendations to modify research protocol are acceptable;
- determination as to whether there is an on-going examination of the risk to the human subjects participating in the trials.<sup>311</sup>

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<sup>309</sup> The Interim Rules for Ethical Review of Biomedical Research Involving Human Subjects, 2007. Unofficial English translation: [http://www.wpro.who.int/health\\_research/ethics/interimrulesethicreviewbiomedical.pdf](http://www.wpro.who.int/health_research/ethics/interimrulesethicreviewbiomedical.pdf)

<sup>310</sup> Good Clinical Practice, 2003. <http://www.bioon.com/drug/chemdrug/243155.shtml>

<sup>311</sup> Ibid.

### Position in national legislation, support for the frameworks

Both frameworks are binding.

According to the literature on the Chinese ethical review system, there have been some controversies regarding the implementation of the guidelines that can be summarised as follows: (1) a resistance to ethics in general among scientists, (2) the malfunction of the IRBs, and (3) a resistance towards a western conception of informed consent.<sup>312</sup> It is reasonable to assume that the Good Clinical Practice shares the difficulties identified when discussing the Interim Rules for Guidelines on Ethical Review of Biomedical Research Involving Human Subjects, that is, how the ethical principles stipulated in the international regulations can be implemented in the Chinese ethical review system.

### International context

There is a strong consistency between the Chinese and the international frameworks, especially the Declaration of Helsinki and CIOMS. The reason for the strong consistency can to some degree be attributed to China's role as the largest manufacturer of pharmaceutical drugs. Nevertheless, due to the lack of English translations, it is difficult to make a more comprehensive comparison between the Chinese frameworks on ethics assessment and international regulations.

Ethical review in relation to biomedical research involving human subjects in China is well covered by various national guidelines that adhere to international standards. However, the ethical review is limited to biomedical research. Moreover, there is also a question as to what extent the international rules are implemented.

## **2.4 CONCLUDING REMARKS**

The frameworks having the biggest impact on research and innovation are the biomedical ethical frameworks, which provide for standards for carrying out research on human subjects. The most important values recognised by them include inviolability of human dignity and the necessity of informed consent. They also require that the acceptability of research on human subjects is examined by independent ethics committees.

The Biological and Chemical Weapons Conventions, frameworks on researchers and good research practices as well as data protection frameworks are also relevant for research and innovation. The first group is connected to dual-use issue and places, on researchers, an obligation to prevent any potential misuse of their work. As far as the second group is concerned, it lays down principles ensuring scientific integrity and responsible conduct of research. Data protection frameworks guarantee that the right to privacy and personal data is respected.

Principles for the social sciences contain mostly provisions regarding the way in which sociologists and psychologists should conduct their research. General human rights frameworks recognise the importance of scientific freedom and human dignity. As far as environmental frameworks are concerned, they refer to the precautionary principle, according

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<sup>312</sup> Renzong, Qiu, (2011), "Reflections on Bioethics in China. The Interaction Between Bioethics and Society" in Catherine Myser, (2011), *Bioethics Around the Globe*, Oxford: Oxford University Press, p. 173.

to which when there is a significant likelihood of a serious threat to the environment special countermeasures shall be taken.

The principles laid down in Chinese and American frameworks in many ways are similar to the frameworks analysed in section 2 of the report, and the document Chinese Good Clinical Practice explicitly refers to the Declaration of Helsinki.

## ANNEX TO PART 2: POSITION OF THE FRAMEWORKS IN NATIONAL LEGAL SYSTEMS

### GENERAL HUMAN RIGHTS FRAMEWORK

Framework/nature	Country	Position in the national legal system
Universal Declaration on Human Rights  (non-binding document)	Austria	Austria declares the support for the principles presented in the Declaration. <sup>313</sup>
	France	France voted in favour of the Declaration and adopted it on 10 December 1948. <sup>314</sup>
	Germany	Although Germany did not take part in the drafting process of the Declaration, its principles were inspiration for its Constitution ( <i>Grundgesetz</i> ), especially to article 1 promoting inviolability of human dignity. <sup>315</sup>
	The Netherlands	Netherlands voted in favour of the document. <sup>316</sup>
	Poland	Poland abstained from voting on the document in 1948 due to the fact that the Declaration did not explicitly condemn fascism and Nazism. <sup>317</sup> However, its Constitution of 1997 include principles recognised by the Declaration, including inherent dignity of each human being and warrants a variety of civil, political, economic, social and cultural rights and freedoms. <sup>318</sup>
	Serbia	At the adoption of the Declaration Serbia formed part of the People's Federal Republic of Yugoslavia. Yugoslavia abstained from voting on the Document. According to the Yugoslav delegation, "principles of human rights set out in the declaration lagged behind the social progress achieved in modern times; and they did not grant full juridical and social protection to man". <sup>319</sup> It criticised also the lack of provisions regarding the protection of minorities. <sup>320</sup>
	Spain	Although Germany did not take part in the drafting process of the Declaration, it is explicitly referred to in section 10 of the Constitution stating that "Provisions relating to the fundamental rights and liberties recognised by the Constitution shall be construed in conformity with the Universal

<sup>313</sup> <http://www.austria.org/overview-1/>

<sup>314</sup> Yearbook of the United Nations 19448-1949, p. 535.

<http://www.unmultimedia.org/searchers/yearbook/page.jsp?bookpage=535&volume=1948-49>

<sup>315</sup> Basic Law for the Federal Republic of Germany, 1949. [http://www.gesetze-im-internet.de/englisch\\_gg/basic\\_law\\_for\\_the\\_federal\\_republic\\_of\\_germany.pdf](http://www.gesetze-im-internet.de/englisch_gg/basic_law_for_the_federal_republic_of_germany.pdf)

<sup>316</sup> Yearbook of the United Nations 19448-1949, p. 535.

<http://www.unmultimedia.org/searchers/yearbook/page.jsp?bookpage=535&volume=1948-49>

<sup>317</sup> For more information: [http://ccnmtl.columbia.edu/projects/mmt/udhr/udhr\\_general/drafting\\_history\\_10.html](http://ccnmtl.columbia.edu/projects/mmt/udhr/udhr_general/drafting_history_10.html)

<sup>318</sup> The Constitution of the Republic of Poland, 1997. <http://www.sejm.gov.pl/prawo/konst/angielski/kon1.htm>

<sup>319</sup> United Nations, 183rd Plenary Meeting, 1948. [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/PV.183](http://www.un.org/ga/search/view_doc.asp?symbol=A/PV.183)

<sup>320</sup> Ibid.

Framework/nature	Country	Position in the national legal system
		Declaration of Human Rights and international treaties and agreements thereon ratified by Spain <sup>321</sup> .
	UK	UK voted in favour of the document. <sup>322</sup>
Convention for the Protection of Human Rights and Fundamental Freedoms  (legally binding on the members of Council of Europe)	Austria	Bound by the Convention.
	France	Bound by the Convention.
	Germany	Bound by the Convention.
	The Netherlands	Bound by the Convention.
	Poland	Bound by the Convention.
	Serbia	Bound by the Convention.
	Spain	Bound by the Convention.
	UK	Bound by the Convention.
Charter of Fundamental Rights of the European Union  (legally binding on the EU Member States)	Austria	Transposed directive's provisions into the national legal system.
	France	Transposed directive's provisions into the national legal system.
	Germany	Transposed directive's provisions into the national legal system.
	The Netherlands	Transposed directive's provisions into the national legal system.
	Poland	Transposed directive's provisions into the national legal system.  The so-called Polish-British protocol states in article 1(1) that the "Charter does not extend the ability of the Court of Justice of the European Union, or any court or tribunal of Poland or of the United Kingdom, to find that the laws, regulations or administrative provisions, practices or actions of Poland or of the United Kingdom are inconsistent with the fundamental rights, freedoms and principles that it reaffirms", whereas Article 1(2) says that the Title IV of the Charter (containing economic and social rights), does not create "justiciable rights applicable to Poland or the United Kingdom except in so far as Poland or the United Kingdom has provided for such rights in its national law" <sup>323</sup> .
	Serbia	Serbia is not bound by the Charter, because it is not a Member State of EU.
	Spain	Transposed directive's provisions into the national legal system.
	UK	Transposed directive's provisions into the national legal system.  Please see the information about Polish-British Protocol in the point about Poland.

<sup>321</sup> Spanish Constitution, 1997. <http://www.lamoncloa.gob.es/lang/en/espana/leyfundamental/Paginas/index.aspx>

<sup>322</sup> Yearbook of the United Nations 19448-1949, p. 535.

<http://www.unmultimedia.org/searchers/yearbook/page.jsp?bookpage=535&volume=1948-49>

<sup>323</sup> Protocol on the Application of the Charter of Fundamental Rights of the European Union to Poland and to the United Kingdom, 2007. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2007:306:0156:0157:EN:PDF>



## ENVIRONMENTAL FRAMEWORKS

<b>Framework/nature</b>	<b>Country</b>	<b>Position in the national legal system</b>	
Rio Declaration on Environment and Development  (set of non-binding principles)	Austria	Document is not legally binding.	
	France	Document is not legally binding.	
	Germany	Document is not legally binding.	
	The Netherlands	Document is not legally binding.	
	Poland	Document is not legally binding.	
	Serbia	Document is not legally binding.	
	Spain	Document is not legally binding.	
	UK	Document is not legally binding.	
The Convention on Biological Diversity  (legally binding document)	Austria	Party to the Convention.	
	France	Party to the Convention.	
	Germany	Party to the Convention.  The German Research Foundation (DFG) established Senate Commission on Biodiversity Research, which in particular aims at coordinating the biodiversity research funded by the DFG and at playing a role of and advisor for both politicians and the general public on the scientific issues regarding the biodiversity <sup>324</sup> . At the Commission four working groups are operating: Working group for data management in Biodiversity research, Working group for biodiversity research networks, Working group on CBD-related issues, in particular Access to genetic resources and benefit sharing from their utilisation and the Working Group “Monitoring and indicators” <sup>325</sup> .	
	The Netherlands	Party to the Convention.	
	Poland	Party to the Convention.	
	Serbia	Party to the Convention.	
	Spain	Party to the Convention.	
	UK	Party to the Convention.	
	Cartagena Protocol on Biosafety to the Convention on Biological Diversity  (legally binding document)	Austria	Party to the Protocol.
		France	Party to the Protocol.
Germany		Party to the Protocol.	
The Netherlands		Party to the Protocol.	
Poland		Party to the Protocol.	
Serbia		Party to the Protocol.	
Spain		Party to the Protocol.	
UK		Party to the Protocol.	
Nagoya Protocol on Access	Austria	Did not ratify the Protocol.	

<sup>324</sup> For more information: [http://www.dfg.de/en/dfg\\_profile/statutory\\_bodies/senate/biodiversity/index.html](http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/biodiversity/index.html)

<sup>325</sup> To learn more about these working groups, please see:

[http://www.dfg.de/en/dfg\\_profile/statutory\\_bodies/senate/biodiversity/working\\_groups/index.html#micro156202](http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/biodiversity/working_groups/index.html#micro156202)

<b>Framework/nature</b>	<b>Country</b>	<b>Position in the national legal system</b>
to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity  (legally binding document)		Lack of ratification is a result of the document 15191/11 <sup>326</sup> , in which the European Commission ordered member states not to ratify the Protocol before EU did it. On 16 May 2014 the European Union approved the Nagoya Protocol and it entered into force for it on 12 October 2014 <sup>327</sup> . It can be expected that the Protocol will be ratified in the nearest future.
	France	Did not ratify the Protocol (please compare with the point regarding Austria)
	Germany	Did not ratify the Protocol (please compare with the point regarding Austria)
	The Netherlands	Did not ratify the Protocol (please compare with the point regarding Austria)
	Poland	Did not ratify the Protocol (please compare with the point regarding Austria)
	Serbia	Did not ratify the Protocol (please compare with the point regarding Austria)
	Spain	Party to the Protocol.
	UK	Did not ratify the Protocol (please compare with the point regarding Austria)
United Nations Framework Convention on Climate Change  (legally binding document)	Austria	Party to the Convention.
	France	Party to the Convention.
	Germany	Party to the Convention.
	The Netherlands	Party to the Convention.
	Poland	Party to the Convention.
	Serbia	Party to the Convention.
	Spain	Party to the Convention.
	UK	Party to the Convention.
Kyoto Protocol to the United Nations Framework Convention on Climate Change  (legally binding document)	Austria	Party to the Protocol.
	France	Party to the Protocol.
	Germany	Party to the Protocol.
	The Netherlands	Party to the Protocol.
	Poland	Party to the Protocol.
	Serbia	Party to the Protocol.
	Spain	Party to the Protocol.
	UK	Party to the Protocol.
United Nations Convention to Combat Desertification  (legally binding document)	Austria	Party to the Convention.
	France	Party to the Convention.
	Germany	Party to the Convention.
	The Netherlands	Party to the Convention.
	Poland	Party to the Convention.

<sup>326</sup> European Commission, Roadmap for the ratification of Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization, 2011.  
<http://register.consilium.europa.eu/doc/srv?l=EN&t=PDF&gc=true&sc=false&f=ST%2015191%202011%20INIT>

<sup>327</sup> For more information: [http://ec.europa.eu/environment/nature/biodiversity/international/abs/index\\_en.htm](http://ec.europa.eu/environment/nature/biodiversity/international/abs/index_en.htm)

Framework/nature	Country	Position in the national legal system
	Serbia	Party to the Convention.
	Spain	Party to the Convention.
	UK	Party to the Convention.
Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)  (legally binding document)	Austria	Party to the Convention.
	France	Party to the Convention.
	Germany	Party to the Convention.
	The Netherlands	Party to the Convention.
	Poland	Party to the Convention.
	Serbia	Party to the Convention.
	Spain	Party to the Convention.
	UK	Party to the Convention.
Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)  (legally binding document)	Austria	Party to the Convention.
	France	Party to the Convention.
	Germany	Party to the Convention.
	The Netherlands	Party to the Convention.
	Poland	Party to the Convention.
	Serbia	Party to the Convention.
	Spain	Party to the Convention.
	UK	Party to the Convention.

### BIOLOGICAL AND CHEMICAL WEAPONS CONVENTIONS

Framework/nature	Country	Position in the national legal system
Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (Biological Weapons Convention)  (legally binding document)	Austria	Party to the Convention.  Austria declared, that “its co-operation within the framework of this Convention cannot exceed the limits determined by the status of permanent neutrality and membership with the United Nations” <sup>328</sup> .
	France	Party to the Convention.
	Germany	Party to the Convention.  BWC is referred to in the “Code of Conduct for Biosecurity for Facilities dealing with Biological Resources” of the Leibniz Association <sup>329</sup> , whose aim is to prevent the misuse of research. There are also codes of conduct, that although does not directly refer to the Convention, but they strive toward the very same goals and share its values. These are: “Code of Conduct: Working with Highly Pathogenic Microorganisms and Toxins” of the DFG <sup>330</sup> and

<sup>328</sup> Please compare: <http://www.opbw.org/convention/documents/btwcres.pdf>

<sup>329</sup> Leibniz Association, Code of Conduct for Biosecurity for Facilities dealing with Biological Resources (Verhaltenskodex für Biosicherheit für Einrichtungen im Umgang mit biologischen Ressourcen), 2012.

[http://www.leibniz-gemeinschaft.de/fileadmin/user\\_upload/downloads/Presse/Dokumente/Verhaltenskodex\\_fuer\\_Biosicherheit\\_deutsch.pdf](http://www.leibniz-gemeinschaft.de/fileadmin/user_upload/downloads/Presse/Dokumente/Verhaltenskodex_fuer_Biosicherheit_deutsch.pdf)

<sup>330</sup> German Research Foundation, Code of Conduct: Working with Highly Pathogenic Microorganisms and Toxins, 2013.

Framework/nature	Country	Position in the national legal system
		“Guidelines and Rules on a Responsible Approach to Freedom of Research and Research Risks” of the Max Planck Society.
	The Netherlands	Party to the Convention.  In 2007 the Royal Netherlands Academy of Arts and Sciences (KNAW) the “Biosecurity Code of Conduct” <sup>331</sup> , whose aim is to “prevent life sciences research or its application from directly or indirectly contributing to the development, production or stock-piling of biological weapons, as described in the Biological and Toxin Weapons Convention (BTWC), or to any other misuse of biological agents and toxins”.
	Poland	Party to the Convention.
	Serbia	Party to the Convention.
	Spain	Party to the Convention.
	UK	Party to the Convention.  According to the declaration made by the UK, BWC shall not apply to Southern Rhodesia <sup>332</sup> .  In 2002 the Parliament was presented by the Secretary of State for Foreign and Commonwealth Affairs the Green Paper “Strengthening the Biological and Toxin Weapons Convention: Countering the Threat from Biological Weapons” <sup>333</sup> , which emphasised the need to strengthen the Convention, in particular by codes of conduct developed by academic and professional bodies.
Convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction (Chemical Weapons Convention)  (legally-binding document)	Austria	Party to the Convention.
	France	Party to the Convention.
	Germany	Party to the Convention.
	The Netherlands	Party to the Convention.
	Poland	Party to the Convention.
	Serbia	Party to the Convention.
	Spain	Party to the Convention.
	UK	Party to the Convention.

## DATA PROTECTION FRAMEWORKS

[http://www.dfg.de/download/pdf/dfg\\_im\\_profil/reden\\_stellungnahmen/2013/130313\\_verhaltenscodex\\_dual\\_use\\_en.pdf](http://www.dfg.de/download/pdf/dfg_im_profil/reden_stellungnahmen/2013/130313_verhaltenscodex_dual_use_en.pdf)

<sup>331</sup> Royal Netherlands Academy of Arts and Sciences, A Code of Conduct for Biosecurity, 2007.

<http://www.know.nl/en/news/publications/a-code-of-conduct-for-biosecurity>

<sup>332</sup> Please see: <http://www.opbw.org/convention/documents/btwcres.pdf>

<sup>333</sup> Secretary of State for Foreign and Commonwealth Affairs, “Strengthening the Biological and Toxin Weapons Convention: Countering the Threat from Biological Weapons”, 2002. adopted

<b>Framework/nature</b>	<b>Country</b>	<b>Position in the national legal system</b>
Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data (legally binding document)	Austria	Party to the Convention.
	France	Party to the Convention.
	Germany	Party to the Convention.
	The Netherlands	Party to the Convention.  Netherlands in declaration to the Convention lists types of data excluded from application, it includes in particular: personal data files intended for domestic use, “personal data files kept exclusively for public information purposes by the press, radio or television”, personal data files kept in achieve repositories, “personal data which are established and to which public access is required by law”, personal data files established under “Criminal Records and Certificates of Good Behaviour Act”. <sup>334</sup>
	Poland	Party to the Convention.
	Serbia	Party to the Convention.  Serbia declared that the Convention shall not apply to “automated databases containing personal data being kept in accordance with criminal records and State security regulations”. <sup>335</sup>
	Spain	Party to the Convention.
	UK	Party to the Convention.
Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data (Data Protection Directive)	Austria	Transposed directive’s provisions into the national legal system.
	France	Transposed directive’s provisions into the national legal system.
	Germany	Transposed directive’s provisions into the national legal system.  The Directive is also referred to in the context of Privacy Impact Assessment (PIA) by the German Federal Office for Information Security in the “Privacy Impact Assessment Guideline for RFID Applications”, whose aim is to “explain the PIA <sup>336</sup> Framework and to provide RFID application operators who need to conduct a PIA

<sup>334</sup> Please compare:

<http://conventions.coe.int/Treaty/Commun/ListeDeclarations.asp?NT=108&CV=1&NA=21&PO=999&CN=999&VL=1&CM=9&CL=ENG>

<sup>335</sup> Please compare:

<http://conventions.coe.int/Treaty/Commun/ListeDeclarations.asp?NT=108&CV=1&NA=21&PO=999&CN=999&VL=1&CM=9&CL=ENG>

<sup>336</sup> Privacy Impact Assessment

Framework/nature	Country	Position in the national legal system
		with an in-depth understanding of the framework's terminology and proposed procedures". <sup>337</sup>
	The Netherlands	Transposed directive's provisions into the national legal system.
	Poland	Transposed directive's provisions into the national legal system.
	Serbia	Although Serbia is not a member of the EU, its legal system reflects the principles of the Directive. <sup>338</sup>
	Spain	Transposed directive's provisions into the national legal system.
	UK	Transposed directive's provisions into the national legal system.  The Directive is referred to in the soft law document "Anonymisation: managing data protection Risk. Code of practice", which "explains the issues surrounding the anonymisation of personal data, and the disclosure of data once it has been anonymised". <sup>339</sup>
International Declaration on Human Genetic Data  (non-binding document)	Austria	Document is not legally binding.
	France	Document is not legally binding.
	Germany	Document is not legally binding.
	The Netherlands	Document is not legally binding.
	Poland	Document is not legally binding.
	Serbia	Document is not legally binding.
	Spain	Document is not legally binding.
	UK	Document is not legally binding.
Regulation on the protection of individuals with regard to processing of personal data and on the free movement of such data (General Data Protection Regulation)  (in the phase of negotiations)	Austria	The Regulation is still in the phase of negotiations and the final version has not yet been presented but once in force it will be applicable directly.
	France	
	Germany	
	The Netherlands	
	Poland	
	Serbia	

<sup>337</sup> Federal Office for Information Security (Bundesamt für Sicherheit in der Informationstechnik), Privacy Impact Assessment Guideline for RFID Applications, 2011.  
[https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/ElekAusweise/PIA/Privacy\\_Impact\\_Assessment\\_Guideline\\_Langfassung.pdf?\\_\\_blob=publicationFile](https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/ElekAusweise/PIA/Privacy_Impact_Assessment_Guideline_Langfassung.pdf?__blob=publicationFile)

<sup>338</sup> Norton Rose Fulbright, Global data privacy directory, 2014.  
<http://www.nortonrosefulbright.com/files/global-data-privacy-directory-52687.pdf>

<sup>339</sup> Information Commissioner's Office, Anonymisation: managing data protection risk. Code of practice, 2012.  
<https://ico.org.uk/media/1061/anonymisation-code.pdf>



Framework/nature	Country	Position in the national legal system
	Spain	
	UK	

### PRINCIPLES FOR SOCIAL SCIENCES

Framework/nature	Country	Position in the national legal system
The International Sociological Association's Code of Ethics  (binding for ISA's members) <sup>340</sup>	Austria	Binding for the Österreichische Gesellschaft für Soziologie and the Department of Sociology.
	France	Binding for the Association Francaise de Sociologie.
	Germany	Binding for the Deutsche Gesellschaft für Soziologie, Fakultät für Soziologie Universität Bielefeld, GESIS-Leibniz-Institut für Sozialwissenschaft and Mannheimer Zentrum für Sozialwissenschaft.
	The Netherlands	Binding for the Nederlandse Sociologische Vereniging NSV.
	Poland	Binding for the Polish Sociological Association and Collegium Civitas.
	Serbia	No Serbian organisation is a member of ISA.
	Spain	Binding for the Federacion Española de Sociologia, Asociacion Castellano-Manchega de Sociologia, Centro de Estudios Políticos y Constitucionales, Departamento de Sociologia y Antropologia Social and Universitat de Barcelona CREA-Research Center on Overcoming Inequalities.
	UK	Binding for the British Sociological Association, Department of Sociology and Social Policy and Department of Sociology University of Essex.
The American Psychological Associations' Ethical Principles of Psychologists and Code of Conduct  (binding for APA's members) <sup>341</sup>	Austria	Document is not legally binding.
	France	Document is not legally binding.
	Germany	Document is not legally binding.
	The Netherlands	Document is not legally binding.
	Poland	Document is not legally binding.
	Serbia	Document is not legally binding.
	Spain	Document is not legally binding.
	UK	Document is not legally binding.
International Principles for Social Impact Assessment  (non-binding document)	Austria	Document is not legally binding.
	France	Document is not legally binding.
	Germany	Document is not legally binding.
	The Netherlands	Document is not legally binding.
	Poland	Document is not legally binding.
	Serbia	Document is not legally binding.
	Spain	Document is not legally binding.
	UK	Document is not legally binding.

### FRAMEWORKS ON RESEARCHERS AND GOOD RESEARCH PRACTICES

<sup>340</sup> Full list of collective members can be found here: <http://www.isa-sociology.org/colmemb/>

<sup>341</sup> The Association represents psychology in USA and therefore it is not binding for the European countries.

<b>Framework/nature</b>	<b>Country</b>	<b>Position in the national legal system</b>
	Austria	Document is not legally binding.
	France	Document is not legally binding.
	Germany	Document is not legally binding.
	The Netherlands	Document is not legally binding.
	Poland	Document is not legally binding.
	Serbia	Document is not legally binding.
	Spain	Document is not legally binding.
	UK	Document is not legally binding.
European Charter for Researchers  (general principles and recommendations) <sup>342</sup>	Austria	The Charter is endorsed in particular by the University of Salzburg, Austrian Science Fund (FWF), University of Natural Resources and Life Sciences (BOKU).
	France	The Charter is endorsed in particular by the Institut National de la Recherche Agronomique (INRA) and Université Montpellier.
	Germany	The Charter is endorsed in particular by the Cologne University of Applied Sciences and Berlin Social Science Center (WZB).
	The Netherlands	The Charter is endorsed in particular by the Erasmus University of Rotterdam, Delft University of Technology and University of Amsterdam.
	Poland	The Charter is endorsed in particular by the Foundation for Polish Science, Institute of Plant Genetics of the Polish Academy of Sciences and International Institute of Molecular and Cell Biology
	Serbia	The Charter is endorsed by the University of Nis.
	Spain	The Charter is endorsed in particular by the Centre for Genomic Regulation (CRG) and Spanish Centre for Cardiovascular Research (CNIC), Universitat Autònoma de Barcelona (UAB).
	UK	The Charter is endorsed in particular by the University of Cambridge, University of Oxford and University of Nottingham.
A code of conduct for responsible nanosciences and nanotechnologies	Austria	
	France	

<sup>342</sup> Full list of institutions endorsing the Charter can be found here

research  (not-binding document – EU Commission recommends that Member States encourage appropriate institutions to adopt the Code voluntarily)	Germany	No data on institutions endorsing the Code.
	The Netherlands	
	Poland	
	Serbia	
	Spain	
	UK	
The European Code of Conduct for Research Integrity  (set of non-binding regulations)	Austria	By 2012 member organisations of the European Science Foundation were supposed to send reports on whether they have implemented the recommendations. <sup>343</sup> There were however no publications with regard to this matter and therefore it is difficult to establish how widely the Code of Conduct is actually endorsed.  However, during the development of the European Code of Conduct for Research Integrity, many codes of conduct were taken into account, both of national and international nature, for instance <sup>344</sup> : <ul style="list-style-type: none"> <li>• “The European Charter for Researchers” of the European Commission;</li> <li>• “Respect Code of Practice for Socio-Economic Research” (Austria);</li> <li>• “La fraude scientifique au CNRS” (France);</li> <li>• Max Planck Institutes’ “Rules of good scientific practice” (Germany);</li> <li>• “The Netherlands Code of Conduct for Scientific Practice”;</li> <li>• “Good manners in science” of the Polish Academy of Sciences.</li> <li>• “Policy and Code of Conduct on the governance of good research conduct: integrity, clarity and good management” (UK).</li> </ul>
	France	
	Germany	
	The Netherlands	
	Poland	
	Serbia	
	Spain	
UK		

## BIOMEDICAL ETHICAL FRAMEWORKS

Framework/nature	Country	Position in the national legal system
Nuremberg Code	Austria	Although, the Nuremberg Code is relatively short and

<sup>343</sup> Ibid., p. 30.

<sup>344</sup> For more information: <http://www.allea.org/Content/ALLEA/Scientific%20Integrity/Codes-and-guidelines-on-research-integrity-rev.pdf>

Framework/nature	Country	Position in the national legal system
(set of non-binding principles)	France	it is not legally-binding, its principles have influenced many other international documents including United Nations' International Covenant on Civil and Political Rights and Biomedical Research Involving Human Subjects drawn up by the Council for International Organisations of Medical Sciences together with the World Health Organization. <sup>345</sup>
	Germany	
	The Netherlands	
	Poland	
	Serbia	
	Spain	
	UK	
Declaration of Helsinki (non-binding document)	Austria	The Declaration is referred to in the <i>Gesamte Rechtsvorschrift für Medizinproduktegesetz</i> . <sup>346</sup>
	France	France implemented the provisions of the Directive 2001/20/EC, which refers to the Declaration. <sup>347</sup>
	Germany	Although Declaration of Helsinki itself is not explicitly referred to in German legislation, “the reference is made to the Tokyo revision of the Declaration (Helsinki II) in the official background text to Sections 40 and 41 Arzneimittelgesetz (the Medicines Law). <sup>348</sup>
	The Netherlands	University of Amsterdam explicitly refer to the Declaration of Helsinki. <sup>349</sup>
	Poland	In Poland, “the professional rules relating to medical research, which are included in the Act on the Medical Profession, comply to a significant degree with the norms set by the World Medical Association Declaration of Helsinki”. <sup>350</sup> Article 41a of the Code of Medical Ethics requires the physician performing the research, and in particular medical experiments, to observe the standards and obligations under the Code of Medical Ethics and general principles of research ethics. Here, the Code cites the Helsinki Declaration.
	Serbia	Declaration of Helsinki is referred to in the “Rulebook on the Contents of the Application, and/or Documentation on the Approval of Clinical Trials for Medicines and Medical Device”. <sup>351</sup>
	Spain	The Spanish Royal Decree 223/2004 explicitly mentions the Declaration of Helsinki. <sup>352</sup>
	UK	The Declaration is referred to in the “Guidelines for

<sup>345</sup> Please compare: <http://www.cgu.edu/pages/1722.asp>

<sup>346</sup> Please compare:

<https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=10011003>

<sup>347</sup> Sprumont, Dominique, Sara Girardin, Trudo Lemmens, *The Helsinki Declaration and the Law: An International and Comparative Analysis*, 2007.

<http://poseidon01.ssrn.com/delivery.php?ID=370115027092009121120089031070081094103033031041027010022025003096093118026114121067057030039061008116026024085117024075119089049074003041085023123118070067029071004083020027113030096071093075101074118025104019116083014090065119084011023090104083&EXT=pdf&TYPE=2>

<sup>348</sup> Human, Delon and Sev S. Fluss, *The World Medical Association's Declaration of Helsinki: Historical and Contemporary Perspectives*, 2001.

<sup>349</sup> Please compare: <http://www.fbw.vu.nl/en/about-the-faculty/committees/ethics-committee/index.asp>

<sup>350</sup> Piątkiewicz, Jacek A., *National Regulations on Ethics and Research in Poland*, 2005.

[http://ec.europa.eu/research/science-society/pdf/pl\\_eng\\_lr.pdf](http://ec.europa.eu/research/science-society/pdf/pl_eng_lr.pdf)

<sup>351</sup> Please see: <http://www.alims.gov.rs/eng/files/2012/10/7-Rules-on-clinical-trials.pdf>

<sup>352</sup> Please see: <http://www.boe.es/buscar/act.php?id=BOE-A-2004-2316>

Framework/nature	Country	Position in the national legal system
		Good Clinical Practice in Clinical Trials” and MRC Ethics Guide “Research involving human participants in developing societies”. <sup>353</sup>
International Ethical Guideline for Biomedical Research Involving Human Subjects  (non-binding document – its purpose is to recommend how the fundamental ethical principles regarding biomedicine could be applied to low-resource countries)	Austria	Document is not legally-binding.
	France	Document is not legally binding.
	Germany	Document is not legally binding.
	The Netherlands	Document is not legally binding.
	Poland	Act on the Medical Professions and Pharmaceutical Law comply with the Guideline. <sup>354</sup>
	Serbia	Document is not legally binding.
	Spain	Document is not legally binding.
	UK	Document is not legally binding.
Convention on Human Rights and Biomedicine (Oviedo Convention) and Additional Protocol to the Convention on Human Rights and Biomedicine, concerning Biomedical Research  (Convention and its Protocol are binding for the countries who have ratified them)	Austria	Austria has not sign nor ratified the Oviedo Convention and the Additional Protocol. <sup>355</sup>
	France	France has ratified the Convention but has not signed the Additional Protocol. <sup>356</sup>
	Germany	Germany has not sign nor ratified the Oviedo Convention and the Additional Protocol.  Germany considers the Convention to be “to permissive, especially in the most controversial issues such as embryo research and non-therapeutic research on people unable to consent”. <sup>357</sup>
	The Netherlands	Netherlands has signed the Convention, but has not ratified it. It has not signed nor ratified the Additional Protocol. <sup>358</sup>
	Poland	Netherlands has signed the Convention, but has not ratified it. It has not signed nor ratified the Additional Protocol.  Some authors find the Convention to be inconsistent with the constitutional principles, especially with the inviolability of human dignity. <sup>359</sup>

<sup>353</sup> Human, Delon and Sev S. Fluss, *The World Medical Association’s Declaration of Helsinki: Historical and Contemporary Perspectives*, 2001.

[http://www.wma.net/en/20activities/10ethics/10helsinki/draft\\_historical\\_contemporary\\_perspectives.pdf](http://www.wma.net/en/20activities/10ethics/10helsinki/draft_historical_contemporary_perspectives.pdf)

<sup>354</sup> Ligocka, Danuta, “Bioethical committees and data protection issues in Poland”, *Environmental Health*, No. 7, 2008. <http://www.ehjournal.net/content/7/S1/S4>

<sup>355</sup> Please compare:

<http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=164&CM=8&DF=18/06/2015&CL=ENG> and <http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=195&CM=8&DF=18/06/2015&CL=ENG>

<sup>356</sup> Ibid.

<sup>357</sup> Andorno, Roberto, „The Oviedo Convention: A European Legal Framework at the Intersection of Human Rights and Health Law”, *JIBL*, Vol. 02, 2005.

<sup>358</sup> Please see:

<http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=164&CM=8&DF=18/06/2015&CL=ENG> and <http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=195&CM=8&DF=18/06/2015&CL=ENG>

Framework/nature	Country	Position in the national legal system
	Serbia	Serbia has ratified the Convention but has not signed nor ratified the Additional Protocol. <sup>360</sup>
	Spain	Spain has ratified the Convention but has not signed nor ratified the Additional Protocol. <sup>361</sup>
	UK	UK has not sign nor ratified the Oviedo Convention and the Additional Protocol.  It considers the Convention to be too restrictive. <sup>362</sup>
The Universal Declaration on the Human Genome and Human Rights  (non-binding document)	Austria	Austria adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>363</sup>
	France	France adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>364</sup>
	Germany	Germany adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>365</sup>
	The Netherlands	Netherlands adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>366</sup>
	Poland	Poland adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>367</sup>
	Serbia	Serbia adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>368</sup>
	Spain	Spain adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>369</sup>
	UK	United Kingdom adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>370</sup>
Operational Guideline for Ethics Committees That Review Biomedical	Austria	Document is not legally binding.
	France	Document is not legally binding.
	Germany	Document is not legally binding.

<sup>359</sup> Lipski, Jan, "Opinia prawna na temat zgodności z Konstytucją RP Konwencji Rady Europy o ochronie praw człowieka i godności istoty ludzkiej w odniesieniu do zastosowań biologii i medycyny", *Zeszyty Prawnicze*, No. 2(42), 2014, pp. 141-155.

<sup>360</sup> Please see:

<http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=164&CM=8&DF=18/06/2015&CL=ENG> and

<http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=195&CM=8&DF=18/06/2015&CL=ENG>

<sup>361</sup> Ibid.

<sup>362</sup> Andorno, Roberto, „The Oviedo Convention: A European Legal Framework at the Intersection of Human Rights and Health Law”, *JIBL*, Vol. 02, 2005.

<sup>363</sup> Please compare: <http://www.unesco.org/new/en/social-and-human-sciences/themes/bioethics/human-genome-and-human-rights/>

<sup>364</sup> Ibid.

<sup>365</sup> Ibid.

<sup>366</sup> Ibid.

<sup>367</sup> Ibid.

<sup>368</sup> Ibid.

<sup>369</sup> Ibid.

<sup>370</sup> Ibid.



<b>Framework/nature</b>	<b>Country</b>	<b>Position in the national legal system</b>
Research  (non-binding document)	The Netherlands	Document is not legally binding.
	Poland	Document is not legally binding.
	Serbia	Document is not legally binding.
	Spain	Document is not legally binding.
	UK	Document is not legally binding.
Universal Declaration on Bioethics and Human Rights  (non-binding document)	Austria	Austria adopted the Declaration along with all other UNESCO Member States on 19 October 2005. <sup>371</sup>
	France	France adopted the Declaration along with all other UNESCO Member States on 19 October 2005. <sup>372</sup>
	Germany	Germany adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>373</sup>
	The Netherlands	Netherlands adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>374</sup>
	Poland	Poland adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>375</sup>
	Serbia	Serbia adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>376</sup>
	Spain	Spain adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>377</sup>
	UK	United Kingdom adopted the Declaration along with all other UNESCO Member States at 29th General Conference on 11 November 1997. <sup>378</sup>

<sup>371</sup> Please compare: <http://www.unesco.org/new/en/social-and-human-sciences/themes/bioethics/bioethics-and-human-rights/>

<sup>372</sup> Ibid.

<sup>373</sup> Ibid.

<sup>374</sup> Ibid.

<sup>375</sup> Ibid.

<sup>376</sup> Ibid.

<sup>377</sup> Ibid.

<sup>378</sup> Ibid.