



International Survey & Analysis of Laws and Regulations Addressing Internet Addiction and/or Problematic Usage of the Internet

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Abstract: Public health is facing new types of global challenges coming from the risks all classes of population get exposed to via their growing use of Internet based media and contents. As the individualized treatment of such health and social problems is both difficult and very costly, preventive and legislative measures have been taken in a vast number of countries. Excessive internet use has not yet been recognised as a disorder by the World Health Organization (WHO), nor in the American Psychiatric Association's list of Diagnostic and Statistical Manual of Mental Disorders (DSM-5); however, the related diagnosis of online gaming disorder (6C50) and online gaming disorder (6C51) have been included in the forthcoming 11th revision of WHO International Classification of Diseases (ICD-11). This paper is focussing on top-down laws voted in a Parliament, or enacted public regulations and some industry wide regulations, which, in different countries, tackle one or several facets of Internet addiction or problematic uses of the Internet (PUI). This international survey is carried out on a basis of laws and regulations in each country, with Internet addiction or PUI as a direct or indirect scope. This has resulted early 2020 in the identification and summarization of a catalogue of 66 laws or regulations from 50 countries, each described in template form in a supplementary document. The identified laws and regulations are analysed with respect to specific consequences of the Internet addictions, as well as by categories of stakeholders addressed in these measures. The laws and regulations are also classified in terms of the underlying principles and solution approaches, showing large cultural differences.

Keywords: Internet Addiction, Problematic Usage of the Internet, Laws, Regulations, Mental Disorders

1. Introduction

1.1. Background

"Internet addiction" is a growing phenomenon with health, network, media creation, psychological, sociological, social, social networking and economic consequences [1] (Figure 1). While the layman's understanding thereof is rather universal, precisely because of its interdisciplinary nature and consequences, the definition of Internet addiction has

troubled researchers ever since its inception.

The concept of "Internet addiction" or "Internet addiction disorder" (abbreviated to: IAD), was first introduced in 1998 by Kimberly S. Young [19]. Jonathan J. Kandell [12] defined "Internet addiction" as "a psychological dependence on the Internet, regardless of the type of activity once logged on", while psychologist Mark D. Griffiths [9] conceived "Internet addiction" as a subtype of broader technology addiction, and also a subtype of behavioural addictions [11]. In turn, psychiatrists have cornered the term "Problematic Internet

use” or “Problematic usage of the Internet” (abbreviated to: PUI), or “Internet addiction disorder”, to encompass problematic, compulsive use of the Internet, that results in significant impairment in an individual's function in various life domains over a prolonged period of time [4].

Over the past decade, many surveys and media regularly report about the rising and alarming consequences of Internet addiction such as the most serious and frequent ones presented and categorized in Table 1.

Table 1. Main classes of negative effects of Internet addiction and Problematic use of the Internet (see MeSH/PMC codes under Bibliographic categories).

1. Social problems	2. General Health problems	3. Mental Disorders	4. Other behavioural problems:
1.1. Worsening of social relations, Communication problems, Self-isolation	2.1. Sleep deprivation	3.1. Memory disorders	4.1. Compulsive buying (online shopping addiction)
1.2. Deprival of Internet access to networks	2.2. Vision disorders (mainly – myopia / short-sightedness)	3.2. Child mental disorders (e.g. - increased chance of autism)	4.2. Internet Pornography addiction, compulsive sexual misconduct
1.3. Job/Carrier problems - loss of productivity, reduced scholastic achievements, increased chance of unemployment	2.3. Musculoskeletal diseases (mainly – hand joints osteoarthritis and/or back pain)	3.3. Compulsive behaviours; Pathological gambling	4.3. Sexting and Sex-offensive behaviour
1.4. Financial solvency problems	2.4. Obesity, due to sedentary lifestyle	3.4. Depression	4.4. Cyberbullying and/or Domination games
1.5. “Selfitism” (compulsive shooting of selfies), and hallucinations about smartphone notifications	2.5. Reduced physical capacity, due to sedentary lifestyle	3.5. Suicide	4.5. General policies and /or other addictive behaviours with negative consequences

Therefore, in many countries, policy makers, religious, healthcare, and other authorities have taken on these complex issues top-down instead of treating them only as a medical or social research subjects. Even the ecosystem of enterprises around Internet is alarmed [15]. These authorities essentially got no other way when facing the families and population in the front of the damages caused. Also due to its many facets, Internet addiction does not fit well with most governmental organizations as it crosses several functions, so bottom-up requests have in general not led to refined follow-up strategies. It is difficult to be addressed by streamlined regulations only. In general, no standardized definition has been provided despite that the phenomenon has received extensive public and scholarly recognition [3, 8, 11, 26]. Nevertheless, it is essential to realize that laws, regulations and international conventions on Internet addiction and Problematic use of the Internet are anyway necessary to create dedicated organizations, to fund remedial treatments, to certify treatment professionals and/or clinics, for courts to judge, and for regulators to take on derived concrete measures.

Excessive internet use has not yet been recognised as a disorder by the World Health Organization (WHO) [20], nor in the American Psychiatric Association's list of Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [4]; however, the related diagnosis of online gaming disorder (6C50) and online gaming disorder (6C51) have been included in the forthcoming 11th revision of WHO International Classification of Diseases (ICD-11) [20].

While there have been other intentions for Internet-based information filtering and blocking, most of the legislations, as well as assessment and criticism towards them, have not considered Internet addiction & PUI as relevant reasons for the introduction of such measures [10]. Some cultures or political regimes have adopted a “laissez faire” attitude when facing Internet addiction and/or PUI. In such a case, a media

and societal debate goes on, with some rare measures in unique cases by the judicial system, social authorities, hospitals, police and/or communications regulator. In this paper we do not address such an alternative. In some cultures, the “laissez faire” attitude is justified by freedom of communication measures or individual rights, but may still require medical or social assistance covered by insurance schemes or the local communities.

In the view of the above it is interesting to survey and analyse broad based top-down measures like laws and regulations (public or private) (and their eventual implementations in legal codes) as they offer the public frameworks for analysis, treatment and jurisprudence across the governmental, health, social, NGO and business structures.

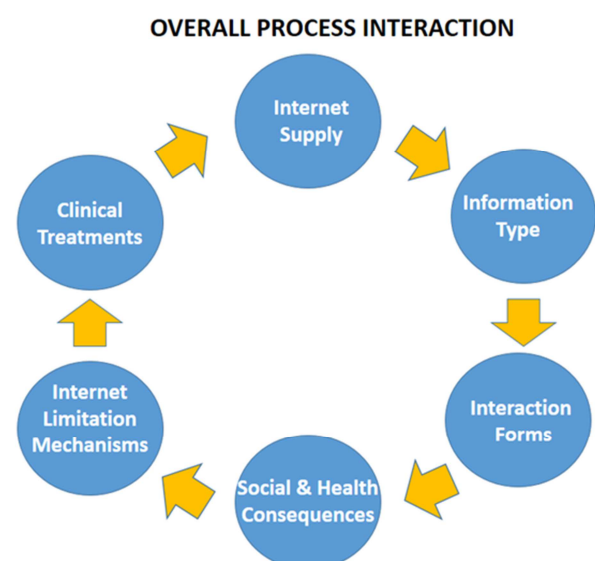


Figure 1. “Internet addiction” and PUI: the overall multidisciplinary interaction process [2].

1.2. Scope

This paper is focussing on national top-down laws voted in National Parliaments, or decided by ministerial/ public regulations, and by some industry wide regulations, which, in different countries, tackle one or several facets of Internet addiction or PUI. This international survey is carried out on a basis of laws and regulations in each country, with Internet addiction or PUI as a direct or indirect scope. This has resulted early 2020 in the identification and summarization of a catalogue of 66 laws or regulations from 50 countries, each described in template form (see Appendix 1).

The scopes of these laws and regulations has been categorized, and aggregate statistics are provided in the subsequent analysis.

It should be stressed that if a country has not yet identified laws or regulations, it may be due to either a “laissez faire” attitude, or for lack of publications of multinational directives, or because the law/ regulation has not been adopted due to amendments or publication delays, or because this research for language or other reasons has not yet uncovered such a law/regulation. It should also be appreciated that a law / regulation may be restricted, or not, to minor’s due to overriding laws granting adults wider freedoms, unless specific law provisions supersede the later to cover adults as well. This paper should thus be treated as an on-going research.

In the academic literature, there has so far only been very limited interest on analysing Internet addiction and PUI laws and regulations [10, 21, 22], thus motivating this research.

2. Methodology and Law/Regulation Template Structure

A few international conventions by the United Nations and the Council of Europe cover broad aspects of Internet addiction & PUI; the individual member countries can then decide to sign or not, to ratify or not, and if they ratify add restrictions, territory limitations, and other conditions [18]. The four conventions analysed in this research are (see also Appendix 2 and Table 3):

- 1) Council of Europe (2001). Convention on Cybercrime (ETS No. 185). Also nicknamed “Budapest convention” [16].
- 2) Council of Europe (2012). Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (CETS No. 201). Also nicknamed: “Lanzarote Convention” [14].
- 3) United Nations (1990). Convention on the Rights of the Child [7].
- 4) United Nations (2000). Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography (A/RES/54/263) [17].

It must be recalled that Internet legislation and regulation is purely national (and further complicated by jurisdiction issues [6]), and that common provisions set by the International Telecommunications Union or the Internet

engineering taskforce are only technical. Regarding terminology, most countries only use definitions in their national language (s), although some ontologies exist [25].

Likewise, regarding Internet addiction & PUI, at this time only national laws and regulations prevail, although they may eventually have to be consistent with international conventions if ratified in full; when restrictions or objections are raised by a country which has ratified an international convention, the consistency is only with its national interpretation. An obviously, if a country has not ratified an international convention it does not apply in that country, even if the country has signed the convention.

Relevant national laws and regulations (public, private) were researched through primary references in their original native language, and for lack of this, in secondary references by the same authorities in another language, and in some instances in trustworthy public compilations by law firms or Internet repositories. When the laws resulted in legal code (civil, penal or competition codes), these references were used. To the extent it has been possible, owing to the large diversity of languages in the references, the dates are also provided. In some cases, it has been possible to verify the scopes and status of the laws/regulations with the relevant issuers.

For each item in the catalogue, a scope is provided highlighting the essential measures of the law or regulation, and sometimes the genesis of its elaboration.

The law/regulation scope categories are defined in Figure 2.

CATEGORIES – Law or regulations impact on:

- A. on nature of content distributed by Internet;
- B. on target audience or types of individuals;
- C. on third party human moderating access by non-automated means (for health, social or other reasons, including compulsory treatment, custody or repression) or filtering access to the Internet;
- D. on physical/network limitations to prevent Internet addiction by cutting or automated filtering of access;
- E. limitations to specific premises (like schools, work)
- F. on Internet access removal for non-payment or usage ceiling reasons;

Figure 2. Categories of laws or regulations used in the catalogue; a given one may belong to one or several categories simultaneously.

Specific law or regulation is assigned at least one category based on its scope as summarized. If several categories are relevant, which is frequent, the most relevant categories are indicated.

It should be noted that Internet addiction or PUI effects are either reflected in specific laws/regulations, or as specific sections of broader laws/regulations, for which references and possibly dates are provided.

When in a given country some or no law or regulation has been identified, but only jurisprudence or public budgets assigned to particular events, they have been ignored as not fitting the top-down broad focus in this research.

Obviously, there may be several laws/regulations with different scopes in each country, or as a result of law revisions.

This paper does not address Web blocking or filtering

software which the individuals themselves or their caretakers may install, when this is not regulated [5, 13].

Table 2. Analysis of 66 laws/regulation types across countries, by category of negative Internet addiction & PUI effects addressed in these policies.

Effect Category Code from Table 1	Nature of negative effects of Internet addiction or PUI addressed in the surveyed laws/regulations or types of regulations	Countries with laws/regulations addressing the specific category of negative effects	Number (resp. Proportion) out of the identified laws/regulations on Internet addiction
4.2.	Internet pornography	Armenia, Bangladesh, Belarus, Belize, Bulgaria, Bhutan, Brunei, Egypt, Eritrea, France, Gambia, Georgia, Ghana, India, Iraq, Iceland, Kenya, Lithuania, Maldives, Mongolia, Nepal, Qatar, Russia, Sri Lanka, Switzerland, Tanzania, Thailand, UAE, Uganda, Ukraine, Vietnam, South Africa, Zambia	33 (50 %)
4.2. and 4.3.	Children protection from «harmful information»	Azerbaijan, Belarus, Denmark, France, Germany, Georgia, Iceland, Kazakhstan, Latvia, Lithuania, Philippines, Russia, Turkey	13 (20 %)
4.4.	Cyberbullying	Australia, Canada, Japan, Singapore, Philippines, UK, USA, South Africa	8 (12 %)
4.5.	General Internet addiction policies	Finland, France, Japan, UK	4 (6 %)
3.3.	Internet gaming & gambling	Canada, China, South Korea	3 (4.5 %)
1.2.	Internet access limitations	China, USA	2 (3 %)

Table 3. Analysis of 66 laws/regulation types across countries, by category of stakeholders affected by these policies (as defined in Figure 2).

LAW/REGULATION TARGET	Target code (Figure 2)	COUNTRIES with laws/regulations scoping the specific targets	number (resp. proportion) out of the identified laws/regulations on Internet addiction
Content distributed by Internet	A	Armenia, Azerbaijan, Bangladesh, Belize, Bulgaria, Bhutan, Brunei, Belarus, Canada, China, Denmark, Egypt, Eritrea, France, Gambia, Georgia, Germany, Ghana, India, Iraq, Iceland, Japan, Kenya, South Korea, Latvia, Lithuania, Maldives, Mongolia, Qatar, Russia, Sri Lanka, Switzerland, Tanzania, Thailand, Turkey, UAE, Uganda, Ukraine, Vietnam, South Africa, Zambia	41 (62%)
Target audience or types of individuals	B	Australia, Azerbaijan, Belarus, Canada, China, Denmark, France, Georgia, Germany, Japan, South Korea, Latvia, Lithuania, Switzerland, Kazakhstan, Philippines, Russia, Singapore, Turkey, UK, USA, South Africa	22 (33%)
Third party human moderating access by non-automated means (for health, social or other reasons, including compulsory treatment, custody or repression)	C	Bulgaria, Bhutan, Brunei, China, Egypt, Eritrea, Finland, France, Gambia, Georgia, Ghana, India, Iraq, Iceland, Kenya, Latvia, South Korea, Lithuania, Maldives, Mongolia, Nepal, Philippines, Russia, Thailand, Turkey, Uganda, UK, Ukraine, Vietnam, South Africa, Zambia	31 (47%)
Physical/network limitations to prevent Internet addiction by cutting or automated filtering of access	D	China, Egypt, France, Georgia, Japan, South Korea, Nepal, Philippines, Russia, Turkey, UAE, UK, USA	13 (20%)
Limitations into or nearby specific premises (like schools, work, libraries, healthcare institutions)	E	Australia, Canada, China, France, Georgia, Japan, Philippines, USA	8 (12%)
Internet access removal for non-payment or usage ceiling reasons;	F	China, Denmark, South Korea	3 (4.5%)

3. Internet Addiction Effects Focus Across Countries

In this Section and with reference to the categories of effects listed in Table 1, we count the Internet addiction or PUI laws/regulations across countries in relation to specific categories of disorders. This allows to demonstrate that religious or political system doctrines have a dominant impact on which Internet addiction effects receive broad legislative attention, or not.

The classes “Children protection from harmful information”, “Internet pornography” and “Internet gaming & gambling” require several legal clarifications:

- 1) first, in some countries there is unlimited access by adults to all content and all services, but not in others, so the laws/regulations specific e.g. to “Internet pornography” may apply to adults in some countries.
- 2) next, in general laws and authority regarding adults and minors differ, so some countries may have laws/regulations for “harmful information” (Internet pornography, Internet gaming & gambling, advertising) only for minors.

Amongst the 50 countries which have legislated on Internet addiction and PUI, the subject of “Internet pornography” in general receives a 50% near-majority of legislative or regulatory actions. It must be highlighted that this 49% score refers to blanket measures for all age groups, in that the subject of “Children protection from harmful information” (which itself almost systematically covers

“Internet pornography” and a few instances of “Internet gaming & gambling”) only represents 20%. This means that those countries which only have measures for children (and not for adults) have complied the national interpretations of the UN Convention on children’s rights [7] and with the Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse [14]. The interesting questions are really about all the countries who have not legislated on this subject for children only, and about those who have legislated on it for adults also eventually conflicting with freedom rights.

“Cyberbullying” has received 12% of legislative or regulatory action, mostly in limited though to school premises.

The field of “Internet gaming & gambling” is only entitled to 4.5% amongst the laws/regulations from the surveyed countries and for vastly different reasons: either cultural differences, or regulatory regimes for the providers of gaming & gambling. It is also interesting to wonder if and how Internet game providing industries have largely escaped regulatory or other measures in their worldwide markets. There are several countries which currently consider adopting strong measures against offline and online gambling due to heavy problems including depression, financial bankruptcy, crimes and even increasing suicides among youngsters.

Only two large countries have implemented Internet access policies, with one implementing legislative measures mostly at network level, and the other at access device level based on individual’s own choice.

Four countries (6%) have or aim at general policies against Internet addiction irrespective of the category of effects, by raising decentralized mediation measures, or by exploiting networks for deterrence.

For all the 13 other categories of Internet addiction and PUI effects out of 20 (Table 1) no laws or regulations have been identified so far, which represents 65% of the identified classes of Internet addiction & PUI negative effects.

4. Principles of the Laws / Regulations by Target Stakeholders

In this Section we count the categories of stakeholders impacted by Internet addiction or PUI laws/regulations, based on the categories defined in Figure 2. This allows to identify across countries those stakeholder categories receiving the primary attention by policy makers.

Regarding stakeholders identified as targets of laws or regulations against Internet addiction and PUI, a large majority of 62% aim at content (A), and very often only pornographic content. This policy approach suffers from the intrinsic weaknesses, of being very hard to enforce, and can also be evaded when content providers are located outside national territory raising issues of jurisdiction [6]. Also, most of the legal codes impose simple fines, irrespective of the cumulated commercial value of content being sanctioned and of individual consumption of content.

Individual user responsibility (B) is established in 33% of

the laws/regulations. This facilitates enforcement, although the respective countries jurisprudence may have conflicting or overarching legal principles (civil liberties, competition laws etc...), leading to measures not translating into legally binding decisions with Internet addiction reduction.

Delegating Internet access overuse and treatment to third party humans or organizations (C) is the principle used in half (47%) of the laws/regulations, reflecting policy makers wish to entrust these third parties with the practical implementation, and possibly allocating budgets on this basis. The issue is then whether these third parties are efficient enough, and what kind of return of experience processes are provided or not to policy makers. Such an approach may lead to suspicions that limitation of freedom of expression could be the result of such regulations entrusted to third parties.

This last remark explains why in 20% of laws/regulations, technical means (D) are used instead, or as a complement, raising the issue of ethical and operational rules followed by the parties involved in this technical filtering or access control.

In some countries, laws / regulations across Internet addiction effects, are limited to, or focussing on specific premises such as schools (E), representing 12%. In practice, the local authorities supposed to carry out the supervision and enforcement don’t have the means to do it, or premises do not allow it, or users can find loopholes to circumvent them.

Finally, Internet access denial to affected users (F) based on their Internet consumption, either via billing platforms, or third-party mediators requesting the denial, is the policy enshrined in 4,5 % of laws/ regulations. This is usually easy to implement and enforce, even if users migrate to other Internet access platforms; in the courts this however stages consumer protection and commercial laws against unclear evidence if CRM platforms are not logging data recognized by judges.

5. Conclusions

It is essential to realize that laws, regulations and international conventions on Internet addiction and Problematic use of the Internet are necessary to create dedicated organizations, to fund remedial treatments, to certify care-providing professionals and/or clinics, for courts to judge, and for regulators to take on derived concrete measures.

Despite the 66 laws/regulations from 50 countries revealing a very differentiated mosaic, from having no laws/regulations to having strict laws/ regulation and even detox camps for Internet-addicts, the compiled catalog of laws/regulations can help for future steps in designing multidimensional societal approaches, as well as providing interesting layers for dynamic follow-up. As Internet addiction and PUI evolve, the analysis carried out creates a rapid kaleidoscopic image of patterns, challenges, scientific discoveries and stories of methodological successes and failures in that field.

Even if only a subset of negative Internet addiction & PUI effects have so far received legislative or regulatory attention worldwide, and even if some countries have largely “laissez faire” attitudes, it is likely that the spread of such negative

effects will push policy-makers and industry under pressure by the public to implement laws and regulations to at least address the most severe cases. They should involve all stakeholders.

Besides laws and regulations, there are national and international awareness campaigns aiming at reducing the frequency and the severity of negative impact of Internet addiction & PUI, e.g. [23, 24]; these campaigns involve: awareness centres, hotlines, youth panels, media literacy education/training, peer-to-peer communication campaigns, educating children regarding safety measures on the Internet, revealing and confronting cyberbullying, sexting/sex-offenses or online gambling/gaming, particularly amongst underaged.

At the same time, thorough research and measurement of short-term and long-term impact is essential in assessing the benefit of each of the approaches or combinations thereof.

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<https://www.sciencedirect.com/science/article/pii/S0924977X18303067>.

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Appendix

Appendix 1: Catalog of Relevant Laws & Regulations

Due to paper size restrictions, the Appendix 1, which is an integral part of this research basis, is to be found at the link: <https://pfh.org.ge/publications/regulations-v9-complete.pdf>

This Appendix 1 contains the numbered listing of identified laws/regulations, ordered by country alphabetical country name and instance from that country. It is reminded that in building this catalogue, there was no search for exhaustivity, but for verified adopted laws/regulations.

The descriptive files, one by law / regulation, are named by the following convention:

Regulations- (Country acronym)- (Law/regulation instance number for that country)- (law/regulation absolute number).

This is done to allow for search by country, or absolute numbers. Each file contains the relevant law/regulation categories explained in Figure 2.

This Appendix 1, distributed as a separate file due to its size and need for updates, is an integral part of this paper and cannot be cited separately.

Should readers of the present article be interested in collaborations to supplement Appendix 1, please contact the authors so that the link provided can be updated with the new material with added original verified information sources.

Appendix 2: Summary of ratification Status and Sources for Relevant Conventions

Table 4. Summary of ratification status for international conventions regarding the problematic use of the Internet.

CONVENTION	Reference and ratification status source	Ratified Without Reservations (as of 2020-02-19)	Not Ratifying members (as of 2020-02-19)
Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse	[14] https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/201/signatures?p_auth=SnM0DFxi	Albania, Austria, Azerbaijan, Bosnia & Herzegovina, Croatia, Cyprus, Estonia, Georgia, Greece, Iceland, Italy, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Moldova, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Tunisia, Turkey, Ukraine, UK.	Armenia, Ireland
Council of Europe Convention on cybercrime	[16] https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/185/signatures	Albania, Armenia, Bosnia & Herzegovina, Croatia, Cyprus, Estonia, Georgia, Italy, Luxembourg, Malta, Monaco, Netherlands, North Macedonia, Portugal, Moldova, Romania, San Marino, Serbia, Slovenia, Spain, Turkey, Cabo Verde, Costa Rica, Dominican Republic, Ghana, Mauritius, Morocco, Panama, Paraguay, Philippines, Senegal, Tonga.	Ireland, Russia, Sweden
United Nations Convention on the Rights of the Child	[7] https://indicators.ohchr.org	196 Nations	USA, Somalia, South Sudan
United Nations (2000). Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography	[17] https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-11-c&chapter=4&lang=en	In accordance with its article 13 (1), the Optional Protocol will be open for signature by any State that is a party to the Convention [7] or has signed it. There are 121 signatories, including following countries with reservations or objections (see [18]): Argentina, Belarus, Belgium, Colombia, Denmark, El Salvador, Kuwait, Lao, Malaysia, Oman, Qatar, South Korea, Moldova, Sweden, Syria, Turkey, UAE, USA, Vietnam, Austria, Cyprus, Czech Republic, France, Germany, Hungary, Israel, Norway, Spain, Sweden, UK.	Cameroon, Fiji, Ghana, Ireland, Kenya, Liberia, Nauru, Solomon, Zambia

This Appendix 2 contains in Table 4 the 4 international conventions referred to in this report, the status of countries having ratified without reservations, of non-ratifying

members of the respective international organizations, and ratification status sources.

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