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Globalization and Global Public Goods

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1. Introduction

Everyday, the importance of global public goods (GPGs) is increasing in the globalization process. GPGs are public goods with benefits or costs (peace, crime, terrorism, disease etc.) that extend across countries and regions, across rich and poor population groups, and even across generations. GPGs comprehensively cover global issues such as peace and security, health, global warming, market efficiency, global financial stability, human rights, knowledge etc.

GPGs affect many aspects of our lives. Many GPGs have existed outside of human intervention, such as the oceans, the ozone layer, and the atmosphere. As globalization has advanced other GPGs have come to our attention, and this has increased the capacity of cross-border influences, both in a positive and negative manner. However, the concept of GPGs is new and an agreed-upon definition is unfortunately missing. As a result, it is a priority to define and structure the growing phenomenon of GPGs.

The growing force of GPGs has shown that policy decisions involving the public have been extremely positive in response to the challenges they pose (Gardiner, R. & Le Goulven K., 2001b). C.P. Kindleberger first mentioned GPGs in his article on “International Public Goods without International Government” in 1986, although, GPGs did not achieve prominence until a publication by the United Nations Development Programme (UNDP) in 1999. I. Kaul uses the term GPG to mean a public good which is non-rival and non-excludable throughout the whole world, as opposed to a public good which exists in just one national area. Knowledge is a canonical example of a GPG for him. The term GPG has also become associated with the concept of a common heritage of mankind in some academic literature.

Nowadays, many crises threaten the globalization process of the world, including global conflicts, global warming, international financial stability, and growing poverty. With the globalization process, peace and security are also conceived as GPGs. During recent wars, millions of people died, and the costs incurred by the global community contained military costs, refugee costs, economic costs, instability costs, and international peace operations (Yılmaz, 2010). At the beginning of the 21st century, technological accomplishments have also given rise to fresh and unique patterns of communication, cooperation and mobilization, and discoveries in the fields of medicine and science allow the potential to make it possible for humans to lead longer, more productive and healthier lives. These benefits have been accompanied, on the other hand, by a parallel rise in threats to human security, ranging from

international terrorism and global climate change, to increased poverty and the spread of new diseases, often resulting in the explosion of conflict (Smith, 2006).

In a minimal way, GPGs for health contain the control of diseases and epidemic surveillance, disease eradication, disease research, and pollution emissions. It can be further enlarged to cover poverty reduction and disaster relief, expertise in development and technical assistance in health (Sandler & Arce, 2002).

The first objective of this study is to scrutinize the concept of GPGs and to show some concrete examples, and to suggest some solutions for solving the GPGs' problems. The second purpose of the study is to provide a contribution to the discussion of GPGs' theory, which is still at the development stage.

This chapter is organized as follows: The first part presents a literature review and the definition as well as the classification of GPGs. The second part examines in more detail, peace and security, and health GPGs. The final part resumes arguments on suggestions for solutions regarding GPGs.

2. Literature review

A growing literature stresses the raising awareness that the benefits or harm of some public policies, programs, and services extend beyond the boundaries of independent nation-states (for more details, see Stiglitz (1995); Sandler (1997); Kaul et al. (1999); Kaul et al. (2003)). For example, Jayaraman & Kanbur (1999), Cook & Sachs (1999), Ferroni (2000) investigate the role of foreign aid in the provision of GPGs while Stansfield et al. (2002) suggest that the development assistance community should become more clearly concerned with identifying different strategies for the prioritization and financing of GPGs. According to Ferguson (2004) and Lal (2004), stability needs the provision of GPGs in the form of a stable world monetary order, clear and enforced rules regarding international trade and finance, and the defence against state failure and rogue states. Kaul & Conceicao (2006) highlight globalization and increasing porosity of national borders which have been key driving forces that have led to growing interdependence and interlocking of the public domains – and therefore, public policy concerns – of countries, governments, private businesses, civil society, and people at large. Levaggi (2009) discusses optimal conditions for GPGs in his study, while Kammass & Philippopoulos (2010) provide a quantitative assessment of the welfare cost of tax competition or, equivalently, the welfare benefit of international tax policy cooperation. The GPG concept has also been proposed to address a possible poor match between global problems and institutions to handle them (Fidler, 1998; Cornes & Sandler, 1996; Sandler 1997; Chen et al. 1999).

Regarding peace and security, Mendez (1999) denotes peace as a state of relations among people and nations that everyone dreams to protect. He discusses the importance of UN peacekeeping forces in providing the GPG of peace and claims that a system of collective security, in contrast to a balance or concert of powers or predominance, is best suited to provide peace, exactly because it reflects the security management structure that exists at the national level. Moller (2004) concludes that there are therefore numerous ways of preventing, managing and resolving violent conflicts, all with a view to reducing the public evil represented by war, and thereby promoting peace as a GPG. Kocks (2005) sums up significant UN internal reform processes connected to their use and offers policy

suggestions for a more integrated and innovative financing approach to UN peace operations as GPGs. Mitchener & Weidenmier (2005) and Ferguson & Schularick (2006) stress the resulting GPGs generated by military intervention and the declared willingness to use military force under certain conditions (Coyne & Ryan, 2008). Similarly, Collier (2008) infers that properly timed foreign military interventions can generate global stability through the prevention of military coups.

On the other hand, regarding health, Sandler (1998) implements new concepts from the theory of public goods to point out why progress has been made with regards to some global and regional public goods but not with respect to others. Bradley (2001) stresses a crucial feature of preventing cross-border transmission of communicable diseases: the benefits of global control efforts will be greatest for countries that have already reduced disease prevalence rates within their borders to relatively low levels. Sandler & Arce (2002) identify the need for international cooperation in some areas regarding the provision of such health-promoting activities. Smith et al. (2003a) discuss health issues as a GPG in their comprehensive book. Smith et al. (2004a) consider the implementation of the GPG concept regarding communicable disease control. Smith et al. (2004b) investigate the effect of the recent patent system regarding genomics knowledge of different economic powers. Wildasin (2008) highlights health care, health promotion and education regarding the GPG concept. Szlezak et al., (2010) define the global health system as the constellation of actors “whose initial aim is to promote, restore or maintain health”, and “the persistent and linked sets of rules, that prescribe behavioral roles, constrain activity, and form expectations” among them.

3. Definition and classifications of GPGs

Globalization means broadened access to knowledge, communications, trade, and together with these, new possibilities for human development. This unheard-of mutual connection and mutual dependence among human societies also presents recently shared risks. (Stansfield et al., 2002). Many problems related to globalization involve the provision of GPGs. For instance, when environmentalists ask for the easing of pollution pressures on the atmosphere, they are asking that a GPG as a social choice should not be over-used (Desai, 2003).

The term “global public good” has rapidly become an often used term in policy circles. Other terms that are also used to express this comprehensive concept are “international public goods” or “global common goods” or “global collective goods”. While there is a fast growing literature on the globalization implications for public policy, not much consideration has been paid to the concept of GPGs. The main issue is to explain what criteria should be used to identify a GPG but for this, first the concept of public good should be defined.

Samuelson (1954) described a public good as follows :

“...[goods] which all enjoy in common in the sense that each individual's consumption of such a good leads to no subtractions from any other individual's consumption of that good...”

Another definition of a public good, states that public goods are “commodities for which the cost of extending the service to an additional person is zero and for which it is impossible or too costly to exclude individuals who do not pay for the good from

enjoying” (Nordhaus, 2005; Stiglitz, 2000). In other words, a public good is a good that is non-rival and non-excludable. These are two important properties of a traditional public good. We use the word “non-rivalry” which means that consumption of the good by one individual does not diminish obtainability of the good for consumption by others, and non-excludability that no one can be excluded from using the good (Cornes & Sandler, 1996). Examples are air or moonlight, security, or global positioning systems. If both requirements are completely satisfied, a public good is said to be pure (Kocks, 2005). Public goods provide “consumption externalities” as well: when public goods are being consumed by people, benefits or harms are provided to others (Atkinson & Stiglitz, 1980; Varian, 1992). It is also the occasion that many private goods show some degree of externalities. Smoking, a seemingly private activity, is now known to harm the health of others (second-hand smoke), giving rise to a series of public policy responses to curb this negative side effect (WHO, 2002).

For traditional public goods, three main questions have to be answered (Heal, 1999). The first one concerns the amount of provision, the second the question of financing it, and the third, linked to the free-rider problem, the access to information by the state to answer these questions. For privately produced public goods, another question can be asked. Given a desirable target level of production, how do we reach it, and how is this target production to be apportioned among all the potential producers? For instance, regarding greenhouse gas emissions, the important questions are which countries should cut back emissions, and by how much? Similarly, within the country, which sectors should cut back emissions? Of course, it is also possible to ask these questions within organizations and firms.

The second way of looking at a public good problem is from a public bad, whose negative utility nobody can be excluded. Due to their two crucial properties, pure public goods are subject to free-riding and hence correspond to a case of market failure creating a rationale for their public provision (for more details, see Morrissey et al., 2002). The market will not supply public goods or will supply too little. Once in the public domain, their sufficient provision is limited by collective action problems such as the prisoner’s dilemma. Because of the free-rider problem and the prisoner’s dilemma, public goods are generally undersupplied.

	Excludable	Non-excludable
Rivalrous	Private goods food, clothing, cars	Common pool goods fish stocks, coal, national health serv.
Non-rivalrous	Club goods swimming pool or golf clubs, cinemas, private parks, satellite tv	Public goods diplomacy, air, national defense

Table 1. Private, club, common and public goods
Source: Shaw, 2004.

Table 1 and figure 1 show that the theory distinguishes between different kinds of goods, in terms of their two fundamental characteristics: rivalry and excludability (Shaw, 2004). But this distinction is not really certain. For instance, lighthouses were before seen as a public good but it is now realized that they are not (Shaw, 2004).

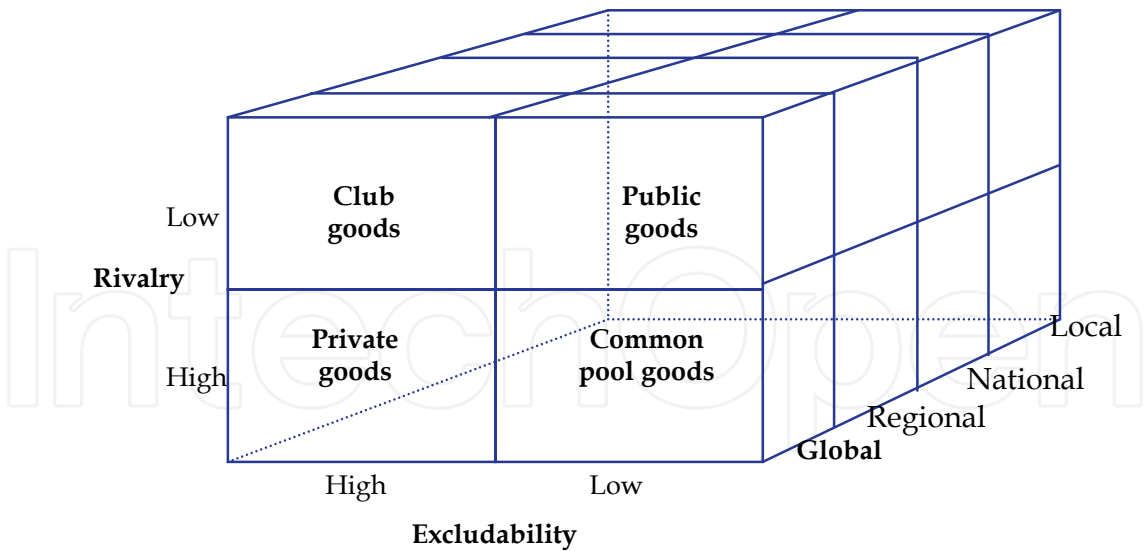


Fig. 1. Private, club, common and public goods
Source: Smith, 2004.

In reality, just few goods are purely public. They are mostly mixed public and private, also known as impure public goods, and these goods only partially satisfy the requirements of non-excludability and non-rivalry (Kocks, 2005). Common pool goods and club goods are two apparent samples of impure public goods that can take their origin from relaxing one of the two technical criteria of a pure public good while holding the other constant (WHO, 2002).

A common pool good generally is rivalrous but non-excludable. The common goods problem is known as the tragedy of the commons. This is a dilemma that appears in situations in which a large number of actors driven by their self-interest might harm a shared limited resource while being conscious that this is not in their long run interests (Hardin, 1968).

On the other hand, a club good is excludable but non rivalrous. For example, once a golf club is set up, allowing an extra member to use it does not cost anything further. People can be easily excluded from using the facilities (Shaw, 2004).

A private good is the opposite of a public good. Private goods are excludable and rivalrous. For example, a cup of coffee is a private good, and the coffee’s owner can exclude other users from using it, and when it has been used, it cannot be consumed again.

On the contrary of private goods, there is no so much qualitatively difference between GPGs and other public goods (Nordhaus, 2005). Examples of GPGs include information, environmental sustainability, disease prevention, political, economic and social stability, and transportation networks, and international communication. As these examples point out, GPGs can be both tangible (e.g., infrastructure or the environment) and intangible (e.g., social, economic or political stability).

The concept of GPGs is not as understandably defined as one would wish. While there is general consensus regarding what is at risk and what is being discussed, the nuances of writers differ. Many of the differences are basically semantic, and should be dispelled at the outset. Some questions should be asked regarding each of the three words it includes. The first question is “does ‘global’ have to mean that the benefits are entirely global?” While the answer is yes in a broad sense, the answer is no in a narrow sense. In this point of view, when the risk of contracting the disease is removed, the benefit can be available to all. The

second question is “what is the exact meaning of ‘public’ in the context of public goods?” In this context there are benefits that are not private in nature, and public benefits do not hint that every member of the public practically derives a measurable benefit. Finally, the third question is related to the word ‘good’. In this respect, a public good is a benefit that is useful to the public. So to get rid of a public bad (disutility) is itself a public good. For instance, a disease or pollution can be a public bad (Morrissey et al., 2002).

Like pure public goods, GPGs are characterized by the nature of non-rivalry and non-excludability. From the other point of view, GPGs have the additional spatial characteristic of extending (Kaul et al., 1999). This means GPGs are public goods that do not “obey” national borders, and some of them are naturally global (Kaul et al., 2003). In other words, GPGs are goods of this kind whose benefits cross borders and are global in scope (Smith et al., 2003b).

Many of the previous national borders have been taken away or released in recent decades. Generally, market integration has been the strengths of it, and enhanced transportation and communication technologies made it easier. These new facilities assisted networking opportunities for civil life as well (Kaul, 2010), but national boundaries still have an important role. In fact, the “Westphalian Peace Treaties” in (1648) laid down the principles of inviolable national borders. These peace treaties turned into the founding principles of the world order, and countries still largely accept and abide it. For an extended period of time, it was common for politicians to insist on absolute policy making sovereignty, using national borders as a shield behind which they followed specific policies that sometimes violated the most fundamental human rights (Kaul, 2010).

In the case of GPGs, if states explain their national self-interest from a purely national standpoint and pursue it powerfully, international negotiations tend to collapse. International cooperation has to be willing and has to be useful to all concerned groups. Delayed inaction on global challenges mostly increases cost compared to immediate corrective action based on mutually beneficial international negotiations regarding underprovided GPGs. The best way of seeking national self-interests is by way of international cooperation based on equitably win-win strategies (Kaul, 2010).

As it was mentioned before in the context of figure 1, public goods can be local, national, regional or global. If a public good has influence upon one geographic region or one nation, it would be a regional public good or national public good. A GPG should cover more than one group of countries. GPGs’ benefit must also reach both an extensive spectrum of countries and an extensive spectrum of the global population. Intergenerational spillovers should be counted in the general definition of a GPG as well. GPGs satisfy the needs of present generations without putting into question the needs of future generations (Kaul et al., 1999).

On the other hand, there are three basic weaknesses in the common plans for providing GPGs. The jurisdictional gap is the first weaknesses of GPGs, i.e., the conflict between a globalized world and national, separate units of policy-making. There is no clear strategy for linked national policy aims with international diplomacy. The second one is the participation gap. This gap includes voiceless and marginal groups, in spite of the spread of democracy. The third one is the incentive gap. Nowadays, international cooperation is broader in scope. Initially, it concerned between-country and at-the-border issues, i.e., international traffic rules, now it is about behind-the-border issues. As a consequence, the implementation of international agreements becomes even more important. However, the operational follow-up to these agreements relies solely on the aid mechanism. Many other useful policy options are neglected, despite the fact that they could make cooperation a privileged strategy for both developing and developed countries (Kaul et al., 1999).

We can define public goods in many several ways, e.g., referring to consumption, the scale of their impact, production, provision, and political properties. One can also see concrete examples of every type of GPGs for better understanding of the concept from tables 2 to 6.

Local public goods:	National public goods:	Regional public goods:	GPGs:
♦ Street signs or Street safety	♦ National electoral system	♦ Early-warning systems for tsunamis	♦ Global warming
♦ Law and order	♦ National health system	♦ The management of river basins	♦ Peace and security

Table 2. The scale of impact of public goods
Source: Kaul, 2010.

While local public goods benefit mainly people living in a particular community, national public goods may serve pure national purposes or form the building blocks of GPGs. Similarly, while regional public goods have positive effects on some countries within a geographical region, GPGs influence people globally.

Pure GPGs*	Impure GPGs**	De facto GPGs***	GPGs with restricted access
♦ Financial and economic stability	♦ The atmosphere	♦ International communication and transport networks	♦ Patented knowledge
♦ Peace and security	♦ The ozone layer	♦ Respect for human rights	♦ The World Wide Web
♦ Moonlight	♦ Fresh air	♦ Multilateral trade agreements	♦ International markets
♦ Communicable diseases control		♦ Respect for national sovereignty	
♦ The warming rays of the sun		♦ Globalization of policy approaches	
♦ The oceans			
♦ Integrated markets			
	Non-rival, but excludable:	A global gene pool to promote biodiversity preservation:	
	♦ Knowledge-related goods, e.g., inventions	♦ Medical, financial and other technologies	
* Pure GPGs are non-excludable and non-rival. ** Impure GPGs are either non-excludable or non-rival. Non-excludable or difficult to exclude, but rival. ***De facto GPGs are non-rival goods that are kept or made non-exclusive on a global scale.			

Table 3. The consumption properties of GPGs
Source: Kaul, 2010.

Peace and security is one of the important examples of pure GPGs. It is non-excludable and non-rival. If well provided, everyone can benefit from them. On the other hand, an example of an impure public good is clean, fresh air. It is basically non-excludable, but from a certain level on, rival in consumption (Bieckmann, 2010).

1.Natural GPGs:	2.Human-made GPGs:	3.Best-shot goods:	4.Summation goods:
♦ The sunlight and the moonlight	♦ Global norms, standards, rules and policy regime	♦ Inventions and discoveries	♦ Mitigation of climate change
♦ The atmosphere	♦ Global infrastructure and communication networks	♦ Destruction of an asteroid moving towards the earth	♦ Financial stability
♦ The oceans	♦ Global knowledge networks		
5.Weak-link summation goods:	6.Club goods:	7.Final GPGs:	8.Intermediate GPGs:
♦ Polioplus or malaria eradication	♦ Security provision by NATO	♦ Controlled communicable diseases	♦ Pharmaceutical knowledge
♦ Civil aviation safety – airport security screening	♦ Airport lounges for select groups of frequent flyers	♦ Financial stability ♦ Peace	♦ International agreement on banking regulation

Table 4. The production properties of GPGs (The origins of public goods)
Source: Kaul, 2010.

GPGs can distinguish eight types regarding the origins of public goods. Natural GPGs have existed with regard to history outside of human intervention, such as the atmosphere or ozone layer. Another type, i.e., Club goods, stay between public and private goods with the characteristic of being excludable in consumption, and the optimal size of the club is mostly larger than one person.

Typically consensual GPGs:	Frequently contested GPGs:
♦ Communication & transport networks	♦ Globalizing norms about gender equity
♦ Scientific knowledge	♦ Globalizing views about what ought to be public and what private
♦ The norms of sovereignty and collective security	♦ The international financial architecture
♦ Several basic human rights	♦ The multilateral trade regime

Table 5. The political properties of GPGs
Source: Kaul, 2010.

There is no absolute consensus on every GPG. While the right to basic education or abolition of slavery is the consensual GPGs, the multilateral trade regime or gender equity are the examples of contested GPGs.

Underprovided GPGs	Overused GPGs	Absent GPGs	Well-provided GPGs
♦Peace and security	♦The ozone layer	♦An international migration regime	♦Communication and transport networks
♦Health and health care	♦The atmosphere	♦A knowledge and technology framework	♦The World Wide Web
♦Financial stability	♦Straddling fish stocks		♦The universalization of human rights norms
♦Environmental sustainability			♦Globalizing markets
♦Norms and standards for traded goods			

Table 6. The current provision status of GPGs
Source: Kaul, 2010.

GPGs are usually underprovided. The reason lies in their publicness which generates collective action problems (for more details, see Kaul et al., 1999). An underused GPG exists, but some actors, countries, or people are unable to consume it, either in full or in part while an underprovided good does not exist or is not fully or adequately provided (Conceição, 2003).

Class and type of global good	Benefits Non excludable	Non rival	Nature of provision or use problem
1. Natural global commons			
Ozone layer	Yes	No	Overuse
Atmosphere (climate)	Yes	No	Overuse
2. Human-made global commons Universal norms and principles	Partly	Yes	Underuse (repression)
Knowledge	Partly	Yes	Underuse
Internet (infrastructure)	Partly	Yes	Underuse
3. Global conditions			
Peace	Yes	Yes	Underprovision
Health	Yes	Yes	Underprovision
Financial stability	Partly	Yes	Underprovision
Free trade	Partly	Yes	Underprovision
Freedom from poverty	No	No	Underprovision
Environmental Sustainability	Yes	Yes	Underprovision
Equity and justice	Partly	Yes	Underprovision

Table 7. Global concerns as GPGs: A selective typology
Source: Kaul et al., 1999.

One can see provision or use problems of GPGs from table 7. GPGs have been also defined as goods that are methodically underprovided by private market forces and for which such underprovision has significant international externality effects (Blackden, 2009).

4. Peace and security GPGs

As we mentioned before, peace and security is itself understood as a GPG and supporting activities of peace and security are defined as promoting this GPG (Yilmaz, 2010). Even in the work of Adam Smith, security is accepted as a pure public good at the national level. This is also true at the global level, (for more details, see Hamburg & Holl, 1999; Mendez, 1999). Mendez (1999) declares that, unlike defense, peace fulfils substantive public goods criteria. In fact, defense may also have nationally or globally negative externalities. Moreover, Hamburg & Holl (1999) mention “just peace” as the true public good. Specific conflicts may have only regional effects in the short term. But preventing fatal conflict has worldwide externalities because it acts on any probable source of violence, whilst potentially protects anyone from cruelty and death (Mendez, 1999). A person’s security mainly depends on the lottery of where they were born. But we have passed into a period of transnational terrorism where even rich governments cannot provide the level of security that their citizens enjoyed (Addison, 2004).

Peace unarguably provides public goods’ criteria from both a substantive (welfare) and formal perspective as a GPG. When one country or countries are at peace, no person can be excluded from profit by its benefits that are extended themselves to all people at the regional, national and international level. Peace is indivisible and non-rivalrous as well. Indeed, individuals and groups can also profit from these benefits without taking away the ability for others to realize the returns on peace. Hereby they have equal access to peace and are able to receive the rewards of peace equally (Smith, 2006). So everyone everywhere can enjoy the profits of peace, the enjoyment of one not detracting from that of another (Mendez, 1992). For instance, peace in Cyprus enhances peace in Turkey, Greece and the Mediterranean, and it helps peace in the world and the overall peace process. While the private profits are the strongest, a regional peace thus has positive externalities that give it public goods’ properties (Mendez, 1995).

Galtung (1975) distinguishes between “positive” and “negative peace”. While positive peace signifies an absence of not only direct violence, but also “structural violence”, negative peace generally means a simple absence of “direct violence” (e.g., war) (Moller, 2004).

Without peace, people cannot enjoy the comforts of their life. It is a prior condition for the pursuit of happiness and welfare (Mendez, 1999). Without peace and security, countries are constantly considered as being in some way breaking off from the global economy as well. It seriously affects themselves, and also the stability of their neighbors, and global security more generally. The many points that link to the global economy include financial flows involved in the stealing and plundering of national properties and the following transmission of offshore money, the flow of illegally produced and internationally traded minerals and narcotics, flows of people as warriors, refugees, and human resource, and the use of technologies of global information and communications for organizing war economies (Addison, 2004). From this point of view, achieving peace should be a top priority within international forums (Smith, 2006).

The difficulty of providing peace as a GPG, however, lies in the quickly changing nature of the international environment, and also global crises, because of the processes of globalization. A rise of spillover effects of the present time conflicts, such as massive amounts of flows of refugees, a rise in the number of diasporic groups, and the resulting poverty and loss of infrastructure in regions affected by conflicts can act as catalysts, provoking new violence to erupt out of the suffering and inequality caused by war (Smith, 2006).

One can see the knowledge summary of peace and security GPGs from table 8.

Indicators: <ul style="list-style-type: none">- Ratio of people with secure land tenure,- Ratio below minimum level of dietary consumption,- Democratic elections etc.
Knowledge: <ul style="list-style-type: none">- The Human Development Report (UNDP),- UN Security Council,- Regional institutions etc.
Management: <ul style="list-style-type: none">- UN Security Council, Human Rights Commission,- UNHCR – refugee council,- International Court of Justice,- Convention on the Elimination of Discrimination Against Women,- Convention of the Rights of the Child,- The International Criminal Court etc.
Participation: <ul style="list-style-type: none">- UN Security Council,- Human rights campaigners,- Humanitarian groups,- Food, medical and development charities etc.
Finance: <ul style="list-style-type: none">- Enhancing ODA (Official Development Assistance),- Reorientation of defense expenditures towards long-term security provision and peace building,- Application of regulatory tools, for instance The International Convention on the Suppression of the Financing of Terrorism provides a legal method of prosecuting those responsible for raising funds for terrorist activities,- Global tax.

Table 8. Policy Options for Peace and Security GPGs
Source: Gardiner & Le Goulven, 2001b.

5. Health GPGs

There are some important relations between health GPGs and other GPGs. Health GPGs will benefit from other GPGs, e.g., pollution control, education, while health betterments have positive effects on educational performance, productivity and economic performance (Smith & Woodward, 2003).

Health has a clear role regarding externalities given that health is probably an important dimension for the benefits of other GPGs and other sectors. For instance, reductions in CO₂ emissions help slow down global warming. None of the countries can be excluded from benefiting from this, and from which all countries will benefit without detriment to others. Following the same reasoning, the eradication of infectious diseases of global scope, e.g. polioplus or smallpox or HIV (human immunodeficiency virus) / AIDS (acquired immune deficiency syndrome) provides a benefit from which no country is excluded, and each country can benefit without preventing another from doing so (Smith et. el., 2003a). Health improvements may also have positive effects on productivity, education and economic growth (Smith & Woodward, 2003).

Smith et al. (2003a) mention that the GPG concept may possibly be most functional when applied to two aspects of health. These are research and development (R&D) and communicable disease control. Health R&D certainly has GPG aspects, and there is not sufficient of it in areas that would profit low income countries. With regard to history, the public and the “not-for profit sectors” have carried out research resulting in new drugs and treatments, but the private for-profit sector now plays an important role. The important thing is to encourage private sector companies to get involved with research benefiting low-income countries and poor people. Indeed, 90% of global R&D spending in health is targeted at diseases affecting just 10% of the world's population (Smith & MacKellar, 2007).

Regarding the second aspects of health, the GPG outlook assists collective action in the field of epidemic disease control when reduction in disease pervasiveness in one country has also a benefit for other countries. For example, the eradication of highly transmissible diseases around the world, like polioplus, SARS, HIV, West Nile Virus, avian influenza etc. is important for every country.

Control of infectious diseases innately includes cross-border matters due to the fact that migrant workers characteristically create routes for the spread of disease. This is true for the most important epidemic now hitting Africa – HIV/AIDS. This also applies for more traditional and destroying diseases such as malaria. Important migratory populations in East Africa, West Africa, Southern Africa, South-East Asia, and the Middle East are a reason that national health systems are overwhelmed by demands from non-nationals. A problem is that cross-country financial or administrative arrangements do not often correspond to the health needs of migratory populations. Basic research on diseases frequent to a particular region, e.g., onchocerciasis, also known as river blindness and Robles' Disease in West Africa, raises matters of regional cooperation, due to the lack of ability and incentive for any single country to bear the costs of effective R&D on its own.

To show the importance of international actors for health GPGs, Rotary International has been helpful in both the financing and the implementation of polioplus eradication. Rotary and its partners are about eradicating this tenacious disease, after 20 years of much effort. The leadership of WHO and Rotary have elicited wide cooperation among developing countries, bilateral donors, multilateral agencies, non-governmental organizations and foundations (Stansfield et. al., 2002).

One can find knowledge summary of Health GPGs from table 9.

Indicators: <ul style="list-style-type: none">- Infants,- Under 5s and maternal mortality rates,- HIV, TB, and malarial prevalence rates,- Proportion of population with access to affordable essential drugs on a sustainable basis.
Knowledge: <ul style="list-style-type: none">- Global Health Research Council’s independent R&D advice to the WHO and other bodies to identify and prioritize key global health issues.
Management: <ul style="list-style-type: none">- Each disease can be seen as a separate GPG; therefore a disease “manager” or “task master” may be necessary to deal with a specific disease according to its specific characteristics.- Due to the wide socio-economic linkages to communicable diseases, the manager should adopt a multi-pronged approach across sectors and policy tools, i.e., finance, education, industry, trade, knowledge and management.
Participation: <ul style="list-style-type: none">- The contribution of stakeholders and governments at national and local levels is vital to ensure a better interface between global and local medical policy and programs.
Finance: <ul style="list-style-type: none">- Donor governments contribute to the WHO from their national health budgets.- This national health contribution should be extended to include investment in R&D for key global diseases.- In the longer term, developing countries could also contribute a proportion of their national health budgets.- Static and dynamic provision of medicinal knowledge would be encouraged through purchase guarantees and protection of traditional knowledge.- Global Tax

Table 9. Policy Options for Health GPG
Source: Gardiner & Le Goulven, 2001b.

6. Conclusion and suggestions

With the acceleration of globalization, the number of public goods increases and expands, creating an effect on both regional and international levels, sometimes even when they have characteristics of semi-public goods, club goods etc. (Mutlu, 2006). The GPGs lens is intended to shed new light on how globalization could be better managed in the mutual interest of all (Kaul et. al., 2003). Communities have generally been willing to spend money on national public goods but they should be equally willing to pay for GPGs that serve common interests, be they shared or not. Moreover, we should be prepared to finance such goods (systems of environmental controls, the destruction of nuclear weapons, the control of transmittable diseases, the avoidance of ethnic conflicts or refugee flows) through innovative mechanisms based on the principles of mutuality and collective responsibility, principles that go beyond the concept of ODA (Speth, 1999). In this sense, global tax proposals can be considered, although they are not new, and several plans have already been discussed in academic circles and think-

tanks for decades. Maybe, a global tax on banks in all over the world could be a solution for poverty, climate change or other kinds of global problems as the IMF suggests and some celebrities also support, e.g., Robin Hood Tax.

Similarly, as national policy-makers are probably not taking into account the well-being of foreign citizens in preparing their own policies concerning public goods, GPGs need some form of global coordination. The reason is the existence of international spillover effects; however, confidence on national provision fails to meet global requirements efficiently or fairly (Blackden, 2009). Globalization has led to an interconnection of national public domains. Nowadays national level public policy requires more and more to be complemented by international collaboration operation efforts in order for GPGs to be accessible to local communities (Kaul et. al, 2003).

The term “shared global priorities” has gained refreshed momentum after the recent food, fuel, and financial crises, which, by the side persistent conflict, state fragility, HIV/ AIDS, and emerging global health problems (avian flu, swine flu), have brought into sharper focus the need for global responses, and suitable global mechanisms, to tackle these challenges (Blackden, 2009). Using a GPGs’ approach should not be a means of “repackaging” international preferences. This approach emphasizes the crucial requirement for global collective action and recommends fundamental principles by which the global public can provide and manage more effectively these important global preferences (Gardiner & Le Goulven, 2001a).

The general characteristics of common property resources cause several problems: Open access, free riders, anonymity, extreme poverty, and a lack of hope, and the larger the population, the larger the problem. These characteristics create problems because it is difficult to keep people away from taking advantage of an open resource. Similarly, you can take all the benefits from the common resources as a free rider, and you probably will not be caught. On the other hand, if you are hungry today, you cannot save some of the sources for tomorrow or for the next generations.

There are three types of control for GPGs. Hardin showed first two solutions. The first one said that resources can be privatized (grant ownership), and the second one, that government can control and use enforcement. Elinor Ostrom (for more details, see Ostrom, 1990; Ostrom et al., 1994) felt that Hardin was too pessimistic, and they suggested a third one, which is collective action like community pressure or control. They believe that if members have a sense of community, there will be less anonymity and greater peer pressure to obey. Similarly, rules are more likely to work if those who are affected can participate in making them. The best is if monitoring is undertaken by community members themselves and not by external authorities. A graduated system of punishments works also very well. Without any of them, there will be a “tragedy of the commons”.

After all these issues, although there is a large development gap between developing and developed countries, for the long-term solution, the important suggestion should be related to the topic of education. People have to understand for instance, what radio activity is, why it is dangerous, what measure they can take. Similarly, people have to be aware of diseases like AIDS, to protect themselves from it, or they have to see environmental problems without warning from anyone else, or they have to become sensitive regarding birth control. These subjects are as important as learning mathematics lessons for elementary school students. If we can give correct education at the elementary school level, people will be more rational, more aware of their world when they mature, and they can act rationally, which means of course not just being part of a consuming community, but aware of their

planet, their future and other people and animals, and they also act for this, about the environment, protect themselves from diseases, being aware of human rights etc. So, in the short term, international institutions can take the responsibility but in the long-term, with a rational education system, people could start to largely solve all the global problems locally. By this process, reward can be used for the correct behavior, and complementary punishment systems can also be applied for wrong actions.

First, educated and rational people can show their preferences to their governments, and finally, we can reduce pollution, control epidemic diseases and prevent the tragedy of the commons with the consensus of all nations. As mentioned before, rational education systems should expand to both developed and developing countries. For this, international cooperation support is vital.

If we ask how we can provide this rational education system, international cooperation could arrange the general framework of the education system, and the global tax would be useful for financing it. This subject should be investigated in any future research.

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To better understand the contemporary world, the world of innovation and technology, science should try to synthesize and assimilate social science in the development of our civilization. Does the new era require new knowledge? Does the age of globalization demand new education, new human attitudes? This books tries to clarify these questions. The book New Knowledge in a New Era of Globalization consists of 16 chapters divided into three sections: Globalization and Education; Globalization and Human Being; Globalization and Space. The Authors of respective chapters represent a great diversity of disciplines and methodological approaches as well as a variety of academic culture. This book is a valuable contribution and it will certainly be appreciated by a global community of scholars.

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