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Article

Bibliographic analysis of the major research topic on sustainable development and security in developing countries

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Abstract:

The aim of this paper is to analyze the research in developing countries, sustainable development and security of the population. This paper provides a first temporal and content analysis of the available scientific research in developing countries. Today sustainable development strategies require further research and the promotion of the security in developing countries. The analysis identify research areas related to security of the population and associated with sustainable development, the health topic has a significant place. The results show that research on developing countries remains low but has a growing trend over time. Furthermore, sustainable development has a low interest in research (4%) in developing countries, while security studies are moderately important (17%). The research effort is insufficient and unbalanced in relation to the challenge to fight poverty. Therefore the proposals of Agenda 21, World Bank and Millennium Development Goals can be prejudicated in relation to sustainable development and fight against global poverty.

Keywords: developing countries; sustainable development; security; health; public health

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1. **Introduction**

Developed and developing countries are living in a difficult period due to the increasing of the population, the rapid urbanization and the environmental degradation in urban and rural areas (Uslu, Baris and Erdogan, 2009). In this regard, the Agenda 21 (1992) emphasizes that the humanity is in a turning point of the history, in which it faces the perpetuation of disparities between and within nations, a worsening of poverty, hunger, disease and illiteracy, and the continuing deterioration of the ecosystems form which we depend for our life.

For several decades and releted to developed countries various authors posed the following question: sustainable development limited progress or can serve as an engine of progress injecting fresh air into a sick model? Ramos (1993) proposes this in numerous international forums since the 90s. Today, it is accepted that in developed countries the economic models are conditioned by environmental problems. In this sense, the growth periods "zero" and the economic downturn have boosted the promotion of sustainable development models to ensure to the future generations all resources and environmental safeguard. Over the decades, many trends such as green and ecological movements, sustainable development models, models of green urban planning have played an important role in this regard (Uslu, Baris, Erdogan, 2009). The term sustainable development was used for the first time in 1987, it defines what satisfies the needs of the present without compromising the needs of future generations (Brundtland, 1987).

Some of the objectives of the United Nations MDGs are related to complex problems that would require the development of intensive research programs, such as the eradication of extreme poverty and hunger, improve child and maternal health, combat disease and ensure sustainable development and the environment. These objectives have as common point the need to promote the safety and welfare of disadvantaged populations. In this regard, Garcia-Montero (2010) suggested as a prerequisite for implementing sustainable development policies, the need to promote research programs and models that ensure the safety of populations (food security, health, environmental risks, supply networks ...). Models of sustainable development are impossible in populations under "stress". Development policies must therefore incorporate training plans, technological tools and research programs necessary to optimize the security of populations, as a prerequisite to boost sustainable development models in poor countries.

For the safety of the population is essential the public health, whose main objective is improving individual and collective health. The public health is focused on the development of protection, disease prevention and risk forecasting, through the implementation of services that are able to act as mediators in the relationship between man and man and between them and the their environment (Agenda 21, 1992).

1.1 Research Question

Starting from all these requirements is essential to analyze how it has developed the research in developing countries in recent decades, and to evaluate its potential impact on poverty reduction and security of their populations. To realize this analysis, the first objective of the study is to review the evolution of the bibliographic scientific research related to developing countries. The second objective

is to develop a methodology to identify key research areas and issues on sustainable development and security of the population in developing countries.

1.2 Material and methods

1. It has been analyzed the scientific bibliography research associated with developing countries, through a systematic study using the database ISI Web of Knowledge (ISI Web Abridged) and Science Direct.
2. The literature review is developed in successive stages of analysis. The first stage has used as a "keyword" "developing countries" to meet the temporal and content evolution of scientific research in developing countries. It has been used the international codes of areas of knowledge proposed by the UNESCO (1988) as a tool of analysis of the various research topics identified. Of the 51,519 research papers for developing countries, it has been identified 237 areas of content and it has been proposed a correspondence to 23 area codes of UNESCO, (for 4 areas it is not found an appropriate match and these have not been considered). (Table 2 and Annex XVII).
3. - From all associated references to "developing countries", it has been applied a second bibliographic analysis using as new "keyword" "sustainable development", and it has been identifies the trend over time of bibliographic work associated to sustainable development in developing countries.
4. – In the second phase it has been analyzed the research content of the works previously identified with "sustainable development for developing countries", and it has been classified the various areas identified with the international area code of the UNESCO (1988). Of the 1,429 research articles for sustainable development it has been identified 167 areas, included in the previous 237 areas. It has been proposed a correspondence to the area codes of UNESCO (for two areas it is not found an appropriate match and these have not been considered). They are grouped and added the 167 area contained in the 21 main UNESCO area (Table 3 and Annex XVIII).
5. - The third stage identified and analyzed the bibliographic research whose content can be associated with different topics relating to the security of the populations in developing countries. It has been used the "keyword" "security" in the previously identified articles of "sustainable development x developing countries".

2. Results and Discussion

2.1 Result 1 (research evolution of developing countries)

The literature review conducted shows a temporal evolution of the intensity (number of references) of research activity in "developing countries". From the ISI WEB database the first reference associated with "keyword" "developing countries" appeared in 1957. Starting from this date to 2009 there has been an increasing number of references associated with this "keyword" (Fig. 1). However, this trend is not constant. Figure 1 shows two periods of the research activity with different growth rates. The year between 1990-1991 is a "break year", because there is an increase of approximately twice the articles published in 1990 (591 references) compared to 1991 (1037 references) (Figure 2 and Annex I). Moreover, from ISI WEB has been observed that there are differences between countries regarding

the research on "developing contries." Table 1 shows that countries are mostly engaged in this research are USA (29.79%), England (12.96%) and India (6.44%).

Figure 1. Time trends of scientific research for "developing countries" in the period 1957-2009

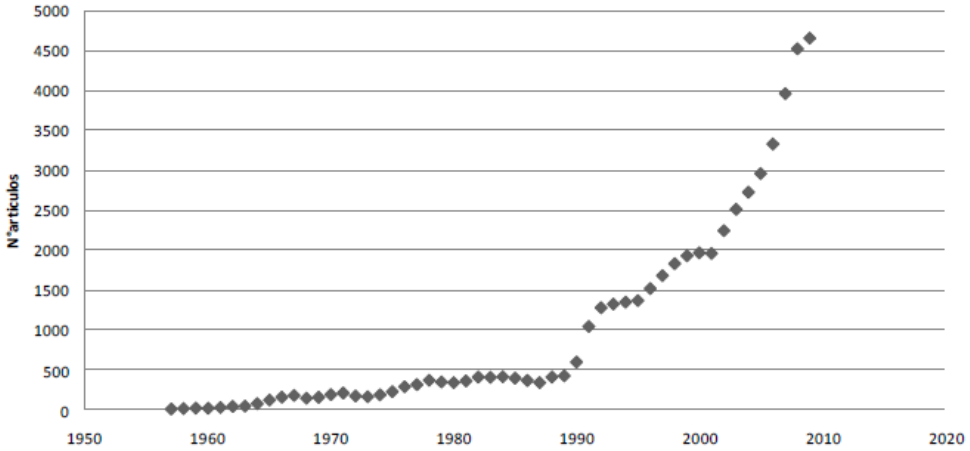


Figure 2. Time trend in percentage of scientific research for "developing countries" in the period 1991-2009

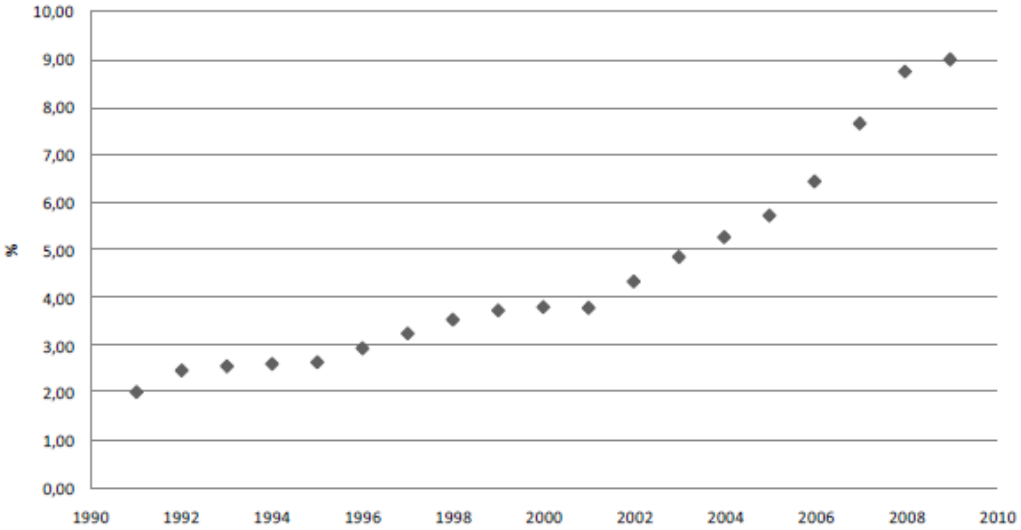


Table 1. Countries where it has been investigate in the field of "developing countries" in the period 1957-2009

Country	n°Artides	%
USA	14895	29,79
England	6480	12,96
India	3224	6,44
Canada	1972	3,94
Austadia	1926	3,85
Switzerland	1762	3,52
France	1736	3,47
Peoples R China	1452	2,9
Germany	1399	2,79
Nethedands	1397	2,79
South Africa	1383	2,76
Brazil	1341	2,68
Italy	1138	2,27
Japan	922	1,84
Sweden	865	1,73
Turkey	841	1,68
Nigeria	804	1,6
Mexico	798	1,59
Belgium	668	1,33
Spain	647	1,29
Scotland	590	1,18
Thailand	582	1,16
Kenya	574	1,14

Result 2 (research evaluation of areas in developing countries)

From the two periods 1957-1990 versus 1991-2009 the research areas in "developing countries", are different. The results show that there is an evolution in the research content analyzed (Table 2, Annex II and Annex III). In the period 1957-1990, the largest number of research papers is related to the area of "technological sciences" (24.97%), "political science" (16.88%) and "economic sciences" (11.16%). While the lower research areas are "earth and space sciences" (8.43%), "sociology" (6.65%) and "medical sciences" (5.46%).

All areas have increased in 1991-2009, but in relative term there has been a change in the order of importance. During this period the area "technological sciences" has increased in absolute number by 5.17 and now moves to the second position. "Medical sciences" has the greatest importance and multiplied by 57.53 and now goes to first position. "Earth and space sciences" is multiplied by 8.80 and passes in third. The area of "life sciences" with 6.92% of the references and is in fourth place, while "economic sciences" is multiplied by 4.07 and passes fifth position. In 1991-2009 disappeared "political science" that formerly stood in second place with 16.88% of the references and "sociology" that presented to 6.65% of the research.

Table 2. Areas of evolution in "developing countries"
in the period 1957-1990 and 1991-2009

	1957-1990	UNESCO code	n°artides
Subject area	technological sciences	33	2192
	political science	59	1482
	economic sciences	53	980
	earth and space sciences	25	740
	sociology	63	584
	medical sciences	32	479
	Tot. References		8779
	1991-2009	UNESCO code	n°artides
Subject area	medical sciences	32	27561
	technological sciences	33	11353
	earth and space sciences	25	6515
	life sciences	24	4795
	economic sciences	53	3994
	Tot. References		69250

Result 3 (research evolution of sustainable development in developing countries)

The first citation of "sustainable development" inside the research of "developing countries" appeared in 1989. From this date starts a continuous growing items associated with "sustainable development" (Figure 3 and Annex IV). However the number of bibliographic references that incorporate the concept "sustainable development" are a very small percentage of the research in "developing countries", which barely reaches a value of 4% of the total in 2009 (Figure 4 and Annex V).

Figure 3. Time trends in scientific research "sustainable development"
in the period 1989-2009

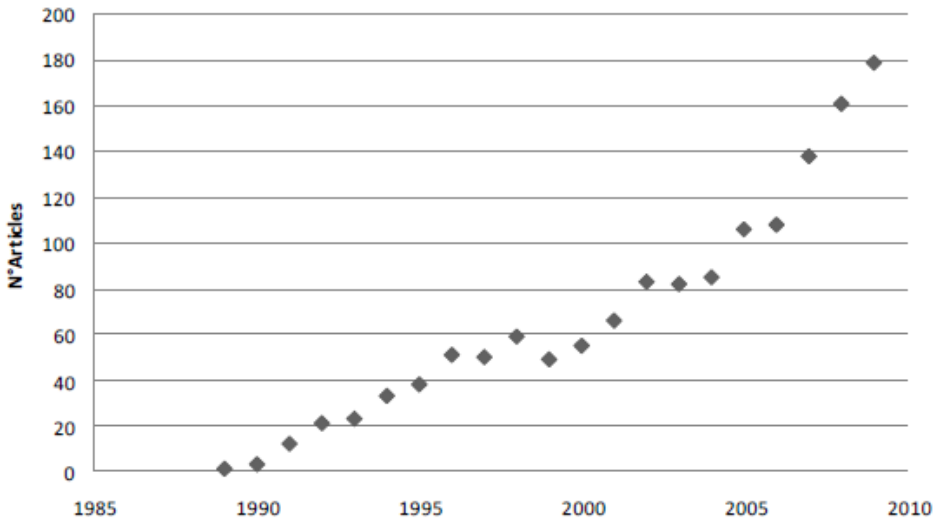
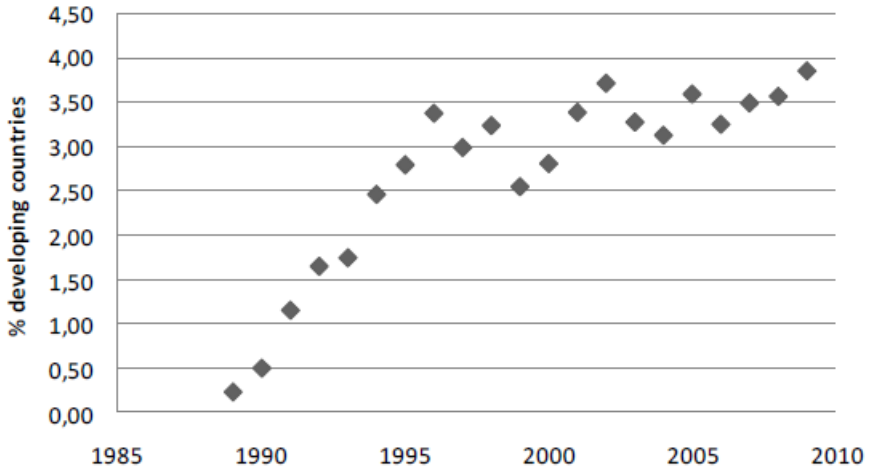


Figure 4. Time trends in scientific research "sustainable development" related to the temporal trend of "developing countries" in the period 1989-2009



Result 4 (research evolution areas in sustainable development)

During the year between 1989-1990 there are only four research papers of "sustainable development". While in 1991-2009 there are 1425 references. The largest number of jobs correspond to the area of "earth and space sciences" with a 27.92%, "technological sciences" with 22.02% and "economic sciences" with a 13.87 % ". While fewer jobs are related to the area of "life sciences" with a 8.92%, "agricultural sciences" with 7.14% and "medical sciences" with a 5.64% (Table 3 and Annex VI). Moreover, if we analyze the areas corresponding to literature reviews versus scientific articles related to the topic "sustainable development" (1991-2009), we get different results (Table 4 and Annex VII). The data show that the area "earth and space sciences" has priority in the literature review (22.22%), in second place "economic sciences" (21.67%), in third place "technological sciences" (13.33%) and in fourth "life sciences" (12.22%). Furthermore, the literature review presents a higher interest in the area of "agricultural sciences" (10%) and "medical sciences" (10.56%), which approximately are doubled in relative term regarding their interest in "sustainable development".

Table 3. Areas of "sustainable development" in the period 1957-1990 and 1991-2009

Subjest area	UNESCO code	n° references1991-2009	n° references 1957-1990
earth and space sciences	25	767	2
technological sciences	33	605	3
economic sciences	53	381	1
life sciences	24	245	0
agricultural sciences	31	196	0
medical sciences	32	155	1
Tot. References		2747	10

Table 4. Areas in percentage of literature review of "sustainable development" in the period 1991-2009

Subjest Area	n°artides reviews	% reviews	n°artides tot.Sost.Dev.
earth and space sciences	40	22,22	767
technological sciences	24	13,33	605
economic sciences	39	21,67	381
life sciences	22	12,22	245
agricultural sciences	18	10,00	196
medical science	19	10,56	155
Tot.Artides	180	100	2747

Result 5 (research evolution of security into sustainable development in developing countries)

In 2005-2009 the research reviews and scientific articles related "security" are the 16.97% of the "sustainable development" (Table 5 and Figure 5).
The largest number of jobs related to the term "security" correspond to the area of "medical sciences" with 39.47% (Annex XIII) and the area of "agricultural sciences" with a 36.84% (Annex XII and Figure 6). While the fewer scientific papers are "earth and space sciences" (17.84%) (Annex VIII), "political science" (12.12%) (Annex XIV) "life sciences" (12.07%) (Annex XI) "technological sciences" (10.48%) (Annex IX) and "economic sciences" (9.41%) (Annex X).

Table 5. Areas of "sustainable development" addressed to "security" in 2005-2009

Sust.Dev. areas	Tot.art.	n°artides security
earth and space science	185	33
technological sciences	105	11
economic sciences	85	8
life sciences	58	7
agricultural sciences	38	14
medical sceinces	38	15
political science	33	4

Figure 5. N° articles in "sustainable development" addressed to the content of "security" in 2005-2009

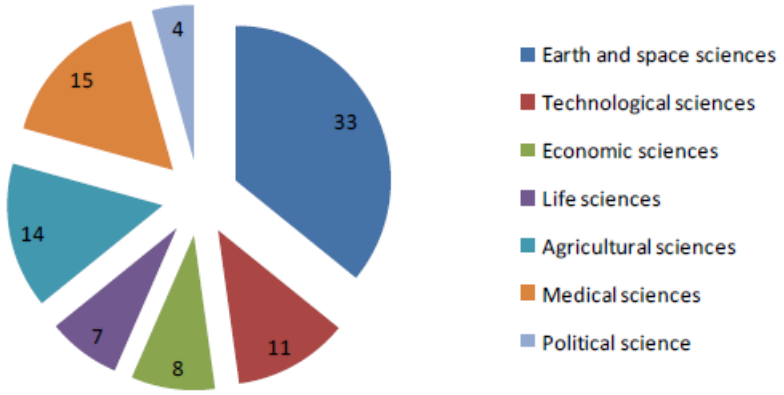
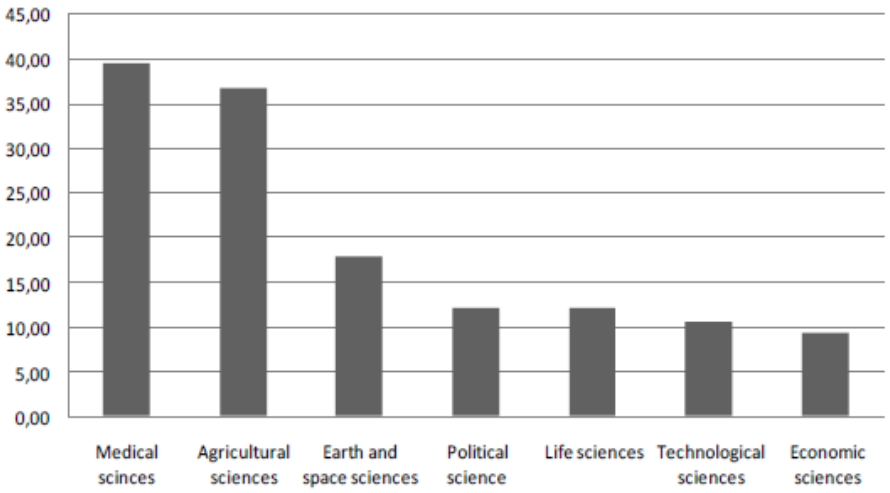


Figure 6. Percentage of "security" articles, on "sustainable development", for each content area UNESCO, in 2005-2009



Result 6 (research evolution of different areas of safety within sustainable development)

In the "sustainable development" research it has been identified 11 different areas dealing with "security": "health", "environment", "waste", "climate", "energy", "agriculture", "pollution "," water "," livelihoods "," safe "," livestock ". (Table 6,7, Figure 7,8 and Annexes VII-XIV).
The most significant area is"health" with the 45.65% of the research. Related to the "health" topic it has been identified 10 different areas and"public health" is the most significant (Table 8 and Figure 9 and Annexes XV-XXI) .

Table 6. Areas of"secutity" in "sustainable development" in 2005-2009

Security Areas	Earth and space sci.	Technological sci.	Economic sci.	Life sci.	Agricultural sci.	Medical sci.	Political sci.	Tot.
health	9	6	5	2	4	14	2	42
environment	8	1	0	0	2	0	0	11
waste	4	1	0	0	0	0	0	5
dimate	3	0	0	2	0	0	1	6
energy	3	0	2	0	0	0	0	5
agriculutre	2	0	0	1	5	0	0	8
pollution	2	0	0	0	0	0	0	2
water	1	0	0	1	1	0	0	3
livelihoods	1	0	1	1	0	1	0	4
safe	0	3	0	0	0	0	1	4
livestock	0	0	0	0	2	0	0	2

Table 7. Percentage of the"security" content areas in "sustainable development" in 2005-2009

Security Areas	n°art.	%
health	42	45,65
environment	11	11,96
agriculutre	8	8,70
dimate	6	6,52
waste	5	5,43
energy	5	5,43
livelihoods	4	4,35
safe	4	4,35
water	3	3,26
livestock	2	2,17
pollution	2	2,17
Tot.	92	100

Figure 7. N° articles of"security" in 2005-2009

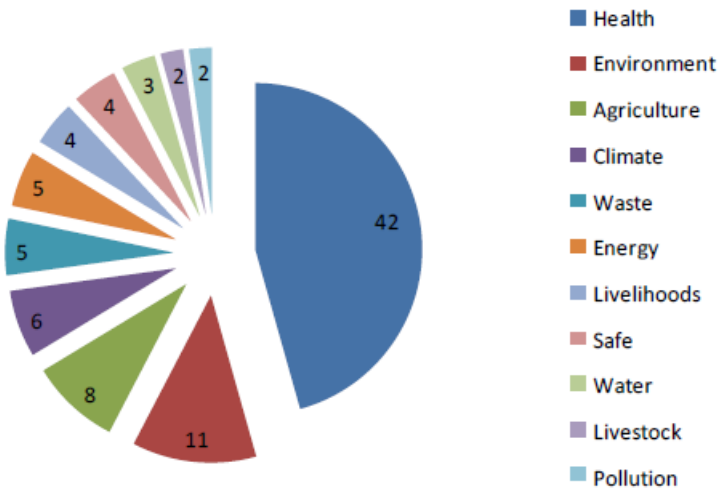


Figure 8. Percentage of the "security" areas articles in in 2005-2009

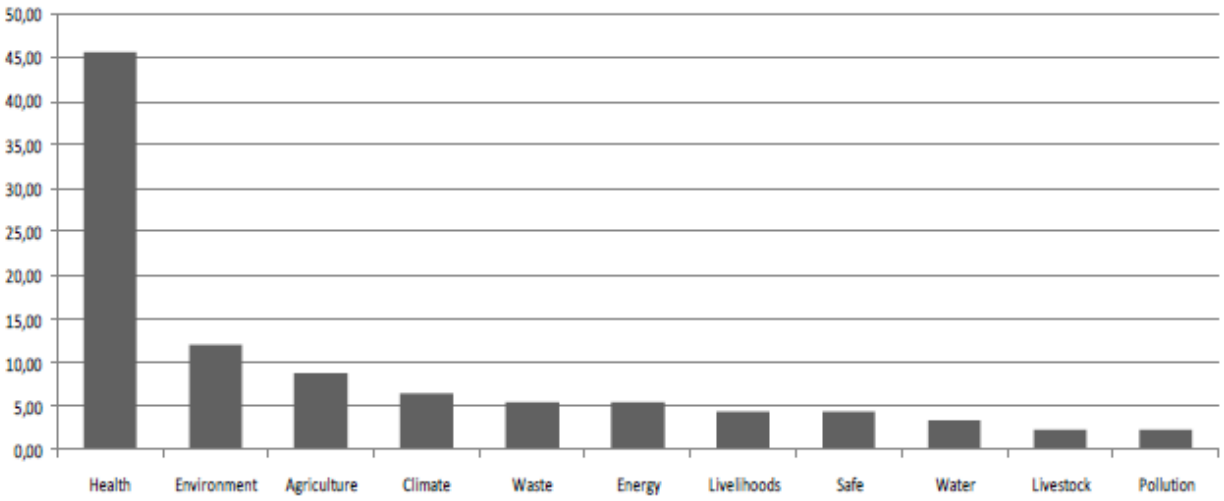
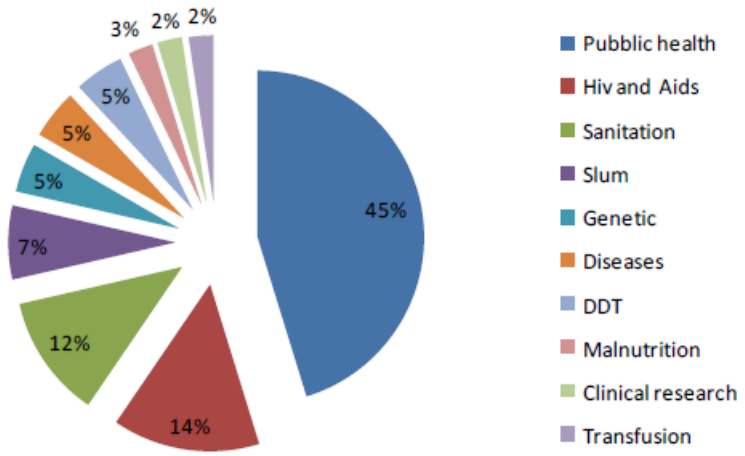


Table 8. Content areas of "health" in "sustainable development" in 2005-2009

Health areas	Earth and space sci.	Technological sci.	Economic sci.	Life sci.	Agricultural sci.	Medical sci.	Political sci.	Tot.	%
pubblic health	1	2	4	1	2	8	1	19	45,24
hiv and aids	2	2	1	0	0	1	0	6	14,29
sanitation	4	1	0	0	0	0	0	5	11,90
slum	1	1	0	0	0	0	1	3	7,14
genetic	0	0	0	0	2	0	0	2	4,76
diseases	0	0	0	0	0	2	0	2	4,76
DDT	1	0	0	0	0	1	0	2	4,76
malnutrition	0	0	0	1	0	0	0	1	2,38
clinical research	0	0	0	0	0	1	0	1	2,38
transfusion	0	0	0	0	0	1	0	1	2,38
TOT.	9	6	5	2	4	14	2	42	100

Figure 9. Percentage of articles of "health" in 2005-2009



Discussion

Figure 10. Percentage of UNESCO code areas in "developing countries" in the period 1991-2009

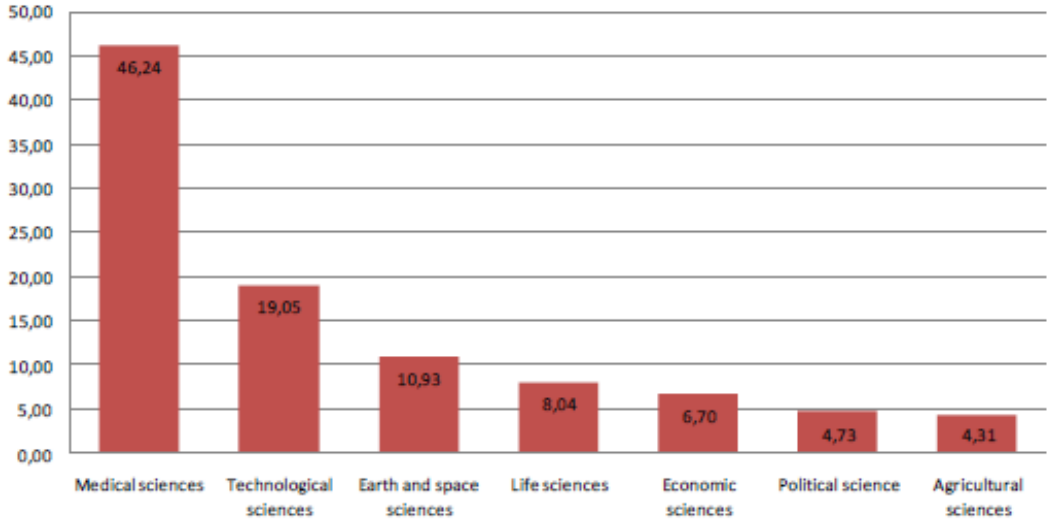


Table 9: Thematic areas of research interest in the period 1991-2009

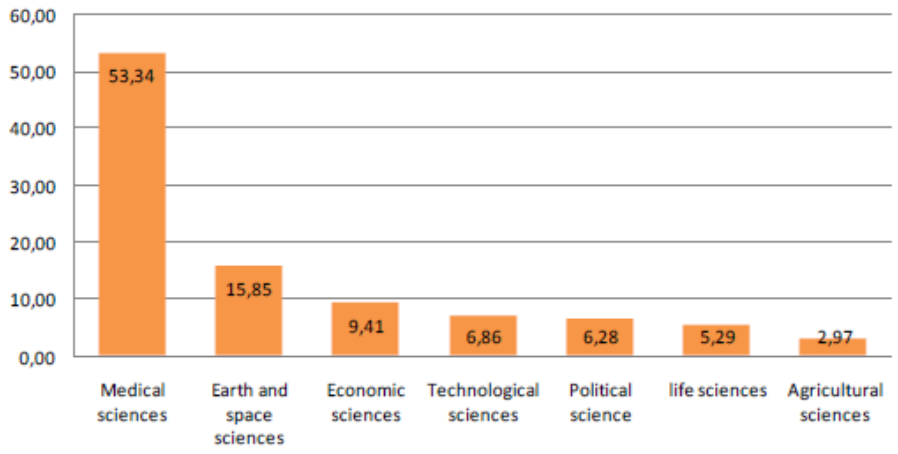
Total n° references	Dev. Countr. 1991-2009	Tot. Ref. ISI web 1991-2009	N°multiplies
Sustainable development	1376	23847	17,33
Public health	3288	88118	2,68
Agriculture	1359	47412	34,88
Medicine	929	>100000	>107,64
Environment	2997	>100000	>33,36
Climate change	779	52320	67,16
Tot. References	43805	700 million	

Since 1991, the research on "developing countries" is very low (maximum of 4500 references in 2009), up to 6 per 1000 of total ISI Web references, if compared to other research topics of interest (Table 9) . But is increasing in the last twenty years. Since 1991, the number of published scientific articles about "developing countries" doubles approximately every 8.5 years on average.

Taking into account the conclusions of Agenda 21 of the Rio de Janeiro World Conference (1992), the World Bank's work and objectives OMD these results appear very poor.

The fight against poverty is a shared responsibility of all countries (Agenda 21, 1992). No nation can achieve this on its own, but together we can reach higher results (Agenda 21, 1992). This analysis helps to identify research problems associated with poverty in "developing countries" to try to advance their resolution. Beween 1991-2009 the data has prioritized research on "medical sciences" (46.24%) and less than the other areas, including "agricultural sciences" (4.31%) (Figure 10). Figure 10 shows that there is an imbalance in the research carried out in different areas of knowledge during 1991-2009. Surprisingly the low percentage of articles are in agricultural area. It is necessary to deepen the content of these studies in order to evaluate and correct these imbalances.

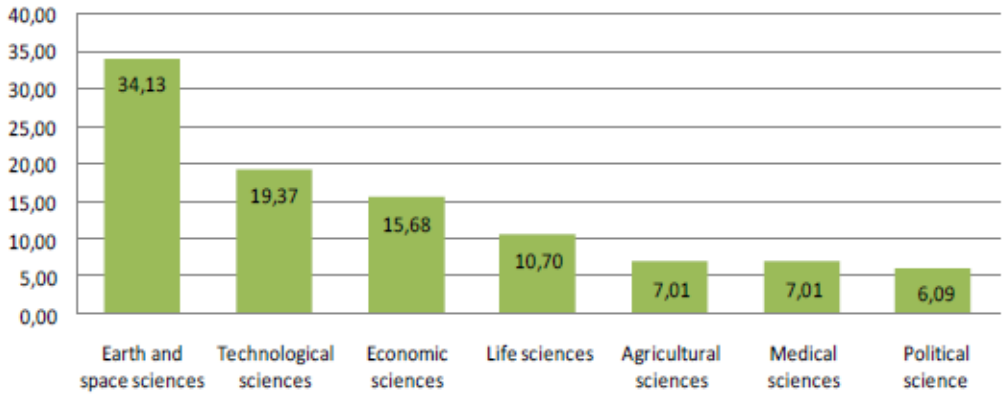
Figure 11. Percentage of UNESCO code areas in "developing countries" in 2005-2009



The research related to "developing countries" during the years between 2005-2009 (Figure 11), increases the disparity between "Medical Sciences" (53.34%) and "agricultural sciences" (2.97%).

References related to "earth and space sciences" (15.85%) grow while decrease significant these related to "technological sciences" (6.86%). Is this research trend conforms to the fight against poverty? The increase difference between medicine and agriculture studies is too broad and can be dangerous in countries with food security problems depending from their own agricultural resources. Also the declining interest of technology it is a problem in a situation where it would be necessary to bring innovations to introduce sustainable tools and techniques with low-cost.

Figure 12. Percentage of UNESCO code areas in "sustainable development" in 2005-2009



In the studies related to "developing countries", the research on "sustainable development" has been very limited (a total of 1420 references from 1991 to 2009). But it growths in recent decades and the number of references are doubled approximately every 3.5 years on average since 1991. Establishing a sustainable economies and markets in developing countries is one of the world's objectives to be addressed if we want protect people and the biosphere. (Garcia-Montero, 2010). Human beings are at the center of concerns for sustainable development. They have the right to a healthy and productive life in harmony with nature (Agenda 21, 1992).

Results of the analysis of the knowledge areas associated with "sustainable development" in 2005-2009 (Figure 12) are very different from the results obtained from "developing countries". Figure 11 shows that references of "earth and space sciences" are doubled compared with those of "developing countries". "Earth and Space Science" promotes the study of the environment, which is a consistent trend of Agenda 21 and it indicates that the protection of the environment should be an integral part of the process of sustainable development (Agenda 21, 1992). In the period between 2005-2009 "agricultural sciences" has a significant position more than that occupied in the analysis of "developing countries" during the same period. While "medical sciences" is less important (Figures 11 and 12).

The fight against poverty must be included in the model of sustainable development. Between 2005-2009, studies associated with "sustainable development" have prioritized the topic "earth and space sciences" (Figure 12). Furthermore, the differences between the number of references from different areas of knowledge associated with "sustainable development" are lower than in the case of "developing countries" (Figure 11). Thus, in 2005-2009, research on "sustainable development" has been more balanced than the research conducted on "developing countries" (Figures 11 and 12).

1. Conclusions

The research associated with developing countries began to increase continuosly from1991 (with a minimum of 1037 articles), and from this date, the number of scientific references have doubled every nine years to reach the maximum production per year of 4714 references in 2009, an extremely low number in global research. This research effort is clearly insufficient to combat poverty, and also analyzing the areas of knowledge associated with the references shows that this is a research effort that is unbalanced in relation to its contents. In the references associated with developing countries, the work involved in sustainable development represent a maximum of 4% of the references, although their number is doubling every four years. Moreover, the security of the poorest populations is a prerequisite for promoting sustainable development models in poor countries. However, within the set of references associated with sustainable development in developing countries, research on issues related to the safety of the people is only 17% of articles between 2005 and 2009, and its distribution areas knowledge is unbalanced. The most important issue in the area of security of populations have been health related articles. The first results in this literature review indicate that patterns of international research on developing countries may be compromising the proposals of Agenda 21 in Rio de Janeiro (1992), the World Bank's work and objectives OMD relation to sustainable development and the fight against global poverty.

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Conflict of Interest

State any potential conflicts of interest here or "The authors declare no conflict of interest".

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Annex

Annex I. Time trends in scientific research "developing countries " in the period 1957-2009

años	nºarticulos	%
1957	1	0,00
1958	7	0,01
1959	12	0,02
1960	11	0,02
1961	20	0,04
1962	33	0,06
1963	38	0,07
1964	68	0,13
1965	114	0,22
1966	149	0,29
1967	173	0,33
1968	137	0,26
1969	148	0,29
1970	182	0,35
1971	202	0,39
1972	165	0,32
1973	155	0,30
1974	179	0,35
1975	219	0,42
1976	280	0,54
1977	307	0,59
1978	361	0,70
1979	341	0,66
1980	333	0,64
1981	353	0,68
1982	402	0,78
1983	399	0,77
1984	405	0,78
1985	388	0,75
1986	360	0,70
1987	333	0,64
1988	403	0,78
1989	418	0,81
1990	591	1,14
1991	1037	2,00
1992	1272	2,46
1993	1317	2,54
1994	1342	2,59
1995	1361	2,63
1996	1513	2,92
1997	1675	3,24
1998	1825	3,53
1999	1925	3,72
2000	1961	3,79
2001	1953	3,77
2002	2239	4,33
2003	2507	4,84
2004	2722	5,26
2005	2956	5,71
2006	3327	6,43
2007	3959	7,65
2008	4522	8,74
2009	4655	8,99
Tot. referencias	51755	100,00

Annex II. Areas of the evolution of "developing countries" in the period 1957-1990

Subject area - 1957-1990	UNESCO code	%	n°artides
technological sciences	33	24,97	2192
political science	59	16,88	1482
economic sciences	53	11,16	980
earth and space sciences	25	8,43	740
sociology	63	6,65	584
medical sciences	32	5,46	479
agricultural sciences	31	3,91	343
life sciences	24	3,29	289
pedagogy	58	3,08	270
geography	54	2,61	229
juridical sciences & law	56	2,36	207
demography	52	2,31	203
multidisciliary	23	2,14	188
psychology	61	1,72	151
physics	22	1,28	112
history	55	1,24	109
mathematics	12	0,80	70
sciences of arts& letters	62	0,58	51
anthropology	51	0,56	49
linguistics	57	0,30	26
philosophy	72	0,18	16
astronomy and astrophysics	21	0,09	8
ethics	71	0,01	1
Tot.		100,00	8779

Annex III. Areas of the evolution of "developing countries" in the period 1991-2009

Subject area - 1991-2009	UNESCO code	%	n°artides
medical sciences	32	39,80	27561
technological sciences	33	16,39	11353
earth and space sciences	25	9,41	6515
life sciences	24	6,92	4795
economic sciences	53	5,77	3994
political science	59	4,07	2819
agricultural sciences	31	3,71	2567
sociology	63	3,21	2222
chemistry	23	1,75	1214
mathematics	12	1,68	1165
geography	54	1,35	933
pedagogy	58	1,32	917
physics	22	1,06	737
psychology	61	0,80	555
demography	52	0,68	468
ethics	71	0,59	408
juridical sciences & law	56	0,49	339
anthropology	51	0,33	231
history	55	0,23	156
sciences of arts& letters	62	0,21	144
astronomy and astrophysics	21	0,13	91
philosophy	72	0,05	35
linguistics	57	0,04	31
Tot.		100,00	69250

Annex IV. Time trends of scientific research "sustainable development " in the period 1989-2009

Subject area - 1991-2009	UNESCO code	%	n°artides
medical sciences	32	39,80	27561
technological sciences	33	16,39	11353
earth and space sciences	25	9,41	6515
life sciences	24	6,92	4795
economic sciences	53	5,77	3994
political science	59	4,07	2819
agricultural sciences	31	3,71	2567
sociology	63	3,21	2222
chemistry	23	1,75	1214
mathematics	12	1,68	1165
geography	54	1,35	933
pedagogy	58	1,32	917
physics	22	1,06	737
psychology	61	0,80	555
demography	52	0,68	468
ethics	71	0,59	408
juridical sciences & law	56	0,49	339
anthropology	51	0,33	231
history	55	0,23	156
sciences of arts& letters	62	0,21	144
astronomy and astrophysics	21	0,13	91
philosophy	72	0,05	35
linguistics	57	0,04	31
Tot.		100,00	69250

Annex V. Time trends of scientific research "sustainable development ", related to the temporal trend of "developing countries" in the period 1989-2009

años	n° artides Dev. Countries	n°artides Sust. Dev.	%
1989	418	1	0,24
1990	591	3	0,51
1991	1037	12	1,16
1992	1272	21	1,65
1993	1317	23	1,75
1994	1342	33	2,46
1995	1361	38	2,79
1996	1513	51	3,37
1997	1675	50	2,99
1998	1825	59	3,23
1999	1925	49	2,55
2000	1961	55	2,80
2001	1953	66	3,38
2002	2239	83	3,71
2003	2507	82	3,27
2004	2722	85	3,12
2005	2956	106	3,59
2006	3327	108	3,25
2007	3959	138	3,49
2008	4522	161	3,56
2009	4655	179	3,85

Annex VI. Areas of "sustainable development"

Subject area	UNESCO code	años 1991-2009	%	años 1957 -1990	%
earth and space sciences	25	767	27,92	2	20
technological sciences	33	605	22,02	3	30
economic sciences	53	381	13,87	1	10
biology	24	245	8,92	0	0
agricultural sciences	31	196	7,14	0	0
medical sciences	32	155	5,64	1	10
political science	59	98	3,57	0	0
geography	54	79	2,88	0	0
sociology	63	53	1,93	2	20
mathematics	12	33	1,20	1	10
physics, multidisciplinary	22	31	1,13	0	0
pedagogy	58	31	1,13	0	0
ethics	71	12	0,44	0	0
history	55	10	0,36	0	0
anthropology	51	9	0,33	0	0
sciences of arts& letters	62	9	0,33	0	0
juridical sciences & law	56	8	0,29	0	0
astronomy and astrophysics	21	6	0,22	0	0
chemistry	23	6	0,22	0	0
demography	52	6	0,22	0	0
psychology	61	5	0,18	0	0
philosophy	72	2	0,07	0	0
Tot.		2747	100	10	100

Annex VII. Areas in percentage of "sustainable development", Review bibliographic scientific articles in the period 1991-2009

Subject area	% Dev. count.	% Sust. Dev.	% Reviews	% Artides
earth and space sciences	9,41	27,92	22,22	32,95
technological sciences	16,39	22,02	13,33	18,83
economic sciences	5,77	13,87	21,67	12,68
life sciences	6,92	8,92	12,22	9,72
agricultural sciences	3,71	7,14	10,00	3,49
medical sciences	39,80	5,64	10,56	6,30
political science	4,07	3,57	2,78	4,94
geography	1,35	2,88	2,22	3,80
sociology	3,21	1,93	1,11	2,73
mathematics	1,68	1,20	0,00	0,15
pedagogy	1,32	1,13	0,00	0,84
physics	1,06	1,13	1,67	0,91
ethics	0,59	0,44	0,00	0,61
history	0,23	0,36	0,00	0,38
anthropology	0,33	0,33	0,00	0,38
sciences of arts & letters	0,21	0,33	0,00	0,30
juridical sciences & law	0,49	0,29	0,56	0,30
astronomy and astrophysics	0,13	0,22	0,00	0,15
chemistry	1,75	0,22	1,11	0,08
demography	0,68	0,22	0,56	0,23
psychology	0,80	0,18	0,00	0,23
philosophy	0,05	0,07	0,00	0,00
linguistics	0,04	0,00	0,00	0,00

Annex VIII. Scientific articles of "earth and space sciences" in "Sustainable development" to address the issue of "security" in 2005-2009

_Global Status of DDT and Its Alternatives for Use in Vector Control to Prevent Disease	health
_African housing organisation to the hiv and aids crisis	health
_HIVand AIDS: Responding to a threat to education for sustainable development	health
_Selecting sanitation systems for sustainability in developing countries	health
_Retrieving the baby from the bathwater: slumu pgrading in Sub-Saharan Africa	health
_Soil science and the carbon civilization	environment
_A long-term forecast analysis on worldwide land uses	agriculture
_Sustainable biodiversity conservation in the Niger Delta: a practical approach to conservation site selection	environment
_Climate change mitigation: A spatial analysis of global land suitability for clean development mechanism afforestation and reforestation	climate
_Vulnerability, poverty and the need for sustainable adaptation measures	climate
_Lifestyles, technology and CO2 emissions in China: A regional comparative analysis	pollution
_The limits of human development and the use of energy and natural resources	energy
_Conflicting Uses inMangueira Bay: A Prospective Analysis	environment
_Autonomy, ambiguity and symbolism in African politics: The development of forest policy in Sierra Leone	environment
_Development of Transdisciplinarity Among Students Placed with a Sustainability for Health Research Project	health
_Pursuing the MillenniumDevelopment Goals in the Andean Altiplano - Building on CIP project experience with poverty alleviation and sustainable development	agriculture
_Ecological Sanitation - a way to solve global sanitation problems?	health
_Household solid waste generation and characteristics in Cape Haitian city, Republic of Haiti	waste
_Techno-economic assessment of municipal solid waste management in Jordan	waste
_Water management for major urban centres	waste
_Projeto Vida no Vale: universal access to water and sanitation in the North East of Minas Gerais (Brazil)	water
_Natural hazard impacts in small island developing states: A review of current knowledge and future research needs	environment
_The great climate debate	climate
_Energy supply for sustainable rural livelihoods. A multi-criteria decision-support system	energy
_Alleviating energy poverty for the world's poor	energy
_Environment, human development and economic growth	environment
_Achieving sustainability by introducing alternative livelihoods	livelihoods
_Assessing the ecosystem service of air pollutant removal by urban trees in Guangzhou (China)	pollution
_Selection of sustainable sanitation arrangements	health
_Challenges of soil erosion and sludge management for sustainable development in Indonesia	environment
_Perspectives on resource recycling frommmunicipal solid waste in Taiwan	waste
_Methodology to compare costs of sanitation options for low-income peri-urban areas in Lusaka, Zambia Source: WATER	water
_Wise use of wetlands: Current state of protection and utilization of Chinese wetlands and recommendations for improvement	environment

Annex IX. Articles in the area "technological sciences" in "sustainable development "that address the issue of" security "in 2005-2009

Artides titles in technological sciences on security	Area
_Strengthening democratic governance of the security sector in conflict-affected countries	safe
_Developing health information systems in developing countries: The flexible standards strategy	health
_Flow cytometry as the spearhead for delivering sustainable and versatile laboratory services to HIV-burdened health care systems of the developing world: A Caribbean model	health
_Prediction of traffic fatalities and prospects for mobility becoming sustainable-safe	safe
_Risk, reliability and sustainability in the developing world	safe
_What works in fighting diarrheal diseases in developing countries? A critical review	health
_Africa housing organisations respond to the hiv and aids crisis	health
_Selecting sanitation systems for sustainability in developing countries	health
_Household solid waste generation and characteristics in Cape Haitian city, Republic of Haiti	waste
_Detection, measurement and prediction of shoreline recession in Accra, Ghana	environment
_Evolving Institutional Arrangements, Scaling Up, and Sustainability Emerging Issues in Participatory Slum Upgrading in Ahmedabad, India	health

Annex X. Articles in the area "economic sciences" in "sustainable development "that address the issue of" security "in 2005-2009

Artides titles in economic sciences	Area
_Application of the analytical hierarchy process to establish health care waste management systems that minimise infection risks in developing countries	health
_Central America Field Epidemiology Training Program (CA FETP): a pathway to sustainable public health capacity development	health
_Development of a quality assurance handbook to improve educational courses in Africa	health
_Developing health information systems in developing countries: The flexible standards strategy	health
_The Role of Hydropower for Sustainable Energy Development	energy
_Robustness analysis for sustainable community development	livelihoods
_Energy for sustainable development: Key issues and challenges	energy
_Developing capacity in health informatics in a resource poor setting: lessons from Peru	health

Annex XI. Scientific articles in the "life sciences" in "sustainable development "that address the issue of" security "in 2005-2009

Artides titles in life sciences	Area
_A holistic approach to the development of sustainable agriculture: application of the ecosystem health model	agriculture
_Bridges to sustainable tropical health	health
_Principles and processes for enhancing sustainable rural livelihoods: Collaborative learning in Uganda	livelihoods
_Prospects of breeding biofortified pearl millet with high grain iron and zinc content	health
_Effects of seasonal climate forecasts and participatory workshops among subsistence farmers in Zimbabwe	climate
_Climate change, sustainable development and India: Global and national concerns	climate
_The potential role of virtual water in solving water scarcity and food security problems in China	water

Annex XII. Articles in the area "agricultural sciences" in "sustainable development "that address the issue of" security "in 2005-2009

Areas titles in agricultural sciences	Area
_Prospects of breeding biofortified pearl millet with high grain iron and zinc content	agriculture
_From the discovery of the Malta fever's agent to the discovery of a marine mammal reservoir, brucellosis has continuously been a re-emerging zoonosis	health
_Livestock development and poverty alleviation: revolution or evolution for upland livelihoods in Lao PDR?	livestock
_Reducing food insecurity in developing countries through meat production: the potential of the guinea pig (Cavia porcellus)	agroculture
_Community forest management in Thailand: current situation and dynamics in the context of sustainable deve	environmen
_Veterinary medicine educational requirements to meet the needs of the US Agency for International Developm	health
_International commission or irrigation and drainage (ICID): its objectives, achievements and plants	water
_Sustainable community-based organizations for the genetic improvement of livestock in developing countries	health
_Organic agriculture: the case of Turkey	agriculture
_Long-termglobal availability of food: Continued abundance or new scarcity?	livestock
_On-farmconservation strategy to ensure crop genetic diversity in changing agro-ecosystems in the Republic of K	health
_Integrating genetics and natural resource management for technology targeting and greater impact of agricultural research in the semi-arid tropics	environmen
_The role of nitrogen in world food production and environmental sustainability	agriculture
_Nitrogen in dryland soils of China and its management	agriculture

Annex XIII. Articles in the area "medical sciences" in "sustainable development "that address the issue of" security "in 2005-2009

Artides titles in Medical science	Area
_Towards sustainable delivery of health services in Afghanistan: options for the future	health
_Neglected diseases of neglected populations: Thinking to reshape the determinants of health in Latin America and the Caribbean	health
_Flow cytometry as the spearhead for delivering sustainable and versatile laboratory services to HIV-burdened health care systems of the developing world: A Caribbean mode	health
_Creating an "enabling environment" for taking insecticide treated nets to national scale: the Tanzanian experien	health
_Using immunization delivery strategies to accelerate progress in Africa towards achieving the Millennium Development Goals	health
_Developing an administrative plan for transfusion medicine - a global perspective	health
_Development of a Web-based child safety education program for Busan Safe CityWHO Certification Project	health
_Breast Cancer Systemic Therapy: The Need for More Economically Sustainable Scientific Strategies in the Worlc	health
_Global Status of DDT and Its Alternatives for Use in Vector Control to Prevent Disease	health
_Contribution of immunodiagnostic tests to epidemiological/intervention studies of cysticercosis/taeniosis in	health
_Health, livelihoods, and nutrition in low-income rural systems	health
_Millennium Global Village-Net: Bringing together Millennium Villages throughout sub-Saharan Africa	livelihoods
_Reflections on dinical research in sub-Saharan Africa	health
_Measuring sustainability as a programming tool for health sector investments: report froma pilot sustainability assessment in five Nepalese health districts	health
_Urban sanitation and health in the developing world: Reminiscing the nineteenth century industrial nations	health

Annex XIV. Articles in the area "pubblic science" in "sustainable development "that address the issue of" security "in 2005-2009

Artides titles in Political science	Area
_Developing health information systems in developing countries: The flexible standards strategy	health
_Strengthening democratic governance of the security sector in conflict-affected countries	safe
_Vulnerability, poverty and the need for sustainable adaptation measures	dimate
_Retrieving the baby from the bathwater: slum upgrading in Sub-Saharan Africa	health

Annex XV. Scientific articles in the "earth and space sciences" in "security" addressing the issue of "health" in 2005-2009

Artciles titles en Earth and space sciences on health	Area
_Global Status of DDT and Its Alternatives for Use in Vector Control to Prevent Disease	DDT
_African housing organisation to the hiv and aids crisis	hiv and aids
_HIVand AIDS: Responding to a threat to education for sustainable development	hiv and aids
_Selecting sanitation systems for sustainability in developing countries	sanitation
_Retrieving the baby from the bathwater: slumu prading in Sub-Saharan Africa	slum
_Development of Transdisciplinarity Among Students Placed with a Sustainability for Health Research Project	pubblic health
_Ecological Sanitation - a way to solve global sanitation problems?	sanitation
_Projeto Vida no Vale: universal access to water and sanitation in the North East of Minas Gerais (Brazil)	sanitation
_Selection of sustainable sanitation arrangements	sanitation

Annex XVI. Scientific articles of "political science" in "security" addressing the issue of "health" in 2005-2009

Political science	Area
Developing health information systems in developing countries: The flexible standards strategy	health
Retrieving the baby from the bathwater: slum upgrading in Sub-Saharan Africa	slum

Annex XVII. Comparison with UNESCO ISI Web Area Area Code, "developing countries "

ISI web subject area	Area UNESCO code	UNESCO cod
mathematics	=	12
astronomy and astrophysics	=	21
physics multidisciplinary	physics	22
chemistry multidisciplinary	chemistry	23
biology	life sciences	24
earth and space sciences	=	25
agriculture, multidisciplinary	agricultural sciences	31
medicine, general & internal	medical science	32
enegineering, multidisciplinary	technological sciences	33
anthropology	=	51
demography	=	52
economic sciences	=	53
geography	=	54
history	=	55
law	juridical sciences & law	56
linguistics	=	57
pedagogy	=	58
political science	=	59
psychology	=	61
sciences of arts& letters	=	62
sociology	=	63
ethics	=	71
philosophy	0	72
computer science, theory & methods	=	1203
computer science, artificial intelligence	=	1203,04
compouter science, software engineering	computer software	1203,11
medical informatics	medical monitoring systems	1203,2
mathematical & computational biology	other specify	1203,99
computer science, cybernetics	other specify	1203,99
statistics & probability	=	1209
mathematics, interdisciplinary applications	other mathematical specialities specify	1299
physics, mathematical	other mathematical specialities specify	1299
mathematics, applied	other mathematical specialities specify	1299
spectroscopy	=	2103,03
acoustics	=	2201
physics, applied	other specify	2201,99
physics, fluids & plasmas	=	2204,1
engineering, mechanical	mechanics	2205
physics, nuclear	=	2207
physics, particles & fields	=	2208,07
optics	=	2209
chemistry, physical	=	2210
electrochemistry	=	2210,05
physics, atomic, molecular & chemical	other specify	2210,99
crystallography	=	2211,04
metallurgy & metallurgical engineering	metallurgy	2211,21
thermodynamics	=	2213
physics, condensed matter	other physical specialities specify	2299

chemistry, analytical	=	2301
microscopy	=	2301,12
biochemistry & molecular biology	=	2302,21
biochemical research methods	other specify	2302,99
chemistry, inorganic & nuclear	other specify	2303,99
polymer science	polymer analysis	2304,16
chemistry, organic	=	2306
chemistry, medicinal	other chemical specialities specify	2399
enegineering, chemical	other chemical specialities specify	2399
chemistry, applied	other chemical specialities specify	2399
zoology	animal biology	2401
ornithology	other specify	2401,99
biophysics	=	2406
cell biology	=	2407
anatomy & morphology	cell morphology	2407,03
genetics & heredity	=	2410
ecology	=	2410,05
physiology	human physiology	2411
reproductive biology	reproduction physiology	2411,16
humanities, mulidisciplinary	=	2411,99
immunology	=	2412
transplantation	=	2412,08
entomology	=	2413
microbiology	=	2414
biotechnology & applied microbiology	microbial processes	2414,08
mycology	=	2414,1
paleontology	=	2416
plant sciences	plant biology	2417
marine & freshwater biology	=	2417,05
virology	=	2420
developmental biology	other biological specialities specify	2499
biodiversity conservation	other biological specialities specify	2499
evolutionary biology	other biological specialities specify	2499
multidisciplinary sciences	other biological specialities specify	2499
meteorology & atmospheric sciences	=	2501
geochemistry & geophysics	=	2503
geology	=	2506
limnology	=	2508,08
water resources	hydrology, other specify	2508,99
oceanography	=	2510
engineering, ocean	other specify	2510,99
soil science	=	2511
minerology	soil mineralogy	2511,1
mining & mineral processing	other specify	2511,99
environmental studies	other environmental specify	2599
environmental sciences	other environmental specify	2599

agriculture, dairy & animal science	dairy products	3101,01
agricultural engineering	=	3102
agronomy	=	3103
fisheries	fish and wildlife	3105
forestry	=	3106
horticulture	=	3107
veterinary sciences	=	3109
clinical neurology	clinical sciences	3201
psychology, clinical	=	3201,05
dermatology	=	3201,06
geriatrics & gerontology	=	3201,07
obstetrics & gynecology	=	3201,08
pediatrics	=	3201,1
ophthalmology	other specify, clinical sciences	3201,99
dentistry, oral surgery & medicine	other specify, clinical sciences	3201,99
orthopedics	other specify, clinical sciences	3201,99
otorhinolaryngology	other specify, clinical sciences	3201,99
gerontology	other specify, clinical sciences	3201,99
anesthesiology	other specify, clinical sciences	3201,99
andrology	other specify, clinical sciences	3201,99
tropical medicine	forensic medicine	3203
radiology, nuclear medicine & medical imaging	=	3204,01
public environmental & occupational health	occupational health	3204,03
health & service	occupational health	3204,03
health care sciences & services	occupational health	3204,03
rehabilitation	=	3204,04
nursing	other specify, occupational medicine	3204,99
cardiacal & care medicine	=	3205,01
endocrinology & metabolism	=	3205,02
gastroenterology & hepatology	=	3205,03
infectious diseases	=	3205,05
neurosciences	=	3205,07
rheumatology	=	3205,09
nutrition & dietetics	=	3206
pathology	=	3207
allergy	=	3207,01
parasitology	=	3207,12
oncology	=	3207,13
peripherical vascular disease	=	3207,99
substance abuse	=	3208,99
pharmacology & pharmacy	=	3209
medicine, research & experimental	preventive medicine	3210
psychiatry	=	3211
surgery	=	3213
urology & nephrology	=	3213,16
toxicology	=	3214
respiratory system	other medical specialities specify	3299
neuroimaging	other medical specialities specify	3299
integrative & complementary medicine	other medical specialities specify	3299
emergency medicine	other medical specialities specify	3299
medicine, legal	other medical specialities specify	3299

engineering, aerospace	aeronautical technology and engineering	3301
engineering, chemical	=	3303
computer science, interdisciplinary applications	computer technology	3304
computer science, hardware & architecture	computer architecture	3304,06
nanoscience & nanotechnology	other specify	3304,99
computer science, information systems	other specify	3304,99
construction & building technology	construction technology	3305
engineering, civil	=	3305,06
engineering, manufacturing	manufacture of electrical equipment	3306,06
engineering, electrical & electronic	=	3306,99
robotics	other specify	3307,99
engineering, environmental	=	3308
engineering, multidisciplinary	other specify	3308,99
food science & technology	=	3309
engineering, industrial	other specify	3310,99
instruments & intrumentation	instrumentation technology	3311
automation & control system	automation technology	3311,01
materials science, characterization & testing	other specify	3312
materials science, ceramics	=	3312,03
materials science, paper & wood	wood technology	3312,13
materials science, biomaterials	other specify	3312,99
material sciences, multidisciplinary	other specify	3312,99
materials science, composites	other specify	3312,99
materials science, coatings & films	other specify	3312,99
medical laboratory technology	=	3314
engineering, biomedical	=	3314
engineering, marine	naval technology	3319
engineering, marine	marine engines	3319,05
nuclear science & technology	nuclear technology	3320
engineering, petroleum	petroleum and coal technology	3321
telecommunications	=	3325
film, radio, television	telecommunications technology , television	3325,09
remote sensing	other specify	3325,99
materials science, textiles	=	3326
transportation	transportation systems technology	3327
urban studies	urban planning	3329
communication	organization and management of enterprises	3329,02
engineering, geological	other Technological specialities specify	3399
ergonomics	other technological specialities specify	3399
planning & development	other technological specialities specify	3399
religion	=	5101,1
ethnic studies	ethnography and ethnology	5102
business, finance	other specify	5301,99
industrial relations & labor	industrial organization and public policy	5309
business	international business	5310,04
operations research & management science	organization and management of enterprises	5311
agricultural economics & policy	agriculture, forestry, fishing	5312,01
energy & fuels	=	5312,05
management	other economic specialities specify	5399

geography, physical	other geographical specialities specify	5499
geosciences, multidisciplinary	other geographical specialities specify	5499
archeology	=	5505,02
history & philosophy of science	history of philosophy	5506,21
history of social sciences	other historical specialities specify	5599
language & linguistics	applied linguistics	5701
literature	language and literature	5701,07
literature, african, australian, canadian	other specify	5701,99
literature, british isles	=	5701,99
literature, slavic	=	5701,99
education, scientific disciplines	educational theory and methods	5801
education, special	other specify	5801,99
education & educational research	other specify	5802,99
international relations	=	5901
public administration	=	5909
information science & library science	other political science specify	5999
psychology, developmental	=	6102,01
psychology, psychoanalysis	=	6103,06
psychology, educational	=	6104
psyshology, experimental	=	6106
psychology, applied	general psychology	6107
psychology, social	=	6114
behavioral sciences	collective behaviour	6114,03
psychology, multidisciplinary	=	6199
psychology, biological	other psychological specialities specify	6199
psychology, mathematical	other psychological specialities specify	6199
architecture	=	6201
literary reviews	=	6202
art	fine arts theory, analysis and criticism	6203
music	=	6203,06
imaging science & photographic technology	photography	6203,08
theater	=	6203,1
folklore	=	6301,03
social sciences, interdisciplinary	other sociological specialities specify	6301,99
social science,biomedical	other sociological specialities specify	6303,99
social sciences, mathematical methods	mathematical sociolow	6305
family studies	=	6309,03
women's studies	=	6309,09
social issues	=	6310
criminology & penology	crime	6310,01
social work	other sociological specialities specify	6399
medical ethics	other specify	7102,99
hematology	=	3205,03/3207,08
cardiac & cardiovascular system	=	3207,04/3205,01

Annex XXIII. Comparison with UNESCO ISI Web Area Area Code, "sustainable development "

ISI web subject area	Area UNESCO code	UNESCO code
mathematics	=	12
astronomy and astrophysics	=	21
physics multidisciplinary	physics	22
chemistry multidisciplinary	chemistry	23
biology	life sciences	24
earth and space sciences	=	25
agriculture, multidisciplinary	agricultural sciences	31
medicine, general & internal	medical science	32
anthropology	=	51
demography	=	52
economic sciences	=	53
geography	=	54
history	=	55
law	juridical sciences & law	56
pedagogy	=	58
political science	=	59
psychology	=	61
sciences of arts& letters	=	62
sociology	=	63
ethics	=	71
philosophy	0	72
computer science, theory & methods	=	1203
computer science, artificial intelligence	=	1203,04
compouter science, software engineering	computer software	1203,11
medical informatics	medical monitoring systems	1203,2
computer science, cybernetics	other specify	1203,99
statistics & probability	=	1209
mathematics, interdisciplinary applications	other mathematical specialities specify	1299
mathematics, applied	other mathematical specialities specify	1299
engineering, mechanical	mechanics	2205
physics, nuclear	=	2207
optics	=	2209
metallurgy & metallurgical engineering	metallurgy	2211,21
thermodynamics	=	2213
chemistry, analytical	=	2301
biochemistry & molecular biology	=	2302,21
biochemical research methods	other specify	2302,99
chemistry, medicinal	other chemical specialities specify	2399
chemistry, applied	other chemical specialities specify	2399
zoology	animal biology	2401
biophysics	=	2406
cell biology	=	2407
genetics & heredity	=	2410

ecology	=	2410,05
physiology	human physiology	2411
reproductive biology	reproduction physiology	2411,16
immunology	=	2412
entomology	=	2413
microbiology	=	2414
biotechnology & applied microbiology	microbial processes	2414,08
mycology	=	2414,1
plant sciences	plant biology	2417
marine & freshwater biology	=	2417,05
virology	=	2420
developmental biology	other biological specialities specify	2499
biodiversity conservation	other biological specialities specify	2499
evolutionary biology	other biological specialities specify	2499
multidisciplinary sciences	other biological specialities specify	2499
meteorology & atmospheric sciences	=	2501
geochemistry & geophysics	=	2503
geology	=	2506
limnology	=	2508,08
water resources	hydrology, other specify	2508,99
oceanography	=	2510
engineering, ocean	other specify	2510,99
soil science	=	2511
minerology	soil mineralogy	2511,1
mining & mineral processing	other specify	2511,99
environmental studies	other environmental specify	2599
environmental sciences	other environmental specify	2599

environmental sciences	other environmental specify	2599
agriculture, dairy & animal science	dairy products	3101,01
agricultural engineering	=	3102
agronomy	=	3103
fisheries	fish and wildlife	3105
forestry	=	3106
horticulture	=	3107
veterinary sciences	=	3109
psychology, clinical	=	3201,05
obstetrics & gynecology	=	3201,08
pediatrics	=	3201,1
ophthalmology	other specify, clinical sciences	3201,99
dentistry, oral surgery & medicine	other specify, clinical sciences	3201,99
orthopedics	other specify, clinical sciences	3201,99

tropical medicine	forensic medicine	3203
public environmental & occupational health	occupational health	3204,03
health care sciences & services	occupational health	3204,03
rehabilitation	=	3204,04
nursing	other specify, occupational medicine	3204,99
endocrinology & metabolism	=	3205,02
gastroenterology & hepatology	=	3205,03
infectious diseases	=	3205,05
nutrition & dietetics	=	3206
pathology	=	3207
parasitology	=	3207,12
oncology	=	3207,13
substance abuse	=	3208,99
pharmacology & pharmacy	=	3209
medicine, research & experimental	preventive medicine	3210
psychiatry	=	3211
surgery	=	3213
toxicology	=	3214
respiratory system	other medical specialities specify	3299
integrative & complementary medicine	other medical specialities specify	3299
engineering, aerospace	aeronautical technology and engineering	3301
engineering, chemical	=	3303
computer science, interdisciplinary applications	computer technology	3304
computer science, hardware & architecture	computer architecture	3304,06
nanoscience & nanotechnology	other specify	3304,99
computer science, information systems	other specify	3304,99
construction & building technology	construction technology	3305
engineering, civil	=	3305,06
engineering, manufacturing	manufacture of electrical equipment	3306,06
engineering, electrical & electronic	=	3306,99
engineering, environmental	=	3308
engineering, multidisciplinary	other specify	3308,99
food science & technology	=	3309
engineering, industrial	other specify	3310,99
instruments & instrumentation	instrumentation technology	3311
automation & control system	automation technology	3311,01
materials science, paper & wood	wood technology	3312,13
material sciences, multidisciplinary	other specify	3312,99
materials science, coatings & films	other specify	3312,99
medical laboratory technology	=	3314
engineering, biomedical	=	3314
nuclear science & technology	nuclear technology	3320

engineering, petroleum	petroleum and coal technology	3321
telecommunications	=	3325
remote sensing	other specify	3325,99
transportation	transportation systems technology	3327
urban studies	urban planning	3329
communication	organization and management of enterprises	3329,02
engineering, geological	other Technological specialities specify	3399
ergonomics	other technological specialities specify	3399
planning & development	other technological specialities specify	3399
religion	=	5101,1
ethnic studies	ethnography and ethnology	5102
business, finance	other specify	5301,99
industrial relations & labor	industrial organization and public policy	5309
business	international business	5310,04
operations research & management science	organization and management of enterprises	5311
agricultural economics & policy	agriculture, forestry, fishing	5312,01
energy & fuels	=	5312,05
management	other economic specialities specify	5399
geography, physical	other geographical specialities specify	5499
geosciences, multidisciplinary	other geographical specialities specify	5499
archeology	=	5505,02
history & philosophy of science	history of philosophy	5506,21
education, scientific disciplines	educational theory and methods	5801
education, special	other specify	5801,99
education & educational research	other specify	5802,99
international relations	=	5901
public administration	=	5909
information science & library science	other political science specify	5999
psychology, applied	general psychology	6107
psychology, social	=	6114
psychology, multidisciplinary	=	6199
architecture	=	6201
imaging science & photographic technology	photography	6203,08
social sciences, interdisciplinary	other sociological specialities specify	6301,99
social science,biomedical	other sociological specialities specify	6303,99
social sciences, mathematical methods	mathematical sociolow	6305
social issues	=	6310
social work	other sociological specialities specify	6399
medical ethics	other specify	7102,99
hematology	=	3205,03/3207,08
cardiac & cardiovascular system	=	3207,04/3205,01
ISI web subject area	Unidentified Area UNESCO code	UNESCO code
area studies		
hospitality, leisure, sport & turism		