Review

The Global AgeWatch index, GAWI, 2013

Vappu Taipale MD PhD[a]

[a]Chair, Union of Senior Services, Finland; E: vappu@vapputaipale.fi

V.T. Taipale. The Global AgeWatch Index, GAWI 2013. Gerontechnology 2014;13(1):16-20; doi:10.4017/gt.2014.13.1.010.00 Global ageing has been known for decades. Although there are few things in economic and social life that are predictable, the ageing of population is one such thing. Nevertheless, the policies of national and local governments have not been adapted timely. In 2012, United Nations Population Fund UNFPA and HelpAge International published a report on global ageing. Then the needs of global comparisons became explicit. In 2013, after consulting internationally widely known researchers in the field, HelpAge International published the first version of the Global AgeWatch Index (GAWI), a comparison of the ageing situation in different countries around the globe. Researchers, policy makers and innovators in the field of gerontechnology should become acquainted with this index to support their work of improving the situation for older adults. At the same time, the gerontechnology community is called and encouraged to develop further especially the domain of 'Enabling environment' because this is most in need of scientific documentation.

Keywords: international comparisons, benchmarking, ageing

All countries in the world are faced with demographic, structural and technological changes of major importance. The changes are likely to have consequences in a variety of areas, including financing of social security systems and financing of healthcare systems. The ageing process will not only change the population structure of the world profoundly. The process will be intersectoral, part of everything. It will cover all policy areas. Ageing has to be part of all policies. WHO´s 'Health in all Policies' paradigm should be applied also in the field of ageing[1]. "Ageing in all policies", brings the message that ageing is not only an issue of health and social welfare policies. The responsibility lays in all policy sectors: in commerce, transportation, education, community planning, sports, internal security as well as in poverty eradication.

Comparing ageing
One problem of researchers - as well as of policy makers - has long been the practice of collecting only aggregated data over the older population. Most statistical institutions aggregate all the information on older people after 70 or 74 years. Only recently EUROSTAT, the statistical authority of the European Union, started to use 74 years as a threshold under which disaggregated data could be obtained. For people working with older people or for innovating projects to older people it is clear that age and cohort differences exist, not to speak about the wide differences among older people themselves[2]. People in their 70´s have different life experiences than people over 95, the latter having experienced World War II and all its consequences. There will be more and more centenaries worldwide – why to aggregate information on them together with people just celebrating their 60th birthday? But when it comes to choose

the 'right' variable to describe ageing, the answer is not easy. Calendar age is not a strong variable, neither is generation, and individual differences remain very wide within each of these measures.

To convince the national policy makers as well as researchers, international comparisons and indexes are needed, but they were practically non-existent in the field of ageing. Since 2002 UN regional offices have compiled the information they collect according to the national reports of the Madrid International Plan of Action on Ageing, MIPAA[3], but real country-wise international comparisons over the regions were difficult. Therefore, after 2002 the UN affiliated research institute 'European Centre for Social Welfare Policy and Research' in Vienna started a process to develop indicators for the UN European Region using MIPAA information. The European Centre invited well-known researchers and policy makers to participate in this innovative group work that resulted in two projects together called MA:IMI: Mainstreaming Ageing: Indicators to Monitor Implementation: (i) a web page www.monitoringris.org[4] and (ii) several publications[5,6]. However, the list of indicators was long and too detailed to be available for all of the European countries.

The UNFPA and HelpAge International report 2012, 'Ageing in the 21st Century: A Challenge and a Celebration'[7] raised the issue once more, now on a global scale. During the preparatory phase of this report the idea of the Global AgeWatch Index (GAWI) was born[8].

Developing GAWI
Data on ageing is required for informed debate and policy making on ageing. Disinformation and ignorance are usual in this field. Professor of

Public Health Hans Rosling created his Gapminder[9] to fight against ignorance and to show how population statistics can be an interesting field of knowledge. Having a well-developed list of indicators at hand provides opportunities to benchmark country progress and measure and improve policy and practice on ageing populations.

HelpAge International started wide consultations among well-known researchers around the world in 2012 in order to produce the first version of GAWI based on the work done in the European Region[10]. There were discussions on finding the most reliable data to use on a global scale. The European monitoring process included aspects on income, quality of life, labour market participation and social security, but on the global scale more robust data were needed in order to include as many countries as possible. When analyzing the available data from the World Bank, World Health Organization, International Labour Organization, Organisation for Economic Co-operation and Development OECD and UNESCO, it was decided that there will be four main domains to calculate GAWI[11,12].

Methodology

Internationally comparable data appeared to exist for 13 different indicators, and these were incorporated in the four domains of GAWI (*Table 1*). The overall Index is calculated as a geometric mean of the normalized values of the four domains, with all four domains given equal weight. The value for each domain is also a geographic mean of the indicators, usually of equal weight. Exceptions are in the 'Income security' domain where 'Pension income coverage' sticks out (40% for 1.1, and 20% for each of 1.2, 1.3 and 1.4), and the 'Health status domain' with less emphasis on 'Psychological well-being' (40% for 2.1 and 2.2, and 20% for 2.3).

The domain-specific indexes are arrived at by aggregating values of indicators that show where each country stands in relation to the best performing country in the same domain. The 91 countries included in GAWI are those with sufficient data available for all four domains. Currently, it is not possible to break all the information down by gender.

First domain is income security, describing access to a sufficient amount of income, and the capacity to use it independently. Income security reflects the ongoing discussion in UN arenas about a social protection floor[13]. The earlier concept, social security network, turned out to be too risky allowing drop-outs, which was clearly seen during the recession in the 1990`s. Therefore the 'floor' was chosen instead. Inadequacy in pension income reduces an individual's standard of living to or below the poverty line. The indicators are pension income coverage and poverty rate in old age that uses a relative poverty definition by the World Bank. Relative welfare of older people looks at the income/consumption situation of older people in relation to the rest of the population (World Bank, OECD, Eurostat), and gross domestic product (GDP) per capita serves as a proxy for the standard of living of people within a country.

Health is the second domain. Health is appreciated by all people and WHO statistics are solid; the life expectancy indicator at age 60 measures how many more years a person of 60 can expect to live. The healthy life expectancy at 60 measures how many years a person of 60 can expect to live in good physical health[14]. The latter has better distinctive power, because even in many well-to-do countries there are more years with frailty to be expected than in some middle-income countries. Psychological well-being is a subjective assessment of whether one's life has an important purpose or meaning – a key supplement to indicators of physical health reflecting the rising interest and importance of mental health issues. This indicator is based on Gallup WorldView[15] since other statistical data are lacking.

Domain three is employment and education describing elements of the coping capacity. The motivations for older people continuing to work are, however, difficult to interpret. Employment of older people is in some parts of the world the only way to sustain one´s life, but in some other parts of the world there is a heated discussion of pension age which, if inflexible, excludes older people from working life. Education enhances older people's functioning abilities and competencies. The two indicators are labour market engagement

Table 1. GAWI (Global AgeWatch Index) domains and indicators, including direct 'outcome' indicators of older people's well-being (domains 1 and 2), a proxy of enabling attributes or capabilities of older people (domain 3) and the enabling of the environment of society (domain 4)[12]

Domain	Indicator
1. Income security	1.1 Pension income coverage
	1.2 Poverty rate in old age
	1.3 Relative welfare of older people
	1.4 GDP per capita
2. Health status	2.1 Life expectancy at 60
	2.2 Healthy life expectancy at 60
	2.3 Psychological well-being
3. Employment and education	3.1 Employment of older people
	3.2 Educational status of older people
4. Enabling environment	4.1 Social connections
	4.2 Physical safety
	4.3 Civic freedom
	4.4 Access to public transport

(ILO) and educational attainment of older people (the percentage of the older population with secondary or higher education)[16].

Enabling environment
Older people want to have the freedom of choice to live independently. They wish to feel safe and secure in the environment they are living in and to have access to good public transport. These aspects of societies affect individuals, but are based partly on political decisions, and partly on person-to person relationships, connected to ideas of social cohesion and inclusion. Intensive, world-wide, comparable research and statistics are still scarce[17].

In 2012 HelpAge in preparation of the report 'Ageing in the Twenty-First Century'[7] consulted older people in 38 countries using the method of focus group discussions. These countries represented different social, cultural and economic spheres and altogether 1300 people were participating by giving their views and opinions. The issues singled out as especially important by older people themselves were used as indicators. All four of the indicators in the fourth domain of GAWI, enabling environment, are subjective assessments by people aged 50 and over, here provided by the Gallup WorldView poll[15]. Social connections look at the perceived support available from relatives or friends. Physical safety shows how safe people feel in their neighbourhoods. Civic freedom assesses how much control older people feel they have over their lives. Lastly, access to public transport measures both access to and quality of transport, which is key to older people's quality of life. Mobility is the cornerstone of independent living[18].

Gerontechnology and GAWI
The third domain, employment and education, as well as the fourth one, enabling environment, invites people in the field of gerontechnology for innovation and research. Gerontechnology's mission is to promote healthy ageing and to prevent frailty with all the knowledge and skills of gerontology and engineering. This means activities not only in old age but from birth on. Building up mental and physical fitness needs personal and societal support as well as relevant equipment. Especially the information age leaves older people easily marginalized. There are ample opportunities to keep the older labour force fit for work by technology and age management. The right for life-long learning belongs to all, irrespective of age, gender or (il)literacy.

An enabling environment becomes the more important the more there are aged people. Social connections are important in all phases of life, especially when in older age death takes its toll and diminishes the number of age mates. Connecting

people is the privilege of ICT and modern technology which should be available for all. Physical safety is not only about fears of robbery but also about safe walking opportunities and walking aids, if needed. Environmental barriers are manageable by decision and action. A barrier-free living environment is good for all ages. The realm of this indicator gives opportunities and challenges for innovations in gerontechnology. Civic freedom measures, how much older people have a say, how much their opinions penetrate the society – aren´t there also many opportunities for innovations in that respect ? And the fourth indicator, access to public transport, invites for new modes of transport, GPS-based minibuses to be called, low-threshold vehicles.

Gerontechnological research can provide information on prerequisites for an enabling environment, positive development of community planning and the construction sector, as well as life-long learning. The percentage of Internet users among older people could serve as an extra entry in this domain.

For this article, the idea is tested of assessing the 'gerontechnological' content by combining domain 3, 'Education and employment' and domain 4, 'Enabling environment' and forming a new indicator, 'Gerontechnology`s success' assessing the geometric mean of the normalized values of domain 3 and 4 (*Table 2*).

By this method, Sweden scores highest, both for gerontechnology implementation and overall GAWI. Some countries score more or less even such as Sweden and Germany. Most of the countries, however, score uneven, like Armenia whose good educational domain hides problems in the environment. It is clear that not all European countries belong to the best quartile of implemented gerontechnology. An Asian country such as the Philippines surpasses some European countries, notably Austria, Finland and France.

Within social connections technological innovations will be more and more used by older people provided they are usable and cheap. That may change the gerontechnology ranking considerably. Within the domain 'Enabling environment', new indicators could be developed based on new useful infrastructures and applications, such as the smart phone and its apps.

Overall assessment
Although the today´s GAWI is the first version and will be developed further, it gives much to think about. GAWI allows global rankings of its 91 countries. In the global map (*Figure 1*) the green areas reflect the best countries to live in for older people, and the red end consist of countries which are doing poorer.

Table 2. Assessing gerontechnology's success (GTs) as the geometric mean of normalized values for the domains educational status and employment of older persons (ED), and enabling environment (EE: social connections, physical safety, civic freedom and access to public transport), as calculated from Zaidi[11]; GAWI=overall value of the Global AgeWatch Index: a geometric mean of four domains; For each column: normal print=best quartile, italic=second best, underline=third best, and bold=poorest

Country (GAWI rank)	GTs	ED	EE	GAWI	Country (GAWI rank)	GTs	ED	EE	GAWI
Sweden (1)	90,7	86,7	94,9	90,2	Peru (43)	47,3	57,7	38,7	53,1
Germany (3)	89,8	86,0	93,8	89,7	Kyrgyzstan (63)	46,4	59,8	36,1	44,5
Norway (2)	89,1	99,9	79,4	90,1	Latvia (45)	46,2	72,4	29,5	52,6
Netherlands (4)	87,7	77,1	99,9	88,5	Hungary (40)	46,2	54,2	39,3	55,0
Canada (5)	86,7	81,1	92,7	88,3	Brazil (31)	45,8	35,7	58,7	59,1
USA (8)	86,6	89,5	83,8	84,1	Belarus (60)	45,5	43,0	48,3	46,8
Switzerland (6)	86,1	76,9	96,4	88,2	Romania (48)	45,3	54,3	37,8	51,5
New Zealand (7)	85,5	82,9	88,1	84,8	Mexico (56)	44,6	41,1	48,5	49,1
Australia (14)	80,9	89,1	73,5	77,4	Croatia (41)	44,4	44,8	44,1	53,3
Iceland (9)	79,5	67,9	93,1	83,7	Dominican Republic (68)	43,5	35,5	53,3	39,4
Japan (10)	79,3	77,1	81,6	83,4	Vietnam (53)	42,6	27,8	65,3	49,6
Denmark (17)	77,3	64,5	92,5	76,2	Italy (27)	42,6	37,6	48,3	61,6
Ireland (12)	74,1	57,0	96,4	79,8	Bulgaria (47)	42,6	50,6	35,8	51,9
Philippines (44)	73,6	68,0	79,6	53,1	Cambodia (80)	42,4	23,4	76,8	27,5
UK (13)	72,1	62,3	83,6	79,0	Lithuania (50)	42,2	69,1	25,8	50,9
Austria (11)	72,1	52,4	99,2	80,1	Paraguay (72)	41,6	44,5	38,9	35,1
Finland (15)	69,8	59,4	82,0	77,4	El Salvador (59)	41,0	31,8	53,1	46,9
Israel (21)	69,6	74,1	65,5	70,3	Portugal (34)	40,7	27,5	60,2	58,0
France (18)	66,8	52,5	85,1	75,3	Colombia (54)	40,0	37,1	43,0	49,4
South Korea (67)	63,7	65,3	62,2	39,9	Malta (38)	39,2	27,2	56,5	56,0
Slovenia (20)	63,4	45,0	89,2	70,8	Slovakia (49)	38,7	56,1	26,7	51,4
China (35)	63,2	52,6	75,9	57,6	South-Africa (65)	34,4	38,9	30,4	41,2
Luxembourg (16)	63,0	43,9	90,3	76,9	Venezuela (61)	33,9	37,0	31,0	46,3
Spain (22)	62,2	45,1	85,7	67,8	India (73)	33,4	31,4	35,6	35,1
Sri Lanka (36)	61,6	55,2	68,7	57,5	Mongolia (74)	33,2	43,8	25,2	35,0
Chile (19)	61,0	62,4	59,6	70,8	Lao People's R. (79)	33,0	17,0	64,2	29,5
Georgia (37)	59,0	73,1	47,6	56,7	Ukraine (66)	32,4	56,2	18,6	40,2
Estonia (29)	57,9	82,4	40,6	60,3	Nigeria (85)	32,3	34,5	30,2	24,1
Uruguay (23)	57,4	59,1	55,9	67,7	Serbia (64)	31,7	32,4	31,0	42,6
Indonesia (71)	57,1	40,6	80,3	38,0	Guatemala (75)	31,6	19,2	51,7	34,0
Belgium (24)	56,6	48,1	66,6	67,2	Greece (58)	31,3	38,0	25,8	47,5
Cyprus (57)	55,6	46,5	66,3	48,4	Honduras (82)	30,3	31,3	29,3	25,9
Costa Rica (28)	54,4	46,3	63,9	61,4	Nepal (77)	29,8	24,4	36,5	33,8
Tajikistan (52)	54,0	59,1	49,3	50,0	Russia (78)	25,6	64,5	10,1	30,8
Ghana (69)	53,5	56,3	50,9	39,3	Turkey (70)	25,2	15,4	41,3	38,3
Albania (39)	51,7	58,9	45,4	55,8	Moldovia (76)	24,3	51,4	11,4	33,9
Czech Republic (25)	50,8	62,8	41,1	62,7	Malawi (86)	24,1	14,7	39,3	17,8
Mauritius (33)	50,5	36,5	69,8	58,2	West Bank & Gaza (84)	21,6	10,3	45,4	24,6
Armenia (51)	50,0	89,3	28,0	50,6	Morocco (81)	19,9	15,7	25,4	26,6
Nicaragua (55)	50,0	36,9	67,6	49,1	Rwanda (87)	16,3	4,5	59,8	16,5
Panama (30)	49,7	48,0	51,5	59,3	Tanzania (90)	14,0	6,9	28,6	4,4
Ecuador (32)	49,3	45,5	53,5	58,8	Afghanistan (91)	11,5	9,4	14,1	3,8
Poland (62)	49,2	44,4	54,6	46,0	Montenegro (83)	10,1	6,1	16,7	25,5
Argentina (26)	49,0	56,2	42,8	61,9	Pakistan (89)	2,0	36,3	0,1	7,0
Bolivia (46)	49,0	61,1	39,3	52,2	Jordan (88)	1,9	0,1	61,5	9,7
Thailand (42)	48,4	25,2	92,9	53,2					

The rankings will provoke discussions on the situation between countries and inside countries. Hopefully this will also bring political debate and research to explore and improve the national situation of older people. For instance among the Nordics, the ranking gave reason for deep exploration of the situation of older people in Finland and Denmark, both doing much poorer than the first ranked ones, Sweden and Norway. Although WW II, which left Finland as a war-torn poor country, explained much of the problems in health and education, GAWI also showed the small pensions of older women who live under the EU poverty line.

As Sylvia Beales[19] puts it: "History counts – progressive social policies for all across the life course are important. Money is not everything – older people can do well even in poorer countries with right policies in place. And: it is never too soon to invest in ageing!"
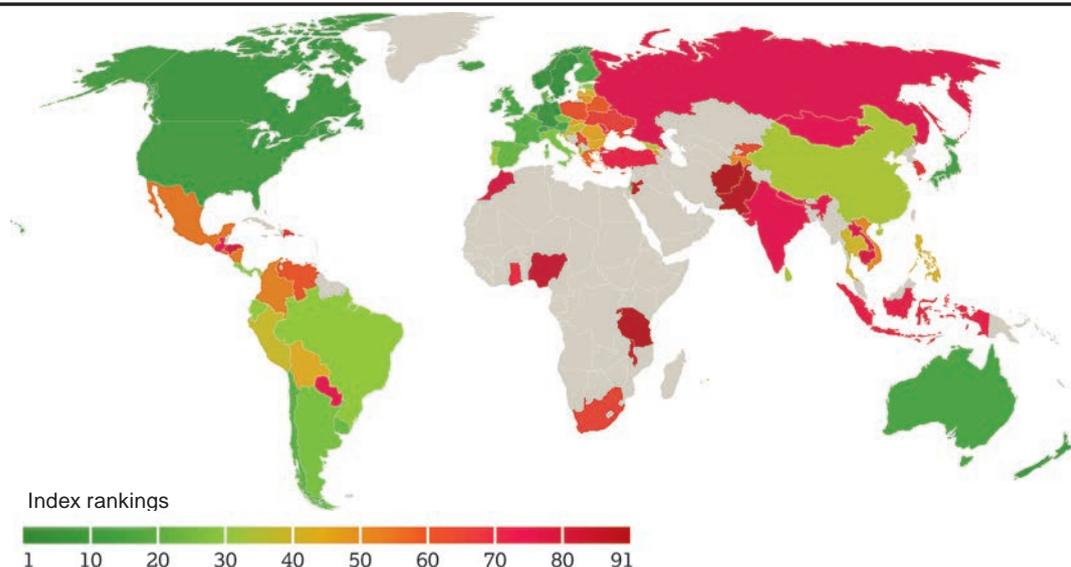
Figure 1. Global AgeWatch Index (GAWI) rankings; Colours in a spectrum from dark green to dark red represent the rankings from 1 to 91; grey is used for countries that could not be included in the index due to lacking data[12] (reproduced by courtesy of HelpAge International)

References
1. WHO. Health in all Policies; www.euro.who.int/en/health-topics/health-determinants/social-determinants/policy/entry-points-for-addressing-socially-determined-health-inequities/health-in-all-policies-hiap; retrieved June 23, 2014
2. Stenberg L, Nordlund M, Intosalmi H, Nykänen J, Lempola HM. Gerontechnology and age diversity. Gerontechnology 2014;13(1):49-52; doi:10.4017/gt.2014.13.1.006.00
3. Madrid International Plan of Action on Ageing; www.monitoringris.org/index.php?id=1; retrieved June 23, 2014
4. Monitoring Regional Implementation Strategies; www.monitoringris.org; retrieved June 2, 2014
5. Marin B, Zaidi A, editors. Mainstreaming Ageing. Indicators for Monitoring Sustaining Policies. Book Series: Public Policy and Social Welfare, volume 30. Aldershot: Ashgate; 2007
6. Zaidi A. Well-Being of Older People in Ageing Societies. Book Series: Public Policy and Social Welfare, volume 32. Aldershot: Ashgate; 2008
7. Ageing in the Twenty-First Century, A Celebration and A Challenge; www.helpage.org/resources/ageing-in-the-21st-century-a-celebration-and-a-challenge; retrieved June 23, 2014
8. Global AgeWatch Index; www.helpage.org/global-agewatch; retrieved June 23, 2014
9. Gapminder for a fact-based world view; www.gapminder.org; retrieved June 23, 2014
10. Zaidi A. Active Ageing Index 2012 Concept, Methodology and Final Results. Research Memorandum. Vienna: European Centre; 2012
11. Zaidi A. Global AgeWatch Index 2013. Purpose, Methodology and Results. London: HelpAge International; 2013
12. HelpAge International: Insight Report; www.helpage.org/global-agewatch/reports/global-age-watch-index-2013-insight-report-summary-and-methodology; retrieved June 2, 2014
13. ILO. Building Social Protection Floors and Comprehensive Social Policy Systems; www.social-protection.org/gimi/gess/ShowTheme.do?tid=1321; retrieved June 23, 2014
14. WHO. Global Burden of Disease; www.who.int/topics/global_burden_of_disease/en; retrieved June 2, 2014
15. Gallup WorldWide; www.gallup.com/strategicconsulting/156923/worldwide-research-methodology.aspx; retrieved June 2, 2014
16. Barro and Lee; www.barrolee.com; retrieved June 2, 2014
17. Zaidi A. Enabling environments for active and healthy ageing in EU countries. Gerontechnology 2014;12(4):201-208 doi:10.4017/gt.2014.12.4.003.00
18. Warner Schaie K, Wahl HW, Mollenkopf H, Oswald F, editors. Aging Independently: Living Arrangements and Mobility. New York: Springer; 2003
19. Beales S. Global AgeWatch Index. Presentation in Helsinki, 4 November 2013