

SUSTAINABLE DEGROWTH INDEX (SDI)

Transitory indicators for paradigm shift

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ABSTRACT

Current environmental degradation and resource depletion challenge our societies in their fundamentals. Scientific evidence show that the negative impacts of our economies are growing, while wellbeing doesn't seem to follow this trend. Degrowth theories – i.e. a transitional period to reach global sustainability – tries to solve the ecological and social crisis through a shift in our socio-economic paradigm. To support political and societal decision-making processes, some indicators could be helpful, reason why we propose to create a new set of indicators – focused on this degrowth transition period – to reach sustainable societies. These indicators could next be aggregated in one index, able to launch the debate and its appropriation by the Civil Society. We propose to construct such an index with a pyramidal approach, highlighting a gradation inside the different levels. The current paper represents the beginning of a work in progress. The indicators are submitted to the debate, in a way to underline his abilities to engage the paradigm shift.

Key words: degrowth/ indicator.

INTRODUCTION

“We will establish strong annual targets that set us on a course to reduce emissions to their 1990 levels by 2020 and reduce them an additional 80% by 2050.”
(US President-elect Obama, November 18, 2008)

Impacts on the natural and social world

We are facing global modifications in many environmental areas. Lots of concerns like climate change, collapse of biodiversity or chemical pollution are challenging our way of living. These perturbations are interacting in complex chains, and could even lead to bigger threats¹. Scientific evidence shows that the common origin to the vast majority of these troubles is human activity. For example IPCC reports that *“it is extremely unlikely that global climate change of the past 50 years can be explained without external forcing, and very likely that it is not due to known natural causes alone”*².

Huge differences appear at global level between non- and “developed” countries, whose impact of human activities is much higher due to their way of producing, consuming and living. The Ecological Footprint³ (E.F.) indicator shows that our impacts exceed the world’s capacity to regenerate by about 30 per cent (living thus under a situation of “credit-on-nature”). However, with regards to the past and future increase of these impacts, wellbeing doesn’t follow the trend. When we look at the Index of Sustainable Economic Welfare (ISEW) initiated by Daly and Cobb [1989] or the Index of Economic Welfare from Osberg and Sharpe [1998], we can see a clear disconnection: our economy is growing, the impacts too, but wellbeing does not. Societies today are neither equitable nor sustainable and the reduction of their global impacts is a necessity.

Degrowth as transition

One key factor of our socio-economic organization is the pursuit of economic growth as a fundamental objective, without doubt leading to a *growth society* [Latouche 2006]. Based on Georgescu-Roegen’s work [1976], we can assume that a society of infinite growth is physically impossible in a finite world. Hence, a soft landing of our economy should be taken as a solution to reduce our damageable impact, notably in order to avoid future partial societal collapse. More fundamentally a shift in the socio-economic paradigm itself seems to be necessary. The goal of human societies should be to reach a sustainable and steady state, in which economies are dedicated to Human wellbeing while respecting Nature’s boundaries. A degrowth-strategy appears as the transitional phase between the current unsustainable paradigm and a future sustainable one where a kind of *dynamic equilibrium steady state economy* serves Humanity. Of course, degrowth cannot be seen as an objective. The goal is not to start a negative growth period, nor to obliterate all kind of Economy. Degrowth partisans claim that the goal is to start a

¹ For example: “Observational records and climate projections provide abundant evidence that freshwater resources are vulnerable and have the potential to be strongly impacted by climate change, with wide-ranging consequences for human societies and ecosystems.” From IPCC, *Executive summary*, <http://www.ipcc.ch/pdf/technical-papers/ccw/executive-summary.pdf>.

² IPCC report IV, 2007: Summary for Policymakers.

³ WWF–World Wide Fund For Nature, *Living planet report 2008*, October 2008, Gland, Switzerland.
Website <http://www.footprintnetwork.org/download.php?id=505>

paradigmatic shift in our socio-economics organizations, in our way of considering Life. But it is not another system that will replace the obsolete one; we consider it rather as a matrix allowing a multitude of alternatives. Provisionally, this transitional period could be a mix of two processes comprising a series of elements:

- Enhancement of human values and wellbeing within Nature's boundaries, comprising issues such as conviviality, cooperative sharing and redistribution in wealth, efficiency in resources use and production, cooperative work, etc.
- Degrowth of the impacts on Nature and on Humanity via the reduction of E.F. for example, decrease in production, reduction in damaging industries, frugality via voluntary decrease of consumption, reduction of working hours, etc.

To start and monitor this double process, it will be decisive for analysts, political leaders and the Civil Society to handle with some macro socio-economic indicators focused on the transitional period, enhancing their ability to read a different reality and propose alternative orientations for societies. This paper presents the reflections and the beginning of the construction of such an indicator. In fact, four indicators – aggregated in one index – are proposed in this article.

ANALYSIS AND METHODOLOGY

Indicators appear to be decisive to read the global changing situation. If we look at the main guiding indicator for our societies – GDP – it focuses on production volume and growth. Many limits have been emphasized, arguing its failure to represent wellbeing by dealing only in absolute values. Since the 90s, many alternative indicators have been created – the most famous is maybe the Human Development Index (HDI) from UNDP. But assuming that a period of degrowth is necessary to reach sustainable societies, the lack of an appropriate indicator dedicated to represent a kind of degrowth appears clearly. The existing alternative indicators⁴ tend to give a better orientation to development or growth – corrected to show negative impacts – or are focused on one aspect (environmental, social). Sustainable Development when translated as “green” growth can be seen as *the way to pollute less, in order to be able to pollute longer* [Aries 2007] and as such is not constructed to show and follow necessary paradigmatic shifts: e.g. no indicator operates a mix with E.F., strong sustainability, conviviality⁵, frugality in consumption and cultural respect. Of course, a sharp rise in difficulty occurs if we mix objective and subjective measures; most of all when we try to detach the focus from money or only-quantitative measures.

Values and guidelines

To construct our indicators, we were guided by some values that we find interesting to highlight first. A detailed review of the literature about degrowth leads in general to these values. It appears fundamental to clarify them because degrowth is first focused on values, as Besson-Girard [2007] said, *degrowth is the beauty of the ‘why’* above the question of ‘how’. The list is certainly not limitative but tends to emphasize the main representative values, which are:

- diminution of current inequalities (between non industrialized countries and others, and between people in industrialized countries);

⁴ Gadrey, J., Jany-Catrice, F. [2005], *Les nouveaux indicateurs de richesse, la découverte*, Paris.

⁵ Illich, I. [2003], *La Convivialité*, Seuil, Paris.

- rise of general wellbeing capabilities;
- activity (and Economy as a part of it) at the service of Humanity, and not the opposite;
- strong sustainability of activities;
- relation Man-Nature based on respect, comprehension and cooperation;
- conviviality of the tools linked with autonomy.

As many authors, we take for granted that Humanity is facing global crises linked together and forming what we call an anthropological crisis. The values presented above are seemed to permit a democratic shift to another kind of society. The gamble is to succeed in this shift by democratic ways, in opposition to green totalitarian regimes for example. The subject is well and truly Humanity.

Methodology

We propose to construct a Sustainable Degrowth Index (SDI) formed by four indicators, each dealing with different dimensions. Theses four indicators would be next aggregated to produce the global index, represented via a pyramidal approach (figure 1). This wants to show the necessity to respect strong sustainability and achieve good conditions through incremental, successive levels. The four indicators are linked together because, in our model, to reach satisfying conditions on a respective one is a prerequisite to access to the next; i.e. only when 'Nature' reaches a state satisfying strong sustainability, will it be promising to develop and work on the next levels. To materialize it, the weight of each indicator decreases from bottom to top. This allows to improve every one of them but with a prevalence of bottom ones, seem and presented as crucial to begin the path to paradigm shift and sustainability.

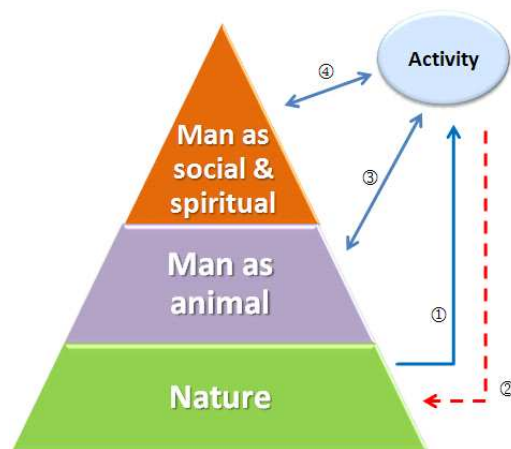


Figure 1: sustainability through levels

The pyramid is first composed by three indicators that are – from bottom to top – dealing with:

- Nature: the objective is to reach strong sustainability. It is fundamental in our approach to respect the geo-bio-chemical cycles and maintain or even improve the biodiversity level, seen as the main resilience factor.
- Humanity focused on basic needs: our focal point is the satisfaction of basic human needs (food, water, air...). The decline of inequalities is here fundamental, and takes the standpoint of a bad repartition among populations rather than a need for technical solutions.
- Humanity focused on social and spiritual: we consider that this level is the main one, the goal of our human condition. Meanwhile the last position inside the pyramid makes sense if we consider that we are first animals with basic needs, and only able to be fulfilled on a friendly planet. More, welfare for a minority standing next to starving people is not conceivable, urging us on satisfying basic needs as prerequisite.

The last indicator is focused on Activity. This last one enables to represent the dynamics links between the others. In this way, our activities need to employ resources from Nature ❶ without damaging impacts to permit strong sustainability ❷. The goal of activities is first to fulfill basic needs for everyone ❸ and equally to permit social/spiritual achievement ❹. What we call Economy is a part of this level because other dimensions are important. We integrate into our consideration the analyses of Arendt [1992] that makes a clear distinction between the work (*oikos*) – linked with Economy and oriented to basic satisfactions, the works (*ergon*) – artistic and intellectual creation, and the last one: the political action (*praxis*) – the citizen's activity. In other words, the purpose is to re-institute the instrumental vocation of the Economy.

We will now present the different variables included in each levels. The variables are separated in different dimensions, and are measured with some proxys. Some of them – that are not intuitive – will be clarified. Data related to the majority of them are already available in different statistic inquests or international reports. Of course, the proxys we propose do not represent the end of our reflections, but well the starting point.

The greater part of proxy is expressed by variation rates ($T^{\circ}\Delta$) because what matters in general is the evolution, the tendency of the variables above its situation in absolute terms. These indicators focus on the changing process to future societies. For some of them, the target is already defined and would be noted ' $\rightarrow$ '.

level 1: 'Nature' indicator

This first indicator should permit to reach *strong sustainability* – according to the common definition; growth is limited by impossibility to substitute natural capital for other one – by respecting fundamental bio-geo-chemical cycles and the existence of other species. It is established that many of our activities damage fundamental equilibriums in a scale never seen before. As a consequence, we assume that this level is the first one to be handled, not because of deep ecology view or anti human considerations, but because our life (and certainly our survival) in cheered up ways is conditioned by preserved ecosystems and equilibriums. The imperative of such sustainability needs to carry on nature's functions and services over the long run.

So even if Nature is the first, it is still regarded as anthropogenic approach, but concerned with respect of Nature as basic and fundamental dynamic entity, able and necessary to support life. Even so, other species could not only be useful for mankind, they should be perceived intrinsically valuable.

Readers should note that the perception of what we call Nature does not represent some permanent or unchanged state because we are not partisans of a static approach. We tend to reach a kind of *dynamical equilibrium* where human impact is not damageable, and by all considering the bunch of activities that do not participate to a global wellness improvement. We mainly consider variation rates to insist on the tendency above state at a time: e.g. the E.F. at one moment doesn't represent the evolution behind this level, and two countries with the same level could be following two opposite ways in their E.F.'s evolution. Of course, E.F. suffers from some limitations (e.g. it does not include irreversibility), but combined with other proxys, it can be helpful thanks to its acceptance among population.

Water, Land and Atmosphere are the three dimensions of the first indicator. The Water Quality Index is focused on inland water; data are available from UNEP GEMS/Water Program and check five parameters: dissolved oxygen, pH, conductivity, total nitrogen and total phosphorus.

Our definition of *wilderness areas* is derived from the Wild Foundation⁶: *The most intact, undisturbed wild natural areas left on our planet – those last truly wild places that humans do not control and have not developed with roads, pipelines or other industrial infrastructure.*

About the carbon cycle, the amount of 3gigatons (Gt) is derived from suspected absorbing abilities of the cycle. The air pollution index could check various levels of polluting like: sulfur dioxide (SO₂), ozone (O₃), nitrogen dioxide (NO₂) and particulate matter with an aerodynamic⁷ diameter of 10 micrometers (PM₁₀). These are the main conventional parameters about air quality.

Dimension	Variable	Proxy
Water	Biodiversity	T°Δ [Marine Living Planet Index] ≥ 0
	Biodiversity	T°Δ [Freshwater Living Planet Index] ≥ 0
	Footprint	T°Δ [Water Footprint] ≤ 0
	Quality	T°Δ [Water Quality Index (WATQI)] ≥ 0 (→100)
Land	Biodiversity	T°Δ [Terrestrial Living Planet Index] ≥ 0
	Biodiversity	T°Δ [threatened species] ≤ 0
	Footprint	T°Δ [Ecological Footprint] ≤ 0
	Others species	T°Δ [wilderness areas] ≥ 0
	Forests	T°Δ [deforested surfaces] ≤ 0
Atmosphere	Carbon Cycle	[carbon annual emissions] ≤ 3 Gt
	Climate change	[global rise of t°] ≤ 2°C
	Air quality	T°Δ [air pollution index] ≤ 0

Level 2: 'Man as animal' indicator

This second indicator is related to the 'basic' human needs. Water, food and health are the three dimensions we regard. Many people still suffer from hunger and thirst around the world. Related to what growth-objectors think, this situation request improvement in distribution because it is not a question of technical problems to product but all too often organizational ones, resulting of bad repartition. It is also assumed that a democratic transition requests a strong reduction in inequalities, most of all in basic needs fulfillment.

⁶ What is a Wilderness area, <http://www.wild.org>, May 29, 2009.

⁷ Expression of a particle's aerodynamic behavior as if it were a perfect sphere with unit-density and diameter equal to the aerodynamic diameter.

We are ultimately dealing with many health troubles, linked with shortage of resources in some part of the world, and excessive consumption in others parts. Many diseases can also be related to what we call ‘civilization’ ones, suspected to be directly linked with a deteriorated environment. About organic food, the ambition is to spread a high quality level, wholesome and environmental. Production and application of any chemical product should be authorized only if long term impacts are harmless and if the Civil Society approves it through referendums for example.

The decreasing of electromagnetic fields exposures represents an example of the precautionary principle application. Many studies suspect hazardous impact on health relative to mobile phones technologies, but theses technologies are largely widespread. World Health Organization said that *all populations are now exposed to varying degrees of EMF, and the levels will continue to increase as technology advances*⁸. Such a situation does represent a lack of consideration for public health and for public consultation, maybe symptomatic of a profit-oriented society.

Dimension	Variable	Proxy
Water	Quantity	T°Δ [people without access] ≤ 0
	Quality	T°Δ [people dying of poor quality] ≤ 0
	Propriety	T°Δ [private company ownership] ≤ 0
Food	Quantity	T°Δ [people dying of starvation] ≤ 0
	Quality	T°Δ [illnesses due to poor quality] ≤ 0
	Quality	T°Δ [% ‘Organic’ food consumption] ≥ 0
	Origin	T°Δ [% of animal protein consumption] ≤ 0
	Propriety	T°Δ [private company ownership] ≤ 0
Health	Life expectancy	T°Δ [life expectancy at birth] ≥ 0
	Reproduction	T°Δ [spermatozoids concentration] ≥ 0
	Civilization illnesses	T°Δ [tracked down cancers] ≤ 0
	Civilization illnesses	T°Δ [% people suffering from allergies] ≤ 0
	Civilization illnesses	T°Δ [% childhood obesity] ≤ 0
	Industry	T°Δ [electromagnetic fields exposure] ≤ 0

Level 3: ‘Man as social/spiritual’ indicator

Probably the most difficult level to screen, we are facing many problems about ethnocentrism risks and impossible universal definition of a ‘good life’. It is however the most interesting and the most positive one, dedicated to welfare. This is the level where we need an increasing of many positives variables underlying the positive approach requested for the paradigm shift. Unfortunately we are facing a kind of paradox because it is easier to depict what should decrease – we know and feel them in our everyday life – than what should be the future improvements related to this level. Therefore this indicator is maybe the most prone and decisive to be handled and discussed by the Civil Society.

About well-being or happiness, different sources allow us to apprehend it; some of them are based on subjective data like those founded in the Happy Planet Index (HPI). For others proxy’s, some indications are employed to represent what we can consider as valuable criterions for transition and future society. Because unified definition of wellbeing is dangerous, subjective inquests can help us to approach the perceived reality.

What we call *non professional politicians* is related to the belief that politics shouldn’t be a profession like the others but a service of representation and decision. We assume that this

⁸ Website of WHO about Electromagnetic fields, www.who.int, May 22, 2009.

measure is still not perfect but appears fundamental in regards with the strong importance of politics re-appropriation by the Civil Society. Degrowth is a political project above all. The dimension called *work* is associated to the mean to earn one's living. This recurring debate is important because the worker is presented as the other side of the consumer. Degrowth theories strongly insist on the essential revision about work's place in our everyday life. Arendt [1992] establishes a distinction between the *animal laborans* and the *homo faber*. In this article work is linked with the first one and represents *the sum of painful activities that no one would want to do without constraint* as Mylondo [2008] says. About the proxy *True free time*, it is the time people have for themselves, so total time where working time and commuting time are stripped. Another important dimension is dedicated to autonomy, strongly linked with what Illich called *Conviviality*. In fact, this idea is diffuse as a core value through others indicators. At Illich sense, nearly every tool can be convivial; all depend on the autonomy delivered by its use. However, it is highly difficult to establish easy proxys to reflect this kind of dimension. As Castoriadis [2005] believed, to be free or to gain autonomy, people have to want it; we cannot impose it to anyone. It is mostly possible to measure the likely requested conditions to allow this kind of autonomy. School and Health are delicate to approach. For the second one, we can check every initiative that enables people to gain knowledge in this field. Local exchange networks – e.g. the Local Exchange and Trading Systems (LETS) – are not trivial experiences for degrowth partisans because it mixes autonomy, localization and revitalization of the social link.

Dimension	Variable	Proxy
Happiness	Subjective inquests Suicides Depressions	$T^\Delta [(HPI) \text{ Life satisfaction index}] \geq 0$ $T^\Delta [\text{suicides}] \leq 0$ $T^\Delta [\text{anti depressing medicines} + \text{sleeping pills}] \leq 0$
Politics	'Democratic' areas Participation Knowledge Service	$T^\Delta [\text{universal suffrage areas}] \geq 0$ $T^\Delta [\% \text{ of abstentions to elections}] \leq 0$ $T^\Delta [\text{independent newspapers' sales}] \geq 0$ $T^\Delta [\% \text{ of non 'professional' politicians}] \geq 0$
Self realization	Inequalities Inequalities Security Handicap integration	$T^\Delta [\text{Gini Index}] \geq 0 (\rightarrow 1)$ $T^\Delta [\text{income gap between people}] \leq 0 \rightarrow (1 \text{ to } 10)$ Improvement of [Osberg-Sharpe's Index (security)] $T^\Delta [\% \text{ of budget dedicated to integration}] \geq 0$
Work	Duration Available Quality Health Cooperation	$T^\Delta [\text{global working hours}] \leq 0$ (productivity gains) $T^\Delta [\text{true free time hours}] \geq 0$ $T^\Delta [\text{artisans}] \geq 0$ $T^\Delta [\text{professional diseases cases}] \leq 0$ $T^\Delta [\text{trade unionism rate}] \geq 0$
Autonomy	School Exchanges Food Products Health	$T^\Delta [\text{alternatives to school}] \geq 0$ $T^\Delta [\text{number of local exchange networks}] \geq 0$ $T^\Delta [\text{areas dedicated to vegetable garden}] \geq 0$ $T^\Delta [\text{mechanic tools production}] \geq 0$ $T^\Delta [\text{initiatives (health houses, lectures...)}] \geq 0$

Level 4: 'Activity' indicator

The last indicator joins together the others and is also the most documented in degrowth-related authors. We placed it outside the pyramid because of this goal to serve the others levels dedicated to Humanity (levels 3 and 4). So this last level is a mean and not an objective, setting us beyond the chrematistics narrow scope. The main objective is to put Humanity (not a small

group of them as the current situation) at the centre of considerations, with the activities serving it.

We are not completely reinstituting Physiocrats' view, but agriculture is well presented as the foundation of the activities, due to many implications in others sectors. Our way to be farmer can determines the quality of soils, water and food. Health is strongly related to what we eat. More, here we can find precious indications about our relation with Nature and the way we consider it: fight or collaboration. The global crisis occurring in the farmer world – plenty of farms disappear every year around the world – is not a detail. Optimistically, many considerations are dedicated on tomorrow agriculture: it should be free from petrol use (as inputs and energy), extensive, local and environmentally sound. Farmers have to live directly from what they produce but this sector should be away from global profit focus. We can see it as a public service, providing many implications in other sectors and pushing them into the transitional period. Another application of the precautionary principle is the upholding of GMO on laboratories. This kind of seeds is directly linked with an intensive, centralized and profit-oriented agriculture.

About housing sector, the orientation is to build houses with a moderate energy demand. Water is also considered as a major resource, not appropriate to be a simple waste vector. Simple purification techniques are already available (e.g. lagoon filtering for *grey water* and dry toilet for *dark water*).

Dimension	Variable	Proxy
Agriculture	Independence	T^Δ [% of areas with alimentary sovereignty] ≥ 0
	Outputs	T^Δ [% of 'organic' farming areas] ≥ 0
	Outputs	T^Δ [% of GMO's areas] ≤ 0
	Seeds	T^Δ [% of fertile seeds] ≥ 0
	Quality	T^Δ [doses of chemicals inputs] ≤ 0
	Energy	T^Δ [petroleum requirements] ≤ 0
	Population	T^Δ [% farmers in population] ≥ 0
Housing	Energy	T^Δ [energy use/m ²] ≤ 0
	Energy	T^Δ [grey energy/m ²] ≤ 0
	Water	T^Δ [constructions without water as waste vector] ≥ 0
Mobility	Alternatives	T^Δ [investment in cycles and walking industry] ≥ 0
	Alternatives	T^Δ [investment in public transports] ≥ 0
	Road	T^Δ [individual cars production] ≤ 0
	Flight	T^Δ [kerosene price] $\geq +10\%/year$
Research	Orientation	T^Δ [% fundamental research budgets] ≥ 0
	Agriculture	T^Δ [% agro ecological practices researches] ≥ 0
	Energy	T^Δ [% renewable sources research] ≥ 0
Economy	Global Re-localization	T^Δ [incorporated km's for outputs] ≤ 0
	Resources	T^Δ [petroleum price] $\geq +3\%/year$
	Resources	T^Δ [nuclear power stations] ≤ 0
	Thinking	T^Δ [commercial advertising seen / day] ≤ 0
	Capabilities	T^Δ [new consumption credits] ≤ 0
	Relation	T^Δ [third world countries with cancelled debt] ≥ 0
	Military	T^Δ [% military budget] ≤ 0

Data treatment

Each level will be translated into an indicator. The method to construct an indicator from data depends on the objective: do we want to compare countries or areas at a given point of time; or is it more useful to follow a temporal change? The first option can be useful to classify countries

and give to the bad performers a type of model to follow. The second option can lead to indicators employed as target for societies.

This question is still open and the next step of this research would determine the most relevant objective. We have to keep in mind that the method should be easy to be understood, allowing the Civil Society to discuss and improve it.

We believe that methods translating disparate variables into monetary ones are not a judicious option for these indicators because of some reasons:

- Degrowth theories propose to avoid and end up with what is called *economicisation* of the world (i.e. seeing everything through economic glasses of profit and loss). Trying to convert every dimension into money appears unthinkable.
- Many proxys will probably never be convertible into money, and trying this will create lots of methodological issues.

An interesting methodology we can employ is the methodology used in the Index of Social Health (ISH) from Miringoff. For every proxy, when we have the variation rates between two periods, we allow 0 to the worst value and 100 to the best. A linear regression gives us the intermediate values. This prevents the need to fix *a priori* best or worst performance. Next we give a weight to each proxy's (arbitrary the same at the beginning) and combine them into the indicator.

Sustainable Degrowth Index

The four indicators will next be aggregated to give us one global index (IDS). We believe that a kind of global index could be helpful to summarize the anticipated paradigm transition because people are mainly used to deal with simplified measures. It could be interesting to present the results as a synthetic view; and thereafter encourage screening and discussing the different levels composing the index.

To operate a distinction between the levels and increase the importance from top to bottom, we propose to attribute different weight to them. Coherently with the pyramidal construction, we propose at the beginning to give arbitrarily this weighting to the steps:

$$\text{SDI} = 35\% [\text{Nature}] + 25\% [\text{Human as Animal}] + 20\% [\text{Human as Social}] + 20\% [\text{Activities}]$$

Second, to represent the dynamic of the transitional path, the different weights could evolve related to the situation. For example, in proportion Nature-level reaches a sustainable situation, his weight would be diminished, and more importance will be given to the next levels of the pyramid. This proposition wants to stand for the huge differences of initial situations among countries or areas. Alternatives indicators like E.F. already demonstrate that some part of the world are not exhausting their environment. The goal for them is to keep this situation and work on the other steps of the pyramid.

DISCUSSION

Degrowth theories just begin to be studied and deepened even if we find very old roots that nourish this thinking. Review of the literature suffers from a lack of available studies, making sometimes difficult to highlight relevant proxys. The holistic approach also offers a complexity to summarize some propositions into a limited number of proxys.

As presented at the beginning, this paper shows the first level of a work in process. Many interrogations remain about the appropriate methodology we should use. A key success factor for such an index will be its acceptance by the Civil Society. The strong willingness to integrate citizen participatory to elaborate the index is a guideline. However the best strategy we could probably choose is to work with a method as simple as possible to facilitate people understanding.

About the index construction, to change the weight of the indicators implies that we can set the target for each proxy, enabling to decide whether a *satisfying* situation is reached; for example a constant decrease around 10% a year of starving people. Different sources exist to set the targets: international literature review e.g. the Millennium Development Goals from United Nations – which purpose is to reduce, by 50% between 1990 and 2015, the proportion of people who suffer from hunger. Another important source comes from the Civil Society that could discuss the objectives through democratic debate and referendum. In fact, this necessity encourages every countries or area to discuss and set the objectives for its pertinent scale.

This remark implies that the scale of our index is not defined yet. The purpose could tend to be as flexible as the E.F. for example, allowing international comparisons and also local applications.

It is important to highlight the fact that during this transitional period we need to reduce the impacts of our activities, but many other items should be growing: well-being, conviviality, leisure time, etc. The combination between *material* degrowth and *humanism* growth is essential to promote the shift of society in positive way. Thenceforwards difficulties rapidly occur because it is far easier to know and focus on what's going wrong than on positive organizational aspects of the future, simply because most of them do not exist nowadays. For example, according to Mauss' analysis, the society's basement consists on the trilogy: to give, to receive, and to give back. To be out of material consumption, this trilogy is directly linked with the gratuity extension. Out of economical valuation, the question becomes *how* to represent gratuity into a proxy? Maybe the only possible and pertinent way to proceed is to check the implementation of some conditions allowing this true gratuity.

SOME CONCLUSIONS

Envisioning degrowth, as a transitional period from unsustainable societies to a variety of sustainable ones seems to be pertinent. Nevertheless, to be able to take off and go on with this paradigm shift, some measurements need to be able to support political decisions about society's orientations. At the current time, no existing indicator seems appropriate to support this decision-making process. To construct this new indicator, we have to focus on the values we want to highlight and on the objective: to succeed in the transition period of degrowth by democratic ways.

A first distinction must be held between countries that fail in providing basic human needs. For them, a sustainable growth in basic productions and consumptions is requested. For the others, diminishing their impact is about diminishing negative activities, productions and consumptions to a sustainable level (e.g. 80% cutting in greenhouse gases emissions according to scientists).

A second methodological point can be a distinction between areas: Nature, Mankind, and Activity. For each one – maybe dealing with different units – a number of items have been handled in a way to emphasize the path to sustainability or to common objective. This path is a moving target, the indicator should thus also be dynamic to be closer to reality and permit better decision-making process. To succeed among the huge variety of current situations, we do not establish a primary distinction but let the weighting of the levels playing this role.

We have proposed an index represented through a pyramidal construction composed by three levels: Nature, Humanity as an animal, and Humanity as social/spiritual actor. Each level gives us an indicator we can follow. A last indicator creates the link between the others: the activity.

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