# The Impact of Sustainable Development on the Homeostasis of the Social Environment and the Matter of Survival

# Wpływ zrównoważonego rozwoju na homeostazę środowiska przyrodniczego i sprawa przetrwania

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### Abstract

The survival of social groups depends on internal factors (the size of a group, its socio-diversity, inner organization, coherence and synergy of actions for the common good), external factors, mostly on a safe natural and social environment, and on sustainable interactions with this environment. In addition, the survival and development of groups is determined by their stability, which in turn depends on the homeostatic mechanisms that maintain a state of balance within groups and in their environments. People have an influence on the stability of social systems; their actions may lead to strengthening or weakening of this homeostasis. The implementation of the concept of sustainable development serves, among others, to strengthen the homeostasis of social systems and consequently, to prolong the existence of mankind. However, paradoxically enough, the more the system tends to equilibrium, the less stable it becomes reducing its chance of survival. But still, striving to achieve a state of equilibrium has become an imperative nowadays in view of the concept of sustainable development. Moreover, since the beginning of the Anthropocene era, people's interference in the homeostasis of natural and social systems has been growing, helped by the progress of science and technology. However, only a handful of the world's population, the financial elite, benefit from this. Driven by economic interests and ignoring ecological criteria, they weaken this homeostasis of future generations.

Key words: social system, stability, survival, equilibrium, homeostasis, sustainable development

### Streszczenie

Przetrwanie grup społecznych zależy od czynników wewnętrznych (liczebności, socjo-dywergencji, organizacji wewnętrznej, koherencji i synergii działań na rzecz dobra wspólnego), zewnętrznych – przede wszystkim od bezpiecznego środowiska przyrodniczego i społecznego oraz od zrównoważonych interakcji z otoczeniem. Oprócz tego o przetrwaniu i rozwoju decyduje ich stabilność, która zależy od mechanizmów homeostazy zachowujących równowagę w grupach i w środowisku, w jakim przebywają. O homeostazie systemów społecznych decydują ludzie. Ich działania mogą prowadzić do wzmacniania albo do osłabiania homeostazy. Wzmacnianiu homeostazy systemów społecznych, a w konsekwencji ekstensji czasu istnienia ludzkości, służy – między innymi – urzeczywistnianie idei rozwoju zrównoważonego. Tu jednak pojawia się paradoks: im bardziej system zmierza do równowagi, tym mniejszą osiąga stabilność i tym samym zmniejszą swoją szansę na przetrwanie. Nie zważając na to, dążenie do równowagi stało się nakazem chwili za sprawą koncepcji rozwoju zrównoważonego. Poza tym, od początku epoki antropocenu postępuje ingerencja ludzi w homeostazje. Korzysta z tego tylko garstka populacji świata – elity finansowe. Nie kierując się kryteriami ekologicznymi, lecz ekonomicznymi, beztrosko i nieodpowiedzialnie osłabiają homeostazę. Mają one na uwadze wyłącznie swoje korzyści osiągane teraz. Dlatego nie obchodzi ich, jaki los szykują wskutek tego przyszłym pokoleniom.

Słowa kluczowe: system społeczny, stabilność, przetrwanie, równowaga, homeostaza, rozwój zrównoważony

#### 1. Equilibrium and survival

The survival of social groups and individuals depends on what they are, i.e. on endogenous factors, and on where they are, i.e. on their natural and social environment. Their survival is determined by the following internal factors:

- Group size. It is commonly believed that the bigger a group, the more likely it is to live longer or survive. This is explained in the first place by the fact that its power, that is the sum of powers of its individual components, guarantees a more effective defense compared to the power of a smaller group, and so bigger groups are more difficult to annihilate. However, this is not always the case because the power of a group is not a simple sum of the powers of its components, and the defensive capacity of a group is sometimes inversely proportional to its size. Besides, larger groups often experience problems connected with the stability and durability of their structure, with their internal organization, maintaining order, and implementing a common goal. On the other hand, a group which is too small is usually too weak to defend itself against various threats in the struggle for survival with larger groups, although even here there are some exceptions, because the power of a group depends not only on its size, but on many other factors. In order to determine the size of a group which ensures its survival and growth, we can use well known and appropriately modified laws of ecology formulated by Justus v. Liebieg, Ernest Shelford and Warder C. Allee:
  - a) Liebig's law of the minimum: The scarcest factor has a destructive influence on the organism or on the whole population, i.e. on the individual or group.
  - b) Shelford's law: Both deficiency and excess of various factors have a destructive influence on the individual or group. Maintaining the values of these factors in so called tolerance range, i.e. between the minimum and the maximum, is necessary for survival.
  - c) Allee's law: The under-density as well as the over-density, i.e. exceeding the capacity of the environment in which some group exists, can have a destructive influence on this group. According to Allee, survival depends not only on the group size but also on its social abilities, i.e. ability to adapt to the existing social order.

Hence it follows that:

- a) group size should be neither maximum nor minimum, but optimal, i.e. balanced;
- b) internal and external conditions in which a group lives determine its size;
- c) the optimum group size is not constant, but it varies depending on the respective internal and environmental factors.
- Diversity. When talking about diversity, ecologists usually mean biodiversity, especially species', racial and genetic biodiversity. Today no one doubts in the influence of diversity on the development and survival of living beings, and in particular on the survival of social groups. However, this survival is also and at least to the same extent determined by socio-diversity at ethnic, cultural, economic, professional, and other levels. Shelford's Law can be applied to human organisms and social groups just as it can be applied to populations of other living organisms. According to it, going to extremes and aiming at maximizing the group diversity is not desirable, but on the other hand, maximal group homogenization is also harmful, because as Pope Francis, among others, has rightly pointed out (...) uniformity kills life (Pope Francis, 2013). Uniformity and standardization inevitably lead to stagnation; they inhibit further development and consequently survival. Therefore, attempts at homogenizing society by striving for universal social equality or classlessness, as it is, for example, in socialist countries, have failed. Likewise, standardization, which is inextricably linked to globalisation, is doomed to fail. Objective evolutionary processes that take place in the social environment preserve its diversity. Only subjective factors, e.g. some leader, can intentionally or unintentionally destroy society by introducing homogenization. For this reason, the slogan of social equality is either an illusion or a real threat. Common sense, knowledge and historical experience impel us to strive for the golden mean in the form of some optimal or moderate social diversity, or in other words to keep a balance between diversity and uniformity. Diversity does not prevent integration; on the contrary, it is necessary for social integration, because in fact we can only integrate what is different. The importance of diversity was clearly emphasized in the UNESCO Universal Declaration on Cultural Diversity, which was adopted unanimously on 2 Nov, 2001 at the 31st session of the UNESCO General Conference in Paris. In the Declaration it is stated that cultural diversity is an important feature of humanity, it is the common heritage, it creates a rich and varied world and is the driving force of the sustainable development of communities, peoples and nations; therefore, it has to be respected, protected and preserved. Article 2 From cultural diversity to cultural pluralism emphasizes that cultural diversity as a source of exchange, innovation and creativity is for mankind as necessary as biodiversity for nature and in item 6 it is stated that protection, promotion and maintenance of cultural diversity are essential and in-
- dispensable requirements for sustainable development for the benefit of present and future ge-

*nerations*. In order to meet this requirement it is necessary to manage diversity in a proper way to maintain harmony and balance. As sociologist Michael Young, creator of the concept of meritocracy, declared *A society without inequality would be terrible* (Kieserling, 2015).

- Efficient organization. The term organization does not refer here to institutions, enterprises, administrative units, companies, offices, teams, groups, etc. (see Adamik, Matejun 2012), but rather it is organization in an attributive sense understood as a set of features of a complex system which serve to carry out various functions of this system, especially its target function (Tadeusz Kotarbiński calls it organizing (see Kotarbiński 1958). The term system's organization includes interactions (also links) between the elements of this system which make it possible for these elements to create one whole, become somehow ordered, and so act together, even synergistically, to implement some purpose. The relations which order the system's elements in a certain way, in some aspect and direction are important for its organization; such relations are reflexive, consistent, low-symmetric, and transitive (Kuratowski, Mostowski 1952, p.140). The organization of a system can be determined quantitatively by the degree of its organization, which is inversely proportional to the relative redundancy of the system. Hence, it can be concluded that the fewer superfluous elements (e.g. people) and relationships (e.g. interpersonal relations) a social group has, the more (better) organized it is, i.e. it is more integrated, functions better, realizes its goals more effectively and consequently, it is more stable and resistant to destructive external factors. Therefore, the sustainability of a group can be ensured by striving for the highest possible degree of its organization. At the same time, exceeding the critical level of this degree results in dysfunction and disintegration, because too strong organization reduces freedom, which is necessary for human activity. A group should be neither too weakly nor too strongly organized. In other words, a complete lack of organization, i.e. chaos as well as too low and too high degree of organization should be avoided.
- **Consistency.** This feature of a system is closely related to its structure. A structure is a multitude of dependencies, relations, connections and interactions between the system's components as well as the way these components are arranged, configured and organized. It imposes a spatial order on the system's elements and a social order in the case of social systems (groups). It limits the diversity of system's components and the relationships between them in such a way that their order is not disturbed. For this reason, consistence acts like a guardian of internal order, an

order which is indispensable for the existence of social systems. The structure is a relatively invariant determinant of each system, which means that it can change, but only to the extent that does not violate the system's identity or does not lead to its disintegration. In a coherent structure, there are no internal contradictions. The durability of a system depends on the quality or nature of its structure: when its structure is thicker, more compact and coherent (i.e. the relationships between its elements are stronger, which in turn is connected with the strength of interactions between them), the system is more resistant to disturbing external factors, ergo, it is more stable. However, just as it is with size, diversity and organization, going to extremes when it comes to the consistency of a structure or durability of the system is not desirable. Durable as they are, stable systems cannot develop. Evolution is only possible in systems with limited, sustainable and optimal durability and consistence.

Solidarity and synergy of activities. Social solidarity is understood here not only as identification with other people. It is a specific relationship between individuals or groups forming communities which is founded on emotional, intellectual, ideological, world-view, religious and political bonds as well as on empathy. It manifests itself in the mutual understanding, support and willingness to help each other in activities undertaken to achieve some common goal, as well as in implementing the common tasks. It results from individuals and groups being aware that they are not able to defend themselves, survive, develop or achieve anything on their own. Thus, a source of solidarity should be sought in obligation and compulsion rather than in good will dictated by religious or moral recommendations. The statement that man is always in solidarity with somebody and for somebody (Tischner 2005, p. 16) or that the development of solidarity (and solidarism) is owed to Christianity, which proclaims the principle of brotherly love, is false. The principle of brotherly love formulated in different ways and deriving from the principle of the golden mean was preached also in other pre-Christian religions. People show their solidarity only at certain times and in situations which force them to do so. The solidarity between the peoples of the socialist bloc (Proletarians of all countries unite!) imposed by the communist ideology is an example of forced solidarity, which turned out to be false and it disappeared just after the political transformation, giving way to mutual claims, conflicts and antagonisms, which in turn led to the breakdown of federal states (Czechoslovakia, the Federal Republic of Yugoslavia, and the USSR) and to the rebirth of old nation-states

and wars between them. However, solidarity that is forced or imposed from the outside may also be positive. After all, the principle of brotherly love has never been fully and widely respected by Christ's followers, and in modern times characterized by dominant hypocrisy, much fewer Christian believers live according to it. There is something wrong when it comes to practicing this principle. It is held in contempt at every turn. There is a growing discrepancy between the declarations of brotherly love and the fact that this love, or just simple kindness is not shown in everyday life. There is abundant evidence for this. Empty religious declarations or creating more ethical codes will not help considering simple lack of good will, unwillingness to get rid of excessive egoism and unkindness in mutual relations between people, regardless of their beliefs, social position, wealth, origin and appearance (Sztumski 2012). The prerequisite for solidarity is giving up one's selfishness, obviously not fully and under certain conditions, for the good of other group members and the group as a whole, i.e. for the common good. For this reason, solidarity is close to collectivism and altruism, and sometimes to selflessness. Solidarity bonds strengthen a group as the whole and each of its members individually. With more bonds, more structural ties and more solidary acts for a common good, a group usually becomes more stable. Another condition for solidarity is the appropriate size of a group, its consistency, diversity and degree of organization. In principle, in smaller and less diverse, but better organized and more integrated groups, we can expect more mutual understanding, empathy and commonality. Of course, there are exceptions to this rule, and even very small groups experience conflicts and discord and consequently they lack solidarity. Thanks to the solidarity that manifests itself in the mutual aid or in strengthening efforts to achieve common goals or group interests, in other words, in the realization of the target function of a group, its stability and defensive potential against external threats increases significantly, which gives it a better chance to survive and thrive.

## 2. Equilibrium and homeostasis

Maintaining the right proportions between the parameters that define the social environment, the structure of social systems, and in particular that of groups, is a prerequisite for preserving their stability and durability, and ensuring survival and development. The *right proportions* refer here to such proportions that ensure dynamic equilibrium within a given structure, a state which allows for changes of momentary equilibrium. The proportions may be slightly exceeded and violate the standards or deviate from the desired parameters, because such slight deviations are not able to disrupt the system's stable equilibrium and therefore are not dangerous for its functioning or existence. Homeostasis is a feature of open systems that enables them to self-regulate and to maintain the parameters and relations between their elements in optimal proportions, despite some changes in the systems themselves and in their environment. In the case of social groups, homeostasis balances the proportions relating to size, diversity and conflicts between individual and common interests, i.e. those parameters whose excess or deficiency threatens to distort order and in the worst case may lead to the destruction of the system. Equilibrium allows each member of the group some freedom within which they can act and deviate from the group (average) standards; each group member can realize their tasks, not disturbing others but rather supporting them. It facilitates the symbiosis of a group with its environment and it contributes to preserving order by alleviating inner contradictions and the tendency to disorganization. Therefore, homeostasis allows a group to preserve its structural and functional identity and relative autonomy (independence) in its *lifetime* and in the course of evolution. Equilibrium does not eliminate the hierarchical order in the group and does not make all its members equal in each respect. A balanced group works like a wellfunctioning organism or a mechanism equipped with self-regulatory systems (self-control and self-steering), which ensure homeostasis. In natural animate and inanimate systems (except for technical devices, created and programmed by humans), homeostasis is a product of nature and of natural evolution. It occurs automatically, spontaneously and involuntarily. On the other hand, in social systems (groups), homeostasis is a product of people and it is realized consciously, purposefully and in accordance with their desires. Although it is a product of people, people's awareness and activities are also determined by nature and its objective laws. Being a human product, it gets alienated, and starts to act like an objective factor - the invisible hand or some fate. Additionally, social systems are subject to objective statistical laws. Therefore, homeostasis is to some extent an objective attribute of social systems. Homeostasis maintains the internal parameters of the system at the steady level, even though they may oscillate around the average values depending on some random factors. This makes the system to some degree independent of external conditions. Spontaneous evolution of closed material systems, which is governed by chance, is accompanied by a steady growth in their entropy and dissipation of inner energy. Consequently, the tendency to maintain their dynamic equilibrium also grows. However, when the entropy and internal energy dissipation reach maximum values, and the system reaches a state of equilibrium (equilibrium is achieved with minimum energy and maximum entropy), no processes can occur in it

without some external factors. Simultaneously, with an increase of the system's entropy, its disorganization progresses according to the second law of thermodynamics, which is the universal law of nature. Consequently, such a system must be destroyed one day, as if in a natural way. The situation is different in the case of open systems, and social systems are open systems. In order for them to survive an increase of entropy must be stopped by being transformed into negative entropy. This is so because open systems can take more energy than they consume from their environment, so they are able to store surplus inner energy in the form of negative entropy. All spontaneous processes lead to the most probable of all situations or states, and states of higher entropy, i.e. states of equilibrium are the most probable. However, the higher the system's equilibrium is, the more disordered the system becomes. This follows from the law of increasing entropy known in physics as the second law of thermodynamics. This law states that in spontaneous processes, disorder increases because it is more probable than order. Thus, striving for maximum equilib-

ble than order. Thus, striving for maximum equilibrium leads to a perfect mess, which was proved in Ehrenfest's thought experiment. All this can be applied to social systems, which are getting increasingly complicated with the progress of civilization, and their development is getting out of people's control. For this reason, their development is more spontaneous than planned, and rather more chance-driven than controlled by the regularities.

#### 3. Equilibrium and human interference in homeostasis

In the Anthropocene era, people interfere in the homeostasis of systems and intentionally and often irresponsibly tinker with it. They build dams and artificial lakes, which may be needed for the economy and tourism but are harmful to the environment; they reverse the course of rivers, cut down forests, expand cities, develop industry, create new breeds of animals, change genotypes and undertake other activities that alter the landscape, environment, fauna and flora. All this upsets the equilibrium, harmony, and eternal order of nature. Guided by the economic benefits and despite quite developed ecological awareness, people do it on an increasingly larger scale and proportionally to the scientific and technological progress. They disrupt, for example, homeostases of climate, species, ecosystems, the human organism (physiological, nervous and mental processes), the Earth and even of the planetary system - all the homeostases which are important for maintaining equilibrium in nature. They want to improve nature and shape it according to their wishes, but nature defends itself as much as it can and as if in reprisal, it takes revenge. Fortunately, people still do not have enough power and abilities to improve nature and despite victories won here and there, they are losing their battle with nature. On the other hand, they have been more successful in disturbing homeostasis in social systems. In the natural environment, there are different objective rules of prohibition and selection which must be taken into account and which limit people's interference in natural systems and manipulation with homeostasis. By contrast, in the social environment there are no effective restrictions of a social nature, apart from the limits imposed by technology. Such situation is caused by the relativization of ethical norms, lack of respect for cultural norms, and bypassing legal rules, which no longer restrain thoughtless or harmful destruction of homeostatic mechanisms in social systems. In any case, these norms and regulations are arbitrarily created by the elite (governments and owners of global corporations, trade organizations and banks which we cannot do without) that exercises despotic power over the world not so much for the benefit of mankind but rather to realize their own egoistic aims: multiply profits and wealth, and maintain power. These lords of the world create different models of social and economic regimes, management systems, legal codes, etc. which are best for them. As a result of their actions, social systems increasingly often transform from sustainable to unstable, from stationary to dissipative, from ordered to chaotic ones. Consequently, the autopoiesis of social systems, i.e. their ability to create, reproduce, and revive themselves is reduced. This not only weakens their chance of survival, further existence and development, but it can even lead to their collapse. In order to survive, a system should not only be open, flexible, and capable of adapting, but also capable of self-regulation thanks to homeostasis. The survival of social systems depends on how their institutions and organizations function, and also on the behavior of people, interactions and relationships among them. The systems in which the components (especially people) function in an established way thanks to the specific stabilizing factors that are part of homeostasis, survive longer. Those factors include sanction mechanisms imposed by various institutions and social organizations, the family, state, church, etc. Social institutions establish law and order, behavior norms and standards, everything that determines the sustainability of social systems. In addition, the homeostasis of social systems includes other stabilizing mechanisms that restrict free choices and stem from ethnic, cultural, and religious traditions. These mechanisms are communicated in the process of education, socialization, indoctrination and enculturation. Moreover, the stability and survival of social systems is influenced by conservative groups and ideologies, and by economic factors, for example redistribution of national income, salary structure, the proportion between supply and demand etc. Stabilization is not a process that aims at stagnation, but rather at continuous balancing of the disproportions, inequalities and disharmonies within the system; it is a necessary though insufficient condition to preserve the identity and sustainability of a system. Under normal conditions, i.e. when the homeostasis of the social system is undisturbed and the values of the parameters defining it are within the referential limits, this system is always able to return to a state of equilibrium on its own. The larger the diapason of these limits is, the more stable the system is. As a rule, social systems are autopoietic, i.e. they have the ability of self-creation and self-reproduction, which enables them to survive, exist and thrive. Thus, in order to ensure the survival of the social system, it would seem purposeful to undertake activities which would contribute to increasing its stability, or at least to maintaining it in a constant state as long as possible. However, as a result of ill-considered and irresponsible behavior of the ruling elites, and also of various institutions and ordinary people, the stability of social systems, which is essential for the survival of humanity, is weakened all the time. Paradoxically, the autopoiezis of social systems disappears with their sustainable development. This is caused by the internal contradiction of this development between striving to maintain social ecosystems which make up our social environment as long as possible and destabilizing them. A social ecosystem is understood here as all the people inhabiting a defined territory and a network of interpersonal and inter-institutional relations.

There are many social ecosystems and areas of social life which are important for people and which get more and more destabilized. One of them, and probably the most important, is the economy.

For some time, two models of the economy have been competing with each other. Both were built on the dubious presupposition that the market economy is the best and the only right. This belief first appeared when the planned economy collapsed in the former socialist countries and then, after the political transformation in these countries, when strong connections between politicians, scientists and business made the economy ancillae politicae and no longer a wholly objective science. Some of these models were built on the basis of neoclassical conception while others on the ground of evolutionary economics, which emerged in the 20th century and was later developed in the eighties within neo-liberal economics. Evolutionary economics transferred the mechanisms of biological evolution onto the economy. The principle of natural selection in animate nature was substituted with the principle of natural replacement of a worse economy by a better one, a replacement which results from implementing innovations and competitive struggle. This competitive struggle is considered to be the driving force of economic development just as the struggle for existence in the world of living beings is the driving force of biological evolution. In addition, evolutionary economics takes into account the impact of exogenous factors (demographic, cultural, psychological and sociological) on the functioning of the economy (Leszkowska, 2013). Neoclassical models have a global reach and are based on the hypothesis that there are states of equilibrium in the economy. By contrast, neo-liberal evolutionary models take into account local conditions (for example, Anglo-Saxon, German, Japanese, and Scandinavian models can be distinguished, each of them having its pros and cons) and the fact that the economy can never achieve a state of equilibrium (for example, because of constant innovations); economic processes only strive to reach this state. Consequently, the economic analysis and prognosis are based on the study of transient states and on what occurs between the states of equilibrium as well as on the influence of random factors which disturb a state of equilibrium. In both models, economists (...) view the economic reality as close to equilibrium or in equilibrium. Deviations from a state of equilibrium are only incidental and sooner or later market mechanisms and people's attitudes aiming at maximizing utility, bring about equilibrium in the economy (Woś, 2001). Such models of the economy based on equilibrium and on laminar processes are inconsistent with the economic reality, which is full of chance events, turbulences, increasing risks and uncertainties. This is evidenced by increasingly frequent, unexpected and difficult to avoid and overcome economic crises and local and global collapses in finance, banking, supply and demand, employment, exports, etc. Dissipative models of the economy that irreversibly moves away from equilibrium, models which take into account chaotic and turbulent processes in the economy are better, especially as the homeostatic tendency of systems (not only the economic ones) to return to stable equilibrium is decreasing. Instead, there is a growing tendency to return to unstable equilibrium. This fact should be taken into account when developing economic models in the modern world. The concept of sustainable development corresponds with neoclassical and neoliberalist models of the economy. Therefore, the efforts to implement the idea of sustainable development, i.e. to achieve states of equilibrium - rather unstable than stable - in various sectors of the economy on a local and global scale inevitably weaken their homeostasis, leading to their instability and disorganization. Deregulation of the economy, unexpected economic crises and growing uncertainty about the financial situation (living conditions) make people's lives more difficult and have a negative influence on other spheres of social life. Practically speaking, all this results in the degradation of the whole social environment, in this way reducing its chance of survival.

The implementation of the concept of sustainable development, together with globalization processes aims at equalizing potentials in different social systems. It is not clear whether it is unintentional or planned. The rapid transfer of technology and labor force, mass transmigration and the spread of a global network of banks and markets lead to disappearance of disproportions in technology, demography and the economy between continents and countries. Technological potentials are equalized (balanced) faster due to off-shoring (using cheap labor in underdeveloped countries) and outsourcing, which requires immediate transfer of modern technology to these countries. On the other hand, the equalization of economic potentials, especially of wages, purchasing power, and living standards of the masses, is much slower, because it is not in the interest of the corporation owners in rich countries. The rich are aware that they live at the expense of the poor and get rich thanks to them. They do not need to bridge this gap; it is better for them to maintain the existing discrepancies and relative poverty despite the ideas of globalization, sustainable development and the common good. However, such situation cannot last forever. Even now, the number of poor people in the world is significantly decreasing, the number of people earning average wages is growing, and the number of rich people is increasing only slightly<sup>1</sup>.

It is possible that in the future, the steamroller of globalization and progressive economic growth will equalize the economic potentials of different countries and local economies will melt into a single truly sustainable global economy. With accelerated social processes, this may not take long. If this happens, we can expect economic stagnation in the best case scenario and a total collapse in the worst case. Both will have a negative impact on the fate of humanity.

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<sup>&</sup>lt;sup>1</sup> From 2001 to 2011, nearly 700 million people got out of poverty, but most barely so. The number of the poor (living on less than \$2 per day) fell by14%; now they constitute 15% of the world population. The number of the rich (having over \$50 per day) increased by 1%; now they constitute

<sup>7%</sup> of the world population. The low-income population (living on from \$2 to \$10 per day) is the biggest group and increased by 6%, constituting 56% of the world population (Rakesh Kochhar, 2015)