The Main Trends of the Global Dynamics and the Future of the World Development*

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The article elaborates the author's ideas on the two paradigms of the human system development formulated in her previous works (Bondarenko 2011, 2012). The first development paradigm is expressed in the direct connection between production and consumption. The essence of the second development paradigm is seen in the indirect and desynchronized (both in space and time) interconnection of different commodity production technologies and consumption of such commodities by a specific human individual. The new (third) model of life organization is at the same time the first development paradigm based on the direct interconnection between production and consumption of specific human beings, but raised onto the new high-tech level. Practical realization of this model is the only feasible precondition for the transition to sustainable and crisis-free development. Cycles, crises, chaos and all negative phenomena are nothing else but natural products of the second, indirect paradigm of development.

Keywords: *systemic crisis, sustainable development, new methodology of cognition, objective, specific human being, time, efficiency criteria, two development paradigms, coordination of interests, new model of life organization.*

Introduction

The global systemic crisis, hitting all facets of the human community's life, is becoming more and more profound and wider in scope. This fact has been recognized at all summits of G20 (including the latest in Mexico), summits of G8, as well as the latest economic forums in Davos and Saint-Petersburg. The panic in the world markets (including the market of raw materials) has been generated by publication of negative data on almost all major economies of the world (*i.e.,* US, Europe, China and India).

China's economy demonstrates slower growth rates, too. Investors and economists once again started to talk about the threat of China's 'hard landing' and to call for resolute measures that would stimulate economic growth. But, as experts in China's economy suggest, in order to become 'an engine of global economy', the Celestial Empire first needs to make its people wealthy. However, in this case China would lose its main advantage, that is, its cheap labor.

India, with its second largest population in the world, that has become the world's tenth largest economy by staking on development of the innovation sector, also has faced the crisis situation. Its GDP growth rates fell down sharply, while the rupee exchange rate against the USD dropped to historical minimum. Meanwhile, according to some expert

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assessments, the crisis in India can catalyze new recession in the entire world. Corruption, inflation, expensive credit and political paralysis result in the outflow of capital and termination of business projects. In particular, this applies to strategic sectors, where the state actively regulates the process, while in the less regulated spheres (*e.g.*, IT and pharmacology) the situation is more favorable. In this sense India differs strongly from China, where exactly the sectors with strong presence of the state and use of cheap labor drive the progress of national economy.

Many economists hold the view that all the current developments in the world provide ample evidence of the already surged second wave of the crisis. However, the monetary means (also used before) such as printing money and its investment in all sorts of assets (shares, raw resources, or real-estate property) are prevailing over investments in the fixed capital, and this latter circumstance will result in the further slow-down of growth. This means that the old patterns designed to cope with crisis by monetary injections into economy no longer work, and hence this mode is not an anti-crisis remedy that would eliminate the prime cause of the crisis either. Moreover, on the one hand, it is recognized that at present there is no serious discussion on how to cope with the crisis. On the other hand, since the latest World Economic Forum in Davos we hear the ever more loudly voiced arguments that the crisis of 2008 and its current second wave signify the crisis of the contemporary economic model. In such circumstances, unless the root-cause of the economic crisis is identified, any system of institutes and mechanisms designed to eliminate tensions in the course of anti-crisis measures would be inefficient, to say the least.

In his introduction to Grzegorz W. Kolodko's book *Globalization, Transformation, Crisis – What's Next?*, Prof. Rouslan Grinberg notes: 'Economics and sociology arrived to one shared conclusion: organization and functioning of the surrounding world is the ever less comprehensible, as it becomes the ever more illogical and hence uncertain' (Grinberg 2011: 9).

Therefore, the main precondition to proceed to crisis-free development is to receive and master knowledge on objective causes of the global crisis, to find ways to the crisis-free development and to understand the implications of each decision made. The time for development by the trial-and-error method has already passed.

New Methodology for Cognition of Regularities in the Human System Development

Elsewhere (Bondarenko 2011, 2012) we have presented the new methodology of comprehension of the regularities in the human system development that we have formulated in the recent thirty years. We have also been conducting a research aimed at identification of objective causes for the crisis condition in the human system development as well as at visualization of the future. As a result, our new methodology was worked out.

In the present paper we find it appropriate to repeat some ideas of our methodological pattern and elaborate them with some new speculations. The essence of the new methodological tool-kit and its scientific novelty are represented by the fact that it is based on the discovered objective target in the human community development. In order to arrive at this conclusion, it was required not only to define the goal of the human system development, but to identify the final objective that cannot be a sub-goal of a higher objective within the mundane human existence, but represents the objective reason of the human system development – and then to understand that each particular person, each individual lives not to

provide GDP growth or to manufacture the maximal possible amount of weapons for self-annihilation. A human individual must and can live in order to develop and realize maximally his/her spiritual and intellectual potential while at the same time raising the level of consciousness and physical perfection.

In other words, each specific human individual in his/her development must and can attain the Supreme Reason or to reach the image and liking of the Creator. Otherwise, development would follow a different, entirely opposite scenario – *i.e.*, the blind-alley option: retrograde development for the purpose of starting everything anew, or a catastrophic finish, the apocalypse. Even now some technologies have been created that can very well work without human interference. For example, the IBM Corporation is working on the Smart City project providing interaction of municipal intellectual systems without involvement of human mind.

The modern bio-computers can force human cells to communicate independently with one another so that this would pave the way to construction of their complex configurations. Hence, to overcome and eliminate crises and all problems facing the government, business and society at large would be only possible if all decisions in the end provide continuous, evolutional and irreversible movement towards attainment of development objective. Only in such a case it will be possible to find a way for sustainable development and practical realization of the 'Millennium Development Goals' (by our logic – the subgoals of the higher objective), announced by the UN as the guiding landmarks for all nations of the Earth.

Held in Rio-de-Janeiro in 1992, the UN Conference on Environment and Development formulated the major ideas on sustainable development of the humankind. The sustainable development concept fundamentally differed from traditional views and economic practices in the sense that it contained an integral approach to development as an overall process. At that time the sustainable development was defined schematically as a 'triune' interaction process of 'nature – population – economy'. However, for this classical triad to be viable, its emphases must be modified in the context of our visionary approach as 'goal – sustainable – development'. The sustainable and steadfast movement ahead, *i.e.*, development must and can be only provided in relation to nothing else but the objectively set goal.

Therefore, whether we like it or not, the society should develop so that to create for any human individual the area of habitation, in which equal and free access to all diversified benefits of civilization would be available – not in order to reach a new level of 'consumerism' or supremacy of technologies over humans, but in order to attain the final objective – let humans become perfect. This is the human being's mission on the Earth, and it must be fulfilled!

The second component of the new methodological toolkit – integrity, systemic nature and cross-disciplinary approach – proceeds from the basis that the world is single, the laws of nature and society are in unity, while the world is an integral system and can be cognized only with unification of all scientific and spiritual knowledge into some unified, systemic, integral and cross-disciplinary (or, rather, trans-disciplinary) knowledge. Therefore all these elements had to be unified systemically through identification of the target function of development of the entire system and its any part in any section (civilization-related, formational, national, confessional, territorial, natural-scientific, socio-economic, socio-cultural, political, organizational, *etc.*), and irrespectively of whatever development

model (neo-Liberal, Keynesian, totalitarian, or a mixture thereof) would be prevailing. Only through such knowledge one would understand that the financial, economic, social, organizational, science-tech and, as a whole, systemic crisis in the world as well as all existing negative phenomena are links of the same chain. Therefore the decision, too, must be integral, systemic and unified for the entire world, but the interests of all people living on the planet must be taken into account.

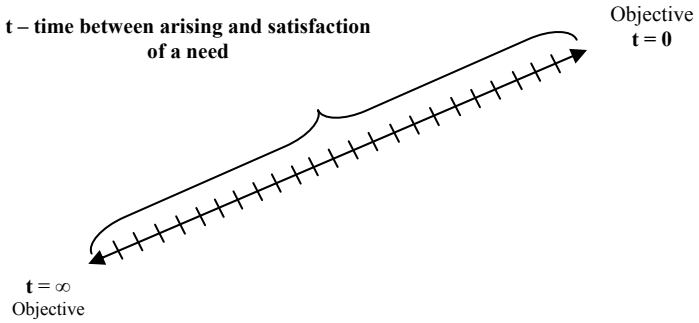
Third, we identified the only possible index to measure and juxtapose all processes and phenomena – that is time. By applying the latter, we can measure and juxtapose in other indices something immeasurable or incomparable, and, what is the most important, to correlate all facets of human and societal life with the target ideal, and to find out as at what step of human progress they are located in relation to the objective.

Fourth and finally, the new methodological toolkit contains the single criteria of efficiency of the human system development – the time between the need to approach realization of the single objective of development and the reality, in which society (in whatever the section) and each specific individual are placed in relation to such objective. If *the time between* arising and satisfaction of a specific individual's need tends to reduce continuously and evolutionally, as well as gravitates to zero, then the human system develops in relation to the objective sustainably and efficiently. This conclusion provides us with the absolutely new understanding of the human system development. Application of this criteria helps to control time between arising and satisfaction of any need of any specific individual. To control time means to control development so that to ensure evolutional and irreversible reduction and approach the criteria value, equal to zero. Only in this case the human system would start developing sustainably in relation to the objective in the interests of any specific human individual.

The Fundamental Conclusions Obtained by Means of a New Methodology of Knowledge

In the theoretical plane of the new methodology, the time between arising of a need and its satisfaction in terms of the goal attainment is *the vector of time (or axis of time) from infinity to zero* (see Fig. 1).

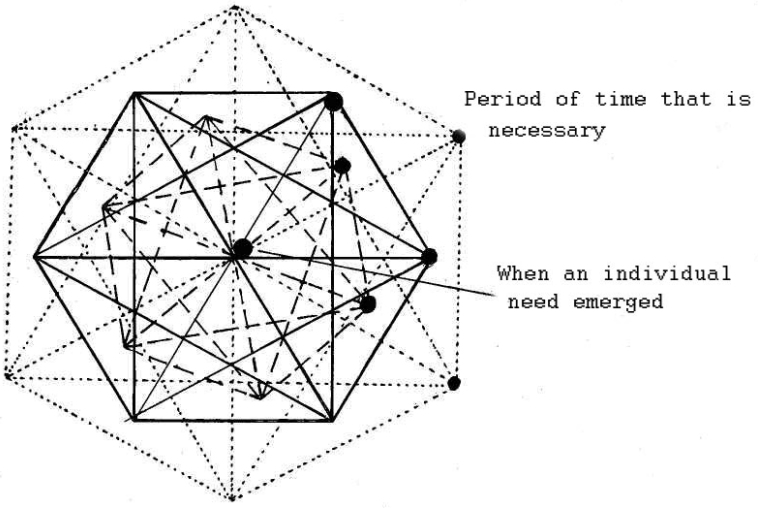
Fig. 1. Vector (Axis) of Time



Development of the humankind and its different structures in whatever the section is distributed along this vector in different points, and at any given moment, the time between arising and satisfaction of a need may decrease or grow, thus approaching or moving away

from the goal. The time vector represents the linear vision of the problem which can be discussed, if the human community's life is considered in statics, as of the given moment of time. In reality, in dynamics, everything takes place in a much more complicated way. Today the time between arising and satisfaction of needs is different for different communities. Moreover, the processes of change in the time can be positive or negative, cyclical and undulated, direct and reverse. If these processes are considered not in relation to communities but to a specific individual, then the numerical value of this diversity would be most probably determined by digital values in multiple degrees. So, every human individual lives in a kind of his/her own sphere, under the effect of his/her own centrifugal and centripetal forces, within some Brownian motion, in his/her own microcosm which does not coincide with the microcosm of others (see Fig. 2). This would produce a peculiar hyper-tetrahedron of the habitation area, and each specific human individual is situated in the center thereof. Vertexes of this hyper-tetrahedron would be equidistant from the center, when the whole humankind happens to be in one and the same space of time, and when the time between arising and satisfaction of a need will be equal for all people. Such outcome can be only attained if equal access to the maximum variety of goods is available.

Fig. 2. Microcosm of Human Individual



So, if civilizations, nations, countries, small and large communities as well as separate individuals stay in different linear and spherical spaces of time, they would have different levels of consciousness and would never be able to conciliate their interests or understand one another. Exactly this circumstance causes origination and aggravation of all troubles of the humankind. Hence, the crisis in development of global civilization, wars, terrorism, man-made and natural disasters are a result of the effect of profound laws common to nature and society. Moreover, as long as people stay in different linear and spherical spaces of time, it will appear that the planet hosts many local civilizations, which are different from one another as they were described in length by Spengler and Huntington.

Therefore to resolve all the implicit problems of society development and to modernize the latter on the basis of R&D and realization of advanced technologies of the twenty-first century would be possible only on condition that the way is found which in the end will provide continuous, evolutional, irreversible and simultaneous attainment of the ob-

jectively set development goal for each concrete human person with due regard of his/her individual interests.

This methodology and results of its applications are described in detail in the book *Forecasting the Future: A New Paradigm* (Bondarenko 2008) as well as in numerous articles published in Russia and other countries.

As a result, the methodological toolkit made it possible:

– to surpass the limits of the entire human system and to see it as a unified whole of 'past-present-future' in relation to the objectively set development goal;
– not to rely upon empirical and subjective data of the past and present;
– to comprehend the objective picture of the human system development depending on the positive (sustainable) or negative (unsustainable) orientation to realization of the unified, single objective.

This methodological toolkit allows us to see that in the whole course of many-centuries-long development of human community, there have been only two paradigms of the human system development:

– a direct connection between production and consumption; and,
– production and consumption are interconnected indirectly.

The schematic outlay of human community development we presented in our other articles on the issue (see Bondarenko 2011, 2012) in which the reader can also find a figure demonstrating when and how each development paradigm was formed, is being formed and can be formed in future along or around the axis of time equal to zero, between the moments of arising and satisfaction of a need.

According to this outlay, the entire history of humankind can be divided into three phases.

Phase 1 is featured by prevalence of the ***first development paradigm*** expressed in direct connection between production and consumption.

Everything that was produced at that level of manual labor being mastered by humankind was consumed thereby. Hence the time between the arising and satisfaction of a specific individual's need was minimal. That was the pre-industrial type of production – any manufacturer was producing goods for him self and, by order, for specific consumers at the household level (craftsmen).

Advent of primitive technologies, division of labor, market, class of brokers (merchants) and the universal equivalent to exchange with results of such labor – that is, money, as well as the gradual territorial expansion and development of foreign trade – all these resulted in transformation of direct interconnection between production and consumption into indirect one. Thus the ***second development paradigm*** was taking shape, and its development in time and space was accelerated by transition to the industrial type of development.

The industrial revolution, epochs of steam and railroads, steel, electricity and heavy industry, oil, automobile and mass commodity production entailed building the consumer-communication infrastructure including the network of roads, ports, shops (from small shops to grand shopping centers and highly mechanized warehouses), radio-technical, electric and information networks, *etc.* Those were the major landmarks that evidenced formation of mass conveyer-type industrial production (accompanied by development of domestic and foreign trade as well as territorial expansion up to the global level) and mass consumption. Production of such type is oriented to satisfy demand and needs of an ab-

stract end consumer through the elemental, archaic, mediated by longer time and space, market-based form of communication with any specific human individual.

In such circumstances uncertainty of production resulted in the emergence and in the global growth of disproportion, and then in the entire de-synchronization between the time of production and the time for circulation of goods/money. The dynamics of movement of material and real factors of production, despite their multiply increased volume, has turned to be torn far apart from their monetary form, both the real and (especially) the virtual. Monetary methods of coping with financial crisis made this gap in the movement of real products and money even wider and contributed to the further growth of disproportion between the time for production and time for circulation of commodities and money. As a chain reaction, the financial crisis is growing the ever more rapidly to the level of systemic crisis. Therefore it is clear why philosophers, economists and political scientists, proceeding from the works written on the basis of empirical information about the already happened events of the past, started to argue that complexity, nonlinearity and chaos as well as cycles and crisis are an inevitable condition for development. This would be the case – unless we understand that all the afore-listed phenomena are a natural product of the second paradigm of development.

Appeared in the 1970s, information technologies providing direct communication with consumers, and flexible production systems that can be adapted to specific orders in the real-time regime, did not change the given development paradigm, and did not consolidate the embryonic opportunity to establish direct connection between production and consumption and to conciliate their interests. Information technology became 'an end in itself' for development and a means to create global markets.

So, the essence of the second development paradigm is seen in the indirect and desynchronized (both in space and time) interconnection of different commodity production technologies and consumption of such commodities by a specific human individual.

All crisis of this development paradigm occurred at the peak of growing time-related disproportion between the arising and satisfaction of a need. The current systemic crisis is the peak of this development paradigm. Globalization of all relations in its current form, started to negate itself as soon as it appeared.

Why so?

Together with globalization of all processes and the free movement of ideas, goods, money and information, the conveyer-type mass type of production survived and has grown to the global level. Time between arising and satisfaction of an individual's certain need has become even longer. It does not appear possible to conciliate interests of states, society, business and specific individuals. This long road of time and space, available for the afore-mentioned movement, offers perfect conditions for absolutely all negative phenomena. Poverty and inequality, primitive economy, underdeveloped production and trade, terrorism and corruption, natural abnormalities and disasters, growing prices and inflation, *etc.*, – all these are links of one and the same chain, and a product of the indirect development model. In the given case, the factor of time plays an extremely negative role. In such circumstances the scattered and narrowly specialized scientific knowledge undergoes crisis in the solvency of different theories and there explanatory abilities to make a subjective assessment of the occurring events.

However, in the age of cosmic speeds and application of digital, info-, cognitive, nano- and other technologies, we see the onrush change of economic and other realities

that are incompatible with such a type of production and consumption, and, in particular, with such a type of interconnection with a specific individual and impossibility to conciliate specific individuals' interests.

New Model Applied for Life Organization

At the same time, it is only now, owing to development of ICT and other high technologies of the twenty-first century that we again have an opportunity to proceed to the direct connection pattern between production and consumption, that is, to proceed to the first development paradigm once again.

An efficient means to eliminate disproportions and de-synchronization of all processes in time and space can be found provided only that the production-consumption relations are properly synchronized, and interests are agreed with each specific human individual within the whole range of her/his spiritual and material needs, while goods and services that would satisfy the given needs would be produced under the given individual's order, without manufacturing anything redundant. Only such production, oriented to satisfaction of needs of a specific individual under his/her order, would serve the basis for preservation and replenishment of natural ecological life-support systems for the current and future generations.

Return to the first development paradigm would provide resolution of the two interconnected strategic tasks, that is:

(1) to modify the contents of economic and social policy by the state so that it would be aimed at transition to reproduction trajectory of domestic development, provided only that the entire process of reproduction would be oriented to the ultimate result – evolutional reduction of time between arising and satisfaction of needs (demand) of each specific individual. This can be attained only provided that commodities are produced under the order of any specific individual.

To this end, it appears necessary to draw and realize a program for re-industrialization of the entire production – that is, to put production on the track of advanced engineering and technologies connected with attainments of science-tech progress. The end target is to have smaller high-tech forms of production with distributed systems that can be ‘re-tuned’ in the real-time regime with due regard of a specific individual's order covering the whole range of the customer's needs;

(2) At each local level, to form a mechanism of real-time conciliation of all actors in such relationship – that is, the state, business and end consumers (specific individuals). As a result, only a minimum number of problems that cannot be coordinated at the local level would be presented for conciliation of interests at the regional or national level. Such conciliation must be realized through the shared cross-communication infrastructure, universal for all types of production and all consumers, and based on application of digital information and communication technologies, broad-band television and other innovations that are so widely and eloquently discussed at all domestic and international levels.

As early as by the end of the twentieth century, when information technologies just appeared, E. Toffler wrote that quite soon everyone, operating his/her personal computer, would control the technological process to manufacture products for her/his personal consumption without producing anything redundant (Toffler 1990). Today, for example, Toyota disclosed its plans to develop interactive communications between owners of its brand cars, dealers and head office of the given company. The social network that would unify

millions of people throughout the world was to start functioning in 2012. The system would be based on technologies of corporate social networks, and access thereto will not be available for outsiders. 'Social networks change the means of communication and format of interaction among people', said Toyota President Akio Toyoda. The new social network will be named 'Toyota Friend'. The users will be able to 'communicate' with their cars by sending messages like they do in Twitter and Facebook, while every car will have its own profile. On the other side, electric motor cars will be able to send SMS to the owners' mobile phones in order to remind that, for example, time is coming to charge the battery. Thus, drivers would be able to conduct a sort of conversation with their own cars.

In her book *Technological Revolutions and Financial Capital*, Carlota Perez writes that technological revolutions occurring once per about half-century deliver their outcomes with a time lag. It takes two or three decades of turbulent adaptation and assimilation before the new technologies, sectors and infrastructures would start facilitating the advent of the 'golden age' (*belle époque*), or 'era of prosperity' (Perez 2011: 17). That is, owing to technologies of the twenty-first century that were originated some thirty years ago, production again returns through the household level to a specific human individual.

Consideration of each individual's interests at every local level and conciliation of such interests in real-time regime are the only available driving force that would provide motivation for the higher productivity of labor and accelerated innovative development of socially oriented high-tech forms of production. In such conditions, every specific consumer can become a stakeholder and investor of the given business. Today, however, notwithstanding the crisis, reduction of deposit interest rates and growth of inflation, Russian depositors increase their bank deposits. Here arises the wider disproportion between the time of production and circulation of commodities and money. Channeling of those funds directly to the real sector would favor the more efficient resolution of the task to make our economy much less dependent on raw-resource supplies and to enrich it with the long-expected intellectual dimension. This will be attained due to emergence of new possibilities to create conditions for any person to generate new knowledge in the interests of the entire society and at the same in his/her own interests. Only in such conditions it will be possible to build actually the new, 'smart' economy based on intellectual excellence and production of unique knowledge as well as oriented to continuous improvement of human life quality. Only in such conditions it will be possible 'to replace the resource-based primitive economy by smart economy producing unique knowledge, unique things and technologies, as well as things and technologies being useful for people'. And, only such economy will be the most competitive in creating an absolutely quality of life for people.

Our Proposals

For accelerated formation of the new and at the same time former model of life organization, it appears rational:

- within the shortest period of time to accomplish modernization of Russia and any country of the world through transition to the model of life organization for the state, business, society and each specific human individual with due conciliation of their interests in the real time by systemic application of advanced technologies of the twenty-first century.

As the major precondition for realization of this task, national leaders must have political will to form such level at the municipal, regional and federal level;

- within the shortest periods of time to draw the 'Comprehensive Target Program for Formation of the New Life-Organization Model' and to realize the latter at each local level;
- for elaboration of such 'Comprehensive Target Program', it would be advisable to establish, within the Russian Academy of Sciences, Russian Academy of Natural Sciences and academic communities of concerned countries, an inter-academy and inter-institutional cross-disciplinary cooperation of scientists and practical specialists;
- to provide participation of all national science towns and innovation towns as well as the entire global intellectual community, unified by network cooperation within the Internet in development of the afore-described model with due regard of tax preferences and legal acts. For realization of this program, it is most strongly required to 'energy of youth' – that the best young minds of IT-specialists, software and hardware engineers, researchers, inventors, and others. Armed with new knowledge and understanding of the fact that this projects meets their own interests as well as interests of their relatives, friends and whole society, young talents would be able to formulate their demands to the state and business in precise terms and to build the basis for realization of the new sustainable development paradigm;
- to provide for transfer of the new life-organization model throughout the whole territory of Russia and, probably, the entire planet – may be, under the auspices of the United Nations.

As early as in the book *Forecasting the Future: A New Paradigm* I noted:

> The key to the philosophy for building the global society and all its institutions must be served by the following premise: All inhabitants of the Universe share the same origin; all people share the same human nature; all religions share the same divinity, while the entire global community and each human individual share one the same sole objective – to attain the Supreme Reason in their development (Bondarenko 2008).

The major task of the UN or any other institute, established on its basis or within its framework, will be to include a structure that would accumulate all knowledge – from origination of the Humankind to the current time. From this science-tech data pool, it would be possible to receive any knowledge so that in any corner of the planet technological chains could be built between arising and satisfaction of a specific human need, and thus to provide the growing synchronization of all processes in space and at the same for their reduction in time. The missing knowledge is an order for new R&D, new research, experiments and designs (*Ibid.*).

Realization of the given project for the entire global world would be a breakthrough to the future, in which the 'sustainable and crisis-free development' would at last become a logical and regular reality rather than a beautiful abstract slogan. Such a future can and must be formed right today, here and now, with due regard of each specific individual's interests as well as interests of the entire global world. For the contemporary generation of people, harmonization and synchronization of human relations in time and space is the only available chance to create a new quality of life for our contemporaries as well as for future generations. The main point is not to lose time again and not to admit a destructive wave of the new crisis!

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