



Prospects for Overcoming Civilizational Crisis and Entering the Path of Global Sustainable Development

Introduction. Vision 2050: A View from Russia

Instead of the peace and prosperity expected after the “cold war” the beginning of the 21st century has brought an abrupt wave of crises and upheavals, disappointments and sufferings. This put to a nonplus not only politicians, statesmen and business leaders, but also scientists who are to see far ahead and highlight the strategic perspectives.

The international team of scientists who prepared this report, includes representatives of the modern Russian scientific schools (Russian cyclicism, civilizational, noospheric, socio-demographic, integral macro-forecasting) and their foreign associates. Their views are represented in dozens of monographs, in the Global Forecast “Future of Civilizations” for 2050 (published in 10 parts and represented at the UN headquarters on 27.10.2009), report “A Long-term Strategy for Global Sustainable Development Based on Partnership of Civilizations”, which was represented at the UN headquarters on 28.06.2011 and the UN Conference on Sustainable Development Rio +20 (13–17.06.2012 in Rio de Janeiro).

Building on the previous work, we decided to prepare a draft report to be discussed at the Conference within the Moscow

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Economic Forum and the Astana Economic Forum, to publish in Russian and English, and submit to the participants of the Summit “G-20” (St. Petersburg, 05–07.09.2013).

This paper addresses the main points of this report.

Part 1. Civilizational Crisis: Diagnosis, Structure and Prospects for Overcoming

1.1. DIAGNOSIS OF THE GLOBAL CRISIS OF THE 1ST QUARTER OF THE 21ST CENTURY

Treatment of the disease starts with a diagnosis. However, there is still no reliable diagnosis for a cluster of global crises of the 1st quarter of the 21st century. This is not accidental and is explained, first, that it is not an economic crisis that is regularly repeated once every decade and not even only the crisis phase of the Kondratieff long cycle this is a *civilizational crisis* unequalled for more than two centuries. Second, because the industrial scientific paradigm itself is in the state of crisis, losing creative and predictive power.

We diagnose a cluster of global crises of the 1st quarter of the 21st century as a civilizational crisis, caused by the change of super-long civilizational cycles: the decline of the industrial world civilization, a change of generations of local civilizations, the end of the second historical super-cycle in the dynamics of the global civilization.

Such diagnosis allows, *first*, to understand the depth and duration of the crisis period, covering a quarter of the century. *Second*, to reveal the structure of the crisis, transforming all the components of the genotype of civilizations: natural-ecolog-

ical, socio-demographic, technological, economic, geopolitical and socio-cultural. *Third*, to determine the ways and priorities to surmount crisis more reliably, balanced and concurrent transformation of all components of civilizational genotype based on partnership of civilizations and states, social strata and generations. This approach offers a historical perspective and musters the strength to pass through the crisis phase with less losses and upheavals.

1.2. FOUNDATIONS OF THE STRATEGY TO OVERCOME THE CRISIS

Studying the history of civilization shows that the crises of civilizations are not infinite. They end either by a shift of civilization on the wave of epochal innovations into a qualitatively new state, or leaving the historical arena.

The result of epochal innovations of the second quarter of the 21st century, in our opinion, will be the establishment of the integral, humanistically noospheric world civilization with the genotype adequate to it in the vanguard countries, the formation of the more differential and active fifth generation of local civilizations, interacting on the principles of dialogue and partnership.

A long transitional period is full of risks and surprises, including most catastrophic. To withstand these tests, the global community must develop and implement consistently a long-term, scientifically founded strategy to overcome the crisis of civilization and entering the path of global sustainable development.

There is no it so far. Global development is becoming increasingly unstable.

The international team of scientists developed and offered at the Conference

RIO+20 its version of a long-term strategy for entering the path of global sustainable development. It is based on the following key points:

- the depth and duration of civilizational transformations require developing a long-term global strategy to overcome crises and entering the path of sustainable development;

- there is a need for balanced and synchronized strategies for transformation of all the components of the genotype of civilizations;

- it is necessary to ensure the convergence of the level of socio-economic and technological development of countries and civilizations;

- the implementation of the strategy should be based on the institutions and mechanisms of innovation and socio-political partnership between civilizations and states, social strata and generations.

1.3. THE SYSTEM OF LONG-TERM STRATEGY GOALS

In determining the long-term goals of sustainable development and building of the tree of global strategy one should be based that the elements of the future already exist in the present, they need to be maintained and developed.

The tree of the strategy goals include: general goal — securing the transition to an integral, humanistically noospheric world civilization based on a wave of epochal innovations; the system of the first-level goals transforming all the components of the genotype of civilization, overcoming the economic and food crises, establishment of the noospheric energy-ecological mode of production and consumption, and the transition to a model of the demographic growth, overcoming

depopulation and optimization of migration flows; an innovative breakthrough, dissemination of the achievements of the scientific and technological revolution of the 21st century and the sixth technological order; the transition from a decaying industrial economic system to the integral system, socially, ecologically, and innovation-oriented, the eradication of poverty in the world; the rise of science and increase in the creativity of education, revival of high culture and humanistically noospheric morality. These transformations should be targeted, balanced and synchronized. This is the advantage of a global strategy.

Part 2. The Transformation Strategy for the Elements of Sustainable Development

2.1. ON THE PATH TO THE NOOSPHERIC ENERGY-ECOLOGICAL MODE OF PRODUCTION AND CONSUMPTION AND “GREEN” ECONOMY

In the first quarter of the 21st century, the world is ridden by the global energy-ecological crisis, manifesting itself in the growth of the deficit and rise in prices for fossil fuels, increase in the greenhouse gas emissions.

The crisis can be overcome by the evolving of the noospheric energy-ecological mode of production and consumption, its main features include:

- energy efficiency, refusal from the energy-wasteful technologies in production and households;

- Decrease in the rate of growth in energy consumption from 1.9% in 1990–2009 to 0.2–0.4% in 2040s while overcoming the excessive gap between high- and low-income countries from 13.3 times by the

consumption of energy per capita and 39.6 times for the electric energy consumed;

- increase in the completeness of extraction and complex processing of fossil fuels (which takes 81% of the world balance of power consumption), the development of alternative sources of energy (quantum gas, tar sands, etc.);

- increase in the share of renewable, clean energy sources (solar, wind, biofuels, etc.);

- reduction of the share of greenhouse gas emissions, which grew in 1990–2008 by 2% per year;

- international regulation of dynamics of world energy prices.

The formation of “green” economy would promote the solution of these strategic objectives as well as the full evaluation of the cost of reproduction of natural resources and environmental damage, a more equitable distribution of natural resource rent, which is 4% of the global GDP, and full compensation for environmental damage.

To achieve these strategic objectives, in accordance with the proposals of President of Kazakhstan Nursultan Nazarbayev, it will be required to develop a long-term strategy for sustainable energy-ecological development and its adoption at the Summit RIO+25 at the World EXPO 2017 in Astana.

2.2. PROSPECTS FOR OVERCOMING THE FOOD CRISIS ON THE BASIS OF A NEW “GREEN” REVOLUTION

The long-term trend of an outrunning growth of food compared to the increase in population was replaced at the beginning of the 21st century with a global food crisis, the growing number of starving and its rapid rise in prices. Hopes to solve the

problems with genetically modified foods fall short. With the growth of the population the area of agricultural land does not increase.

The global food crisis could be resolved on the basis of:

- optimization of the structure of food consumption, overcoming hunger in the world due to multiple increase in the productivity of the agricultural labor;

- an increase in food production in the world by 2050 1.7–1.8 times against 2010;

- support and planetary spreading of a new “green revolution”, providing increased food production in a controlled environment;

- the establishment of the global food fund, including the insurance fund for natural disasters;

- international regulation of price changes in the world food market;

- Development and adoption of a long-term global food strategy at the “green” summit to ensure the eradication of hunger in the world in the coming decades.

2.3. SOCIO-DEMOGRAPHIC CRISIS AND PROSPECTS FOR ITS SURMOUNTING

In the postwar decades there were reached the population growth rates record in the history. But from the last quarter of the 20th century it prevailed the tendency of the population growth rates to fall (1.18% in 2005–2010), which, according to the UN projection will continue in the future (0.34% in 2045–2050.). An increasing number of countries and civilizations are being ridden by depopulation, and from the last quarter of the 21st century it will become a global trend. The aging of population intensifies a share of working-age and in-

novatively active population will be decreasing. A demographic factor from the economic growth engine is becoming its limiter.

It deepens simultaneously socio-demographic polarization. At an average annual growth rate in 2010–2020 in the world of 1% it will be in sub-Saharan Africa 2.4%, Latin America 1.6%, South Asia 1.3%, while in the Euro area 0.1%, Japan 0.3%, and Russia 0.2%. The structure of the world population is changing. The gap in public health spending per capita between the countries with high and low income is 18 times in 2010 in the current prices and 6.4 times in PPP terms.

There are growing signs of migration crisis, uncontrolled resettlement, increasing share of the population with the strengthening of civilizational contradictions in recipient countries. Accumulated migration reached 213.4 million people in 2010, including those in high-income countries 131.9 million.

It is necessary to change the vector of global demographic policy. While in the 2nd half of the 20th century it was aimed at controlling population growth, family planning, then it is now in most countries, it is aimed at promoting the birth-rate, involving of senior people in production, and optimization of migration flows. It is necessary, using the rich countries, to reduce motivations for emigration and simultaneously normalize the situation with migrants in the recipient countries.

The UN with the involvement of scientists will need to develop a new, differentiated by countries and civilizations, socio-demographic strategy, in order to discuss it at a special summit, and take into account when determining a social element in sustainable development strategy.

2.4. TECHNOLOGICAL CRISIS AND STRATEGY OF INNOVATION BREAKTHROUGH

Growing in the future limitations to the economic growth from the natural-ecological and socio-demographic factors can be overcome only through the development and dissemination of fundamentally new resource-saving technologies. However, the industrial technology mode of production, ensuring a step increase in labor productivity is largely exhausted its growth potential.

The global crisis induces a growth in the number of scientific discoveries and major inventions, that is a prerequisite for a wave of epochal and basic innovations, evolvment of the scientific and technological revolution in the 2nd quarter of the century, the result of which is the formation of a new technological mode of production, its first stage — the sixth technological mode of production. China joins the leaders of the technological breakthrough, where for 2000–2010 the number of applications from residents for patents increased 11.7 times, while in high-income countries it decreased by 7.5%, and the average annual growth rate of labor productivity in China during 2005–2010 was 8.8% (the average in the world 2% in high-income countries 0.7%). The gap in the labor productivity level between countries with high and low incomes was 12.7 times in 2006.

The main objectives of a long-term strategy of innovation and technological breakthrough are:

— to create conditions for accelerated development of a new technological revolution and raising the growth rates of labor productivity;

— Humanization, ecologization and demilitarization of the technological progress, concentration of the results for solving energy-ecological, food, social issues while reducing the military-technological orientation;

— increased government support for base innovations;

— reducing in 2–3 times the gap in technological development between vanguard and lagging countries and civilizations, increasing the UN role in addressing these challenges;

— strengthening the role of the technological component of sustainable development and identification in the UN system organization responsible for coordinating these activities.

2.5. TRANSFORMATION OF ECONOMIC SYSTEM AND GLOBALIZATION

With unchallenged achievements of the market-capitalist system in the past in the recent decades the signs of its decline manifest themselves increasingly brighter. This is reflected in the trends of:

— the fall in the economic growth, in becoming destructive economic crises more frequent and their aggravation;

— forming a virtual “bubble economy”, extracting resources from reproduction and accumulation for speculative gaming on stock exchanges;

— deformation of the structure of the economy, excessive swelling of market services area to the detriment of material production, especially agriculture and industry, the de-industrialization of economy;

— increasing speculative fluctuations of key macroeconomic indicators, first of all, in world prices, more and more distortedly reflecting the level and dynamics of the international value;

— injustice in income distribution between countries, social strata and generations of people, the gap in the production of GNI per capita between countries with high and low income reached 73.4 times in 2010 at the current prices and 28.6 times by PPP. The unemployment has risen sharply especially among the youth.

There is a need to develop a long-term strategy for economic development and partnership, aimed at:

— the establishment and spread of the integral economic system — socially, economically and innovatively-oriented;

— improving equity in the distribution of income among civilizations, states, social strata and generations;

— strengthening the national and international regulation of economic processes in the interests of the majority of the population, the development of effective mechanisms of market regulation at both regional and national, and global levels;

— eradication of poverty in the world, creation of international institutions and mechanisms for solution of this problem.

The establishment of an integral economic system is impossible without changing the model of globalization. By itself, the process of globalization is naturally determined and progressive. However, under the prevailing neoliberal model from the end of the 20th century the process of globalization is in the interest and under the control of transnational corporations and international financial centers, accompanied by increasing spontaneous and turbulent dynamics of the global economy, the growing gap between rich and poor nations and civilizations.

The formation of a new model of globalization implies:

— strengthening the regulation of the primary areas and processes from the UN and the international economic institutions (IMF, World Bank, WTO, etc.) with the transformation of the nature of their activities on democratic principles;

— the adoption and implementation of a global law, including the antitrust laws;

— a long-term strategy to overcome extreme economic polarization, raising the economic development level of the lagging countries, the implementation of the principles of equity and partnership in agricultural ties.

2.6. ON THE PATH TO THE MULTI-POLAR WORLD ORDER BASED ON THE PRINCIPLES OF DIALOGUE AND PARTNERSHIP AMONG CIVILIZATIONS

At the end of the 20th century with the end of the “cold war” it is ended the post-war bipolar architecture of the world order. An attempt to build the unipolar world dominated by one superpower has happened to be unsuccessful. In the long view, they will have to choose between two models of the world order: a return to the bipolar world, led by the two superpowers (U. S. and China), or the formation of the multi-polar world order on the principles of dialogue and partnership among civilizations, their potential for conflict and confrontation in the transition period, by the model of S. Huntington.

While the 20th century was the century of states, the number of which was increasing rapidly and now exceeds two hundred — from dwarfs to giants — then in the 21st century 12 local civilizations of the fifth generation are becoming the major players in the geopolitical arena, the nature of the relations between them

(confrontation and conflict or dialogue and partnership) determines the fate of humanity. Recognition of their equality and increasing all-round partnership in response to the challenges of the 21st century is a part of the geopolitical strategy to overcome the crisis of civilization and entering the path of global sustainable development.

The central tasks of geopolitical partnership of civilizations for sustainable development are:

— development and launching the institutions and mechanisms for dialogue and partnership among civilizations and states in response to the challenges of the new century, the identification and resolution of global emergencies through the joint efforts;

— preventing the rise of conflicts, a new arms race and international terrorism, eliminating its root causes, deliberate demilitarization of economy and society, weakening the influence of NATO and other military blocs;

— creating the conditions for the formation and implementation of socio-political partnership, civilizations, states, social strata and generations, and increased governmental and intergovernmental regulation in crisis situations.

2.7. DECAYING OF SENSATE AND ESTABLISHMENT OF THE INTEGRAL SOCIO-CULTURAL SYSTEM

From the second half of the 20th century it is picking up the tendency of crisis and decaying of the sensate socio-cultural system prevailed in the West for five centuries, noted by Pitirim Sorokin. This finds expression in the crisis of science and education, culture and morality, decline in spiritual and civilizational values.

At the same time there appear signs of the nascent integral socio-cultural system with the underlying processes of the rise of science, increase in the creativity of lifelong education, revival of high culture and humanistically noospheric morality, formation of new humanism. These processes require an active support of the states, UNESCO and other international organizations and global civil society.

The central link of the long-term strategy of socio-cultural development and partnership among civilizations is a synthesis of scientific, educational and information revolutions of the 21st century.

The scientific revolution will help to overcome the crisis of scientific knowledge, to assimilate and disseminate a new scientific paradigm adequate to the realities of the 21st century, to elevate the role of science at national and global levels, to implement the principles of the noospheric civilization formulated by Vladimir Vernadsky and Nikita Moiseyev.

The essence of the recent revolution in education is in the assimilation and transfer to new generations of the achievements of the scientific revolution, a new world view, enhancing creativity and innovativeness of education.

A synthesis of scientific and educational revolution with the new stage of the information revolution will allow accelerating many times and ensure the completeness of the assimilation of new knowledge and skills to the next generations.

The most important condition for the development and dissemination of the integral socio-cultural system is a revival of spiritual and civilizational values, overcoming moral degradation, the revival of humanism, preservation and enrichment of the world's cultural heri-

tage, partnership of world religions in strengthening the moral foundations of the family and society.

Part 3. Local Civilizations on the Path to Sustainable Development

3.1. FEATURES AND PROSPECTS FOR DEVELOPMENT AND INTERACTION OF LOCAL CIVILIZATIONS OF THE FIFTH GENERATION

From the end of the 20th century it is going the transition from the fourth generation of local civilizations (with the dominance of the West) that prevailed for five centuries to the more differentiated, diverse and active fifth generation, which includes three civilizations of Europe (Western European, Eastern European, and Eurasian), three civilizations of America and Oceania budded off from the Western civilization of America and Oceania (Northern American, Latin American, Oceanic) and six ancient civilizations of Asia and Africa (Indian, Chinese, Japanese, Buddhist, Muslim and African — Sub-Saharan Africa). One can also talk about the Arctic civilization, including the northern parts of the Eurasian, Western European and Northern American civilizations, but has no independent geopolitical core.

By the middle of the 21st century it is possible differentiation fairly motley composition of the Muslim civilization into Arabic, Persian, Euro-Muslim, Afro-Muslim, Hindu-Muslim and Far Eastern Muslim.

It changes the structure of the leaders of the generation of local civilizations. The former leaders — Northern American, Western European and Oceanic — become a stronghold of the conservation of the industrial civilization. It becomes

the leaders of the movement to an integral civilization Chinese, Indian and Latin American civilizations. It becomes true the prophecy of Pitirim Sorokin and Arnold Toynbee –the shifting of the center of the creative activity of civilization to the East. African, Muslim as well as Eurasian and Eastern European civilizations are in the state of protracted crisis.

3.2. CIVILIZATIONS OF EUROPE

The Eurasian and East European civilizations are ridden with protracted deep civilizational crisis from the 1990s. From the end of the first decade of the 21st century the western European civilization also found itself in the state of crisis. The main signs of the crisis of civilization:

— the decline in population growth and the spread of depopulation. According to the UN medium variant forecast the level of depopulation in the years 2045–2050 in Europe as a whole will be — 0.26%, including Eastern Europe — 0.57% (Russia — 0.57%, Ukraine — 0.67%, 0.95% in Bulgaria), southern Europe — 0.19% (Portugal — 0.39%, Serbia-0.30%), Western Europe — 0.22% (Germany-0.56%, the Netherlands — 0.11%). In Northern Europe, depopulation will involve the Baltic republics, Denmark and Finland;

— increase in the deficit of energy and other natural resources in most countries of Western and Eastern European civilizations, the gradual exhaustion of the best fields in the countries of the Eurasian civilization;

— technological degradation and the growing gap of the Eastern European and Eurasian civilizations from the vanguard countries;

— neoliberal economic reforms in the Eurasian and Eastern European civi-

lizations led to the deformation of the structure of the economy, formation of the oligarchic-comprador economy, drastic economic polarization of the population.

Integrated into the European Union the Western European civilization was among the world leaders. However, the absorption of the Eastern European civilization in the 90s and anti-Keynesian crisis management policy of the European Union and the IMF have led to a profound long crisis, especially in southern Europe, a sharp increase in the unemployment, exacerbation of socio-political contradictions, a lower level of living.

Russia, despite high growth rates in 2000–2008, has not succeeded in overcoming the civilizational crisis of the 1990s and implementing innovative modernization of economy.

In the 2020s, the crisis of the European civilizations will be mainly overcome, but the negative demographic dynamics, the protracted economic crisis and neoliberal nature of economic policy will slow the economic growth. Under the inertia-based scenario it will be 2.4–2.6% for the period 2010–2050, under the innovation-breakthrough scenario it will go up to 2.8–3.5%.

The outlooks of the Eurasian civilization are ambiguous. The demographic situation develops unfavorably, the decline in population and the number of the active working age. The technological trends of degradation and deformation of the structure of economy have not been overcome. The state has no scientifically founded long-term strategy and mechanism for its implementation, and the neoliberal approaches have not been overcome.

If this trend continues in the future, the trend of the disintegration of the Eurasian civilization and the fall of its role in a geo-civilizational space will continue and establishes. But with the development and implementation of a long-term strategy of innovative breakthrough it is possible to overcome the negative trends, the revival of the Eurasian civilization in the new format. This will allowing coming closer to the vanguard group of countries and civilizations, but it is unlikely to enter them in the long term, there are too large losses incurred for a quarter of the century of the civilization crisis.

Europe's share in the world population decreased from 21.7% in 1950 to 10.6% in 2010 and 7.6% in 2050, the average age of the population will rise from 29.7 to 46.6 years and 21% exceed the average world indicator. The share of the European civilizations in world GDP declined from 42.8% in 1950 to 28.2% in 2000 and by 2050 will fall, probably up to 15–17%. So the decline of Europe, which in the 19th century reigned supreme in the world, this is not a figure of speech of Oswald Spengler, but the very real historical perspective under the adverse scenario.

3.3. CIVILIZATIONS OF AMERICA AND OCEANIA

The starting positions of the civilization group of America and Oceania are more favorable than of the European civilizations. The population growth remains, though declining: in Latin America — 1.12% in 2005–2010 and 0.10% in 2045–2050, 0.96 and 0.37% in North America, 1.04 and 0.59% in Oceania. These civilizations are well endowed with energy and other natural resources, as a result of “shale revolution” the U. S. from the 2030s may become

private energy resources exporters (in 2009, net imports of energy will be 22%, and in Canada, net exports 53%, in Latin America 31%, in Australia, 137%). In North America and Australia a high technological level of economy, Brazil and Mexico rapidly increase the rates. Production of GNI by PPP per capita in 2010 in the U. S. is 3.2 times higher than the world average, in Canada — 6.6%, Australia — 41%, Latin America — 99% of the world average.

However, controversies are growing in this group of civilizations. The U.S. economy is largely based on the growing debt of more than 15 trillion U. S dollars. Market capitalization of companies in 2006 in the U. S. reached 148% of GDP, in Canada — 134%, Australia — 140%, Latin America — 52%. The U.S. became a hotbed of the global financial crisis of 2008–2009. Intensive in-migration to the United States and Australia are changing the ethnic structure of the population.

Based on accumulated experience, the North American civilization can maintain a relatively high rate of economic growth in the long term, although we cannot exclude the fall of the rate of growth in the U. S. under the adverse scenario. Latin America (especially Brazil) will most likely be developing at a rate higher than the world average on the up wave of the civilization cycle in 2020–2040.

The share of American and Oceanic civilizations in the world population has increased from 13.9% in 1950 to 14.5% in 2010 and will decrease to 13.5% by 2050. The share in the global GDP fell from 39% in 1950 to 31.7% in 2010 and is unlikely to exceed 20–22% by 2050. In any case, this group of civilizations would unlikely have enough reasons to claim the global leadership.

3.4. CIVILIZATIONS OF ASIA AND AFRICA

In the industrial age, the once prosperous and leading in the world civilizations of Asia and Africa have found themselves under the heel of the Western European civilization, and degraded both by population, and especially by the share in the world GDP and in terms of technology. The share of Asia (excluding Japan) dropped in the world population from 65.2% (with Japan 68.2%), in 1820 to 51.4% in 1950 (with Japan 54.7%), in the world GDP from 54.6% (59.4%) to 15.4% (18.4%). Japan suffered particularly large losses: its share in the population from 27.3% in 1700 decreased to 14.2% in 1950, in GDP — from 24.4% to 6.8%. Africa's share of world population dropped from 10.1% in 1700 to 7% in 1950, in GDP — from 6.9 to 3.8%.

In the last quarter of the 20th century as a result of the national liberation revolutions and the collapse of the colonial system of imperialism it is taking shape the reversal in trends. The first breakthrough was made by Japan, its share in world GDP rose from 3% in 1950 to 7.8% in 1978, but then decreased to 7.1% in 2001; the share in the population rose from 3% to 3.3%, but then decreased to 2.1%. The breakthrough was made through the technological and human factors, but at the end of the century the potential of the breakthrough was largely exhausted, the aging of population intensified, depopulation begins.

The Chinese civilization experiencing a renaissance became an undisputed global leader in terms of the economic growth in the last third of the century. Its share in the world GDP rose from 4.6% in 1973 to 12.3% in 2001, the average annual GDP growth rate is 6.72%. In the 2030s, China could surpass the U. S. in terms of

GDP volume. It is the world leader in the establishment of the integral civilization, in terms of scientific and technological progress rates. However, in the long term the growth of economy will be limited by a demographic factor (entering from the 40s the stage of depopulation, growth in shortage of labor) and natural-ecological factor. Despite strenuous efforts to develop the sixth technological order the growth of economy in the long term will consolidate at 5–6%, but it will still exceed the world average.

In the last decades India also shows high rates of economic growth (5.17% in 1973–2001). Its share of world GDP increased from 3.1% in 1973 to 5.4% in 2001, the share in the world population grew from 14.4% in 1950 to 16.6% in 2001, and over the next decades, India will become the first nation in the world by population. There are no limitations by labor force, but the low standard of living and weak, scientific-technical and technological potential. Therefore it is unlikely that India will be able to maintain high rates of economic growth for a long time, but they will be higher than the world average.

The Buddhist civilization is diverse by its structure. The Republic of Korea is one of the world leaders in technological and economic development; economy of Vietnam and Thailand is growing fast. However, Myanmar (Burma), Laos, Cambodia, Mongolia are at the low level and do not have the prospects for surmounting the underdevelopment without external assistance.

The Muslim civilization is even more diverse. Along with the rich and high-tech countries of the Persian Gulf, Turkey, Indonesia, Malaysia are fast gaining momentum, there are a large number of countries

here at the middle level of development (Iran, Iraq) and there are a lot of laggards (especially Afghanistan). Civilization is shaken by internal strife and conflicts, but it has a high rate of population growth, is well endowed with labor resources and has not bad prospects for growth, increasing the share in the world population and GDP. However, it is possible that by the middle of the 21st century, it is differentiated into 5–6 civilizations (Arabic, Persian, Euro-Muslim, Afro-Muslim, Hindu-Muslim, and Pacific-Muslim). This process can go painfully and accompanied by escalation of conflicts.

The African civilization is in a deep crisis, growing poverty with the record rates of population growth. This turns the African civilization in the most conflict and lagging area of modern geopolitical space.

In the future, Asia's share in the world population will decline from 61.3% in 2010 to 57.2% in 2050, Africa's share will increase from 15.0 to 21.8%, so that three-quarters of population in the world in general belong to this group of civilizations. The share in the world GDP grows rapidly, in the next 15–20 years it will become prevailing. We could assume that this civilization in the future will determine the fate of the global civilization, humanity. But now it is the most vulnerable and polarized, conflict- and international terrorism affected part of the global civilization. This is where you should first perfect the mechanism for dialogue and partnership among civilizations.

3.5. A LONG-TERM FORECAST OF ECONOMIC GROWTH RATES OF CIVILIZATIONS

In Paris, in November 2012 it was published the OECD forecast “Looking to 2060: A Global Vision of Long-Term Growth”. The

forecast presents estimates of economic growth rates in the period 2011–2030 and 2030–2060 for 34 countries of the OECD and 8 countries of “G-20”, non-OECD countries (Argentina, Brazil, China, Indonesia, India, Russia, Saudi Arabia, and South Africa). In [Table 1](#) it is grouped the forecast data for the world as a whole, the OECD and non-OECD and in the context of civilization — by 12 civilizations of the fifth generation.

The OECD experts believe that in 2011–2030 global economic growth rates will rise from 3.5 in 1995–2011 to 3.7%, but then in the years 2030–2060 they will decline to 2.3%.

The OECD forecast has outlined significant changes in the territorial structure of economy, especially in 2011–2030 ([Table 2](#)). The share of 34 countries in the OECD will decline from 64% in 2011 to 49% in 2030 and 42% in 2060, the share of non-OECD countries will rise from 35% in 2011 to 51% in 2050, but the following 30 years — only to 58%. Under the stabilization of the share of China (28%) and Russia's share drop from 3.6 in 2011 to 3.1 in 2030 and 2.4 in 2060, Brazil from 3.1 in 2030 to 2.8 in 2060, with the increasing India's share from 7% in 2011 to 11% in 2030 and 18% in 2060–2.6 times for 50 years.

For the next 30 years it is anticipated a significant fall in the rate of growth in non-OECD countries more than double — from 5.9 to 2.8%, under a smaller decline in the OECD countries (from 2.2 to 1.8% — 18%). With the most significant drop in the rate of growth is taking shape in Russia (from 3% to 1.3% — 2.3 times), China (from 6.6 to 2.3% — 2.9 times), Poland (2, 6 to 1% — 2.6 times), Brazil (from 4.1 to 2% — more than twice), and the Republic of Korea (from 2.7 to 1% — 2.7 times).

Table 1. Economic Growth Rates under the OECD Forecast, %
GDP Growth rates at PPP in Constant Prices

Civilizations and leading countries	1995–2011	2011–2030	2030–2060	2011–2060
World	3.5	3.7	2.3	2.9
OECD countries	2.2	2.2	1.8	2.0
Non-OECD countries	6.7	5.9	2.8	3.9
CIVILIZATIONS OF EUROPE				
Germany	1.4	1.3	1.0	1.1
UK	2.3	1.9	2.2	2.1
France	1.7	2.0	1.4	1.6
Italy	1.0	1.3	1.5	1.4
Poland	4.3	2.6	1.0	1.6
Russia	9.1	3.0	1.3	1.9
CIVILIZATIONS OF AMERICA AND OCEANIA				
USA	2.5	2.3	2.0	2.1
Canada	2.6	2.1	2.3	2.2
Brazil	3.3	4.1	2.0	3.8
Mexico	2.6	3.4	2.7	3.0
Argentina	3.8	3.6	2.2	2.7
Australia	3.3	2.1	2.2	2.8
CIVILIZATIONS OF ASIA AND AFRICA				
Japan	0.9	1.2	1.4	1.3
China	10.0	6.6	2.3	4.0
India	7.5	6.7	4.0	5.1
Republic of Korea	4.6	2.7	1.0	1.6
Saudi Arabia	4.2	4.5	1.9	2.9
Indonesia	4.4	5.3	2.4	4.1
RSA	3.4	3.9	2.5	3.0

Table 2. Dynamics of territorial structure of world GDP under the OECD forecast,%

	2011	2030	2060
OECD countries			
USA	64	49	42
Japan	23	18	16
Eurozone	7	4	3
Other OECD countries	17	12	9
	17	15	14
Non-OECD countries			
China	35	51	58
India	17	28	28
Other non-OECD countries	7	11	18
Including	11	12	12
Russia	3.6	3.1	2.4
Brazil	2.8	3.1	2.8

This forecast of the economic growth rates appears fairly disputable, especially in terms of civilizational change of cycles. For 2011–2025 it falls the down wave of the industrial civilization cycle and the 5th Kondratieff cycle that determines the decline in economic growth rates against the previous fifteen years. However, from about the 20s it can be expected the reverse in trends as a result of the shift to the next up wave of the next civilizational and 6th Kondratieff cycle, which will express itself in the increase in the rate of growth in spite of a number of demographic constraints (decrease in population growth and the number of employed) and natural-ecological (exhaustion of certain mineral resources, shortage of fresh water, growth of environmental costs). One should not expect a return to record growth of 1950–1973 (4.9% p.a.), but it is quite real the average annual GDP growth of 3–3.5%, and not 2.3%, as projected by the OECD.

Part 4. Scientific Foundations, Institutions and Mechanisms for Implementing a Long-term strategy for Sustainable Development

4.1. SCIENTIFIC FOUNDATIONS OF A LONG-TERM STRATEGY

In the transition period it accelerates many times and grows complex the rates of changes and transformations. This requires from the states and international organizations (and first of all from the UN system) a far vision, profound scientific approach and strategic thinking. Only on this basis it can be formed an innovative partnership of science, education, government and business, social and po-

litical partnership of civilizations, states, social forces and generations, provided a recovery from the crisis by strengthening of governmental and international regulation of the utmost complex processes of change of civilizational cycles.

However, in the last quarter of the century, it is observed an increasing separation of the power from the advanced science — both at national and at international levels, which is contrary to the principles of the noosphere. Neoliberal approaches have made a major contribution to the development of the crises, actively supported by multinationals that seek to get out of control of the power and civil society. And in science itself, it is observed crisis, a weakening of the creative and prognostic potential of scientific schools being guided by the outdated industrial scientific paradigm.

In the report “Resilient People. Resilient Planet: A Future Worth Choosing” (2012) of the United Nations Secretary-General’s High-level Panel on Global Sustainability it is noted the need for greater involvement of science to justify political decisions and retaining scientists to the UN activities. The recommendations of the 6th Civilization Forum within the United Nations Conference on Sustainable Development propose concrete steps in this direction: to establish the World Science Council under the UN Secretary-General; formation of scientific and expert councils under the UN organizations and other international organizations; formation of an international institute of global forecasting and strategic planning. The international team of scientists formed by SKII and INES has developed a long-term Forecast “The Future of Civilizations” for 2050, and the report to RIO+20 Confer-

ence “Foundations of a Long-term Strategy for Global Sustainable Development Based on Partnership of Civilizations”, is preparing a report for the Summit in RIO +2- in St. Petersburg.

A theoretical basis of crisis recovery is laid by N. Kondratieff, P. Sorokin, J. Schumpeter, G. Mensch; scientific basis for sustainable development strategy — by V. Vernadsky and N. Moiseyev. These scientific bases are further developed and adapted to the conditions of the 21st century. It is time for the system of power to turn to the advanced science.

4.2. INSTITUTIONS TO IMPLEMENT SUSTAINABLE DEVELOPMENT STRATEGIES

Even the best and most scientifically founded strategy for recovery from crisis and entering the path of global sustainable development will remain the board of good intentions, unless it is based on real and effective institutions and mechanisms for the implementation of this strategy.

The globalization process, the formation of a planetary civilizational space includes not only economy, but also the information flows, the humanitarian sphere. It extends to the sphere of management and regulation of the functioning and development of all the humanity, global civilization, all the components of the genotype of civilization. In this area gradually from the wars and violence the center of gravity moves to democratic practices, resolution of contradictions inevitably arising in the global mega-system through dialogue and consensus, with the prospect of the increasing elements of partnership in response to common challenges and critical situations.

The outlines of gradually emerging global institutions include the following key elements.

1. *Summits of Heads of States* and governments of all or nearly all states to discuss and address major strategic issues. It is a kind of planetary councils, initiated by the United Nations or a group of leading powers, although there is taking shape some regularity (RIO, RIO+10, RIO+20). The competence of summits is not yet regulated, accumulating experience, which will require the generalization and legal regulation.

Summits of “G- 8” meet annually (represent the leaders of 4 civilizations) and “G-20”.

2. *The UN system in combination of central, functional and regional organizations.* Its functions are defined by the UN Charter and require a transformation with respect to the conditions of the 21st century. The UN operates on democratic principles, but it has some authoritarian features. It appears that in the long term the UN may transform into the World Confederation of Nations and Civilizations (the European Union is an experimental site for testing such mechanism of confederation).

3. *Institute for Global Law* in the diversity of its constituent elements (administrative, civil, ecological, criminal, etc.) judicial authorities supporting such law is also in the state of formation, only some of its elements are identified so far.

4. *Institutes of global civil society* designed to represent the interests of different social groups and to exercise control of society over the activities of government authorities is also at the initial stage of formation. It is represented by many non-governmental organizations.

4.3. MECHANISMS FOR THE IMPLEMENTATION OF THE STRATEGY

It is also necessary to develop effective mechanisms for implementing a long-term strategy, which may include the following key elements.

1. *Forecasting, strategic planning and programming* of global development, cooperation between states and civilizations. Only on the basis of scientifically founded strategies it is possible, in a historically short period of time, to overcome the period of change of civilizational cycles, reducing the growing polarization of countries and civilizations. This requires the development of long-term scientifically founded projections of global development and production on such basis a long-term global strategy to overcome the crisis of civilization and entering the path of global sustainable development (a kind of a global anti-crisis program), strengthening the strategic function of the UN system. It seems necessary to embark upon the development of a long-term strategy for global sustainable development for 2030 and the strategy on the elements of the civilizational genotype and sustainable development so that to discuss this package of the strategy by Summit RIO+25.

2. *Financial support* for the implementation of global strategies and programs on the basis of global specialized funds with stable sources of formation and use of rental income.

3. *Mechanism of monetary and price controls* to avoid speculative fluctuations in world prices, undermining the stability of the global economy, the rationale for the formation of monetary, financial and legal sources, to overcome the “bubble economy.”

4. *Staffing* for sustainable global development by establishing a system of training, retraining and advanced training of employees working in this sphere of institutions, public examinations for candidates for the offices of international officials.

5. *Monitoring and information support* for the implementation of the strategy and programs to ensure the transparency and reliability of data on global processes, to create a reliable and complete information base for the functioning of institutions and mechanisms for the implementation of the strategy.

Conclusion

Currently, the global community has faced with a difficult and fateful choice: how to overcome the civilizational crisis causing a heavy damage, to enter the path of global sustainable development, preservation and enrichment of potential accumulated by humanity for thousands years.

The force of inertia, fear of radical changes is pushing the leaders of states and international organizations to the path of a partial improvement, conservation of the moribund, but very profitable system for the rich countries, transnational corporations and world financial centers. This leads to the overcoming of its agony and increase of the sufferings of the majority of humanity. This is a dead end, but it prevails so far.

Another, innovative-breakthrough strategy is in the course on radical transformations, establishment of the integral, humanistically noospheric civilization based on the wave of epochal innovations. This path frightening by its terra incogni-

ta and high risks is not yet received by the conservative ruling and business elites. However, the structure of the elite is changing with the change of generations, and the crisis encourages taking risk and radical transformations, changing the face of the planet, and is eventually in the establishment of a positive scenario of the noosphere. It is this path the international team of scientists offers, its main points are outlined above.

Let us hope that the world leaders will defer to the recommendations of scientists.

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