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## TRANSITION OF RUSSIA TO SUSTAINABLE DEVELOPMENT AND MODEL OF ANTICIPATED EDUCATION

### Summary

A general idea of transition to Sustainable Development (SD) consists of various methods of lightening anthropogenic pressure at the biosphere ranging from introducing ecologically safe technologies in industrial sphere and comprehensive intensification of ecologically oriented economy - to working out and realizing effective demographic policy through all over the world. Russian State system's features of development, spiritual life and mentality, culture and religion, history and national traditions together with regional and natural realities and so on will have certain influence upon common tendencies of the 'SD-transformations'.

The transition of world society and any state to the SD model essentially transforms social activities in any sphere. I shall define here coming into being of new functions of the social activities under the influences and ideas of SD, and any other changes which assist in realization of new civilization model, as SD transformations. It concerns also the entire system of education, which in the 21st century is to undergo substantial transformations in accordance with SD objectives and principles.

**Key words:** education, sustainable development, transition.

Contemporary social and ecological development leads to considerable deterioration of environment and thus may provoke a global catastrophe within the nearest decades.

On the one hand, the ecological crisis is caused by increasing population of the Earth (in the recent years it's been rising by exponent) for the most part in developing countries, where impoverished, if comparing with the rest of the world, population counts over 4,2 billion people (total population of the Earth is about 5,6 billion people). On the other hand increasing both industrial and technological power and well-being

of people in conditions of constant or even decreasing (in highly developed countries) population also leads to rising anthropogenic pressure at the biosphere. As a result of concerted pressure of `overpopulating` and `overconsuming` biota's production an anthropogenic press is getting harder and harder and that causes shaking stability of the biosphere, loosing its variety, exhausting the ozone layer, warming up climat, draining all kinds of natural resources, etc. So an index of anthropogenic pressure at the biosphere can be introduced and calculated as a ratio between the density of the anthropogenic pressure for a certain country or region and an average one in the world.

Highly developed countries, which have the largiest territory on land, are exposed to the hardest anthropogenic pressure.

Preservation of stability of the biosphere implies significant lightening anthropogenic pressure (almost by a factor) which would prove to be acceptable to assimilating and compensating functions of biota. Such lightening pressure at the nature is supposed to lead to the biological stabilization of environment and then - to the balanced and ecologically safe development of society.

A general idea of transition to Sustainable Development (SD) consists of various methods of lightening antropogenic pressure at the biosphere ranging from introducing ecologically safe technologies in industrial sphere and comprehensive intensification of ecologically oriented economy - to working out and realizing effective demographic policy through all over the world (including humane demographic reduction on the basis of a reasonable family policy).

So far this way of development has not been put into practice but seems to be favourable both for the mankind and the biosphere. It was named Sustainable Development.

SD can be characterized as anthropocentered and biospherecentered. These features are the main signs of it. An anthropocentered non-humanistic sign or a feature of the mankind can be explained as an ability (possibility) of the mankind of further stable (sustainable), unstoppable development, so that future generations have not less possibilities to satisfy their needs concerning natural resources and ecological conditions on the Earth than we do.

A biospherecentered (in general - ecological) feature of SD deals with its stability and implies that development of the mankind shoud progress in a way different from ecophobic.

SD is considered to be a strategy of surviving and stable development for both one certain country and the civilization in general in conditions of preserving environment and first of all - the biosphere. The final result of the transition to the SD should be creating Noosphere as a socio-natural system where priorities of moral mind will be protected and guaranteed as well as intellectual and information values, ecohumanism; and

harmony of the Man, Society and Nature, their safe and long-term co-evolution will be realized.

Necessity to resolve problems, which are common for the whole world's society, makes Russia's transition to the SD model inevitable. The very model stems from efforts to find a general basic conception for co-evolution of the civilization, a way-out from the global (and particularly - ecological) crises and as well to prevent a global catastrophe - omniscid. Russia's self-removal or not sufficiently active participating in 'Rio-92' process can only move this country to the periphery of development of the civilization.

Getting involved into the world-wide process of transition to the SD model Russia should do her according to her international possibilities and duties to resolve global problems and to contribute to protecting and reconstructing the global ecosystem. It is the most important for preservation of the planet's biosphere, its biological variety and stability and also for prevention anthropogenic alterations in climate, protection of the ozone layer, forests, their reconstruction, guaranteeing safe elimination of nuclear, chemical and biological weapons, resolving problems of the World ocean, developing and perfecting a system of natural regions which are exclusively protected, broadening their territories in the Russian Federation and so on.

Equally with common features and tendencies of transition to the SD model, which are considered to be global, each country is likely to have its own peculiarities of the transition. So it is obvious that the Russian State system's features of development, spiritual life and mentality, culture and religion, history and national traditions together with regional and natural realities and so on will have certain influence upon common tendencies of the 'SD-transformations'.

It is worthy of a note that the transition to SD implies reaching a certain level of development in many fields of the national economy and social activities, stabilizing social and economic together with political development of the country. In the meantime a modern situation in Russia can be characterized as disastrous in conditions of industrial slump, unfavourable demographic trends, unprecedented increasing criminality and corruption, etc. It indicates on a bankruptcy of radical reformators' policy who chose an inadequate strategy aimed at participating in the world process of transition to market relations and democracy. So it is necessary to connect Russia's overcoming the crisis with the SD conception, so that future transformations can be conducted under the system control by means of a strategy of the Russian Federation's transition to SD model. The process of overcoming the social and economic crises makes problems of social and political stabilization especially important and at the same time shifts ecological needs (with exception of the most urgent) to the background in the Russian SD-transformations.

It is quite understandable if keeping in mind that when it comes to rates and scales of the environment degrading in most cases Russia occupies a place between highly developed and developing countries. And above all mentioned the anthropogenic pressure at the environment in Russia equals to only 70% of the average in the world. At the same time the pressure exerted by highly developed countries is 5 times as much as an average one. If accepted that in general exceeding anthropogenic pressure which is only 7 times as much in comparison with FRG -190 times as much, the Netherlands - 425 times as much and Japan - even more.

Otherwise in Russia there is the worst in the world radioactive contamination and higher in comparison with developed countries level of pollution with toxic heavy metals, pesticides and organic compounds. In the Russian Federation there are a lot of ecologically disastrous regions territory of which amounts to 15% of the total country's territory. That's why the priority of social and economic alterations (meaning financing as well) in SD-transformations can be 'justified' only providing that such a trend should be short-term. SD seems to have no future without keeping in mind an ecological factor or it would break the above mentioned principals of the social and natural balance.

Besides it is important to remember that about 700-800 mln hectares (or 40-47% of the country's territory) are the regions of virgin or slightly mastered lands (especially Eastern Siberia and the Far East). These territories which together with their natural resources and ecological conditions are of especial value for the process of transition to the SD model. The more so these territories make Russia one of the most important centres of biological stabilization of environment.

The fact that there should be quite a different goal for all transformations in the conception of transition is another peculiarity of the SD-transformations in Russia. It is important to remember that rebirth of capitalism in its wild form as well as returning to primitive socialism saturated with dogmatism is impossible and has no future.

All former structures will be accepted neither by the Russian society, nor by the state. The more so that the rest of the world is getting rid of these archaic social and economic structures preserving only their positive fragments and tendencies. The goal of SD-transformations is supposed to create a stable civilization of Noosphere where the strategy of the mankind's surviving, long-term living and harmonious co-existence with the biosphere would be realized.

This is quite way to Future and should be thoroughly examined with help of a integral scientific theory which we haven't had since Perestroika and further reforms in Russia were initiated. Absence of such a theory serves as a reason for the contemporary crisis in the country and it is impossible to overcome the crises unless the SD-transformations are scientifically supported. Until recently Russia had a great intellectual po-

tential who was regarded (after resources of raw materials) a national treasure. And it is Russian science that is capable if getting involved into working out the SD model to create a necessary conception and a theory of the transition process, the more so that Noosphere-oriented ideas proved to be more thoroughly developed in Russia than in other countries. One cannot exclude that Russia might more quickly than it is expected get through the crisis and enter the way of SD. And it will happen entirely due to intellectual basis and rebirth of spiritual life.

The above mentioned is also proved by so-called cosmic factor of potential Russian SD-transformations. And meaning not only intellectual basis of the Russian Cosmism and integrating power of Russian idea of All-Unity, but also cosmic potential which exists in Russia, means and possibilities of further mastering the outer space. Certain official papers and materials of UN Conference in Rio de Janeiro reveal underestimation of the above factor in the SD model and that allows some authors to equate Russia with an ordinary developing country. Cosmic resources taken as a whole (equipment, technologies, space, substance and information from the space) gives Russia a real possibility not to be an outsider, but a leader in a process of reaching the way of SD.

Realization of the transition process must be conducted not only at a federal level, in regions and by subjects of the Federation (the goal at which official papers of Rio-92 with recommendations to national strategies make us aim). All branches of national economy as well as various kinds of social activities should be included in the transition process. This fact can also be related to peculiarities of the SD model in Russia. Otherwise when creating and especially realizing a federal strategy of SD a contradiction, which is very difficult to resolve may arise - the contradiction between SD needs at the administrative and territorial level and at the level of economic branches. In this case unconformity of interests and goals between departments and administrations of the Federation's, regions' and cities' subjects may take place. One should also bear in mind a possibility to use a 'federal' factor to promote transition to the SD model in some Russian cities (there are over 800 such cities) where industries consuming a lot of resources are concentrated and where all maximum limits of pollution concentration are exceeded. We can expect that for Moscow and the Moscow region where anthropogenic pressure is 100 times as much as the level needed to preserve natural biosystems transition to SD can be conducted not only by means of overstructuring economic activities in the territories but also at the expense of 'reserve of stability' of other regions in the Federation. It depends on initial ranging priorities of the SD-transformations through all the Federation in order to get the maximum synergetic effect in the process of reaching new goals of the Civilization.

And finally - one more peculiarity of this process in Russia which demands more attention. This is the necessity to strengthen the State system in Russia and rise effectiveness of the State governing. 'A democratic factor' in Russia has appeared to be useless to stabilize and the more so - to strengthen the State system and to rise efficiency of the central powers. Many took democratization as disrespect to any sort of power, ignoring law, decrees of the President, orders of the Government, etc. Above all these there is a presumption that the transition to democracy and even to the SD model consists of total self-governing, decentralization, self-eliminating all the state structure and bodies as well as denying the very idea of the state system.

In the meantime 'SD-transformations' are closely connected with evolution of the Russian (and also any other national) State system.

A state is going to acquire 'SD-functions', such as ecological - meaning surviving and unstoppable progressing - the two goals which will gradually become the priorities and change drastically all other state functions. The transition to SD will demand significant strengthening the State governing, rising the status of exclusively authorized ecological organizations and services; ecological orientating all branches of power and therefore - decisions they make (laws, decrees and other legislative norms and standards); structural reconstructing various state services. In future a new model (image) of a state, sustainable state, will be formed. That model will exchange the existing 'class and political' and 'social and legal' ones. SD-transformations in the process of democratization will also take place because of the necessity to take into consideration 'interests' of the biosphere which are necessary to preserve it and to meet vital interests of future generations.

So changing its image in process of the transition to SD democratization will be transformed into democracy of Noosphere, or Noocratia (democracy of Mind), where a rational decision prevails over that of majority and reflects not only interests of those voting but all the participants of social and natural cooperating, to be precise, interests of future generations and Nature.

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Actually, increasing the level and quality of education promotes resolution of ecological problems and it may be well illustrated by demographic examples. So, it has proved to be that some longer than a seven-year educational course for women may decrease the total birth rate almost two times less. If comparing highly-developed countries (where women's school course is about 10 years) with developing countries (school course for women is about 2,6 years), one will see this fact influences the birth rate 2 -3 times. Thus it can be presumed that there is certain direct dependence between women's level of education and the birth - rate: the higher the level of education is, the lower the birth - rate is.

So the question arrives: couldn't it so happen that the more and more increasing level of education may serve as a key to the solution of demographic and thus ecological problems of developing countries? And strict state regulation (according to the Chinese model "one family - one child") may be exchanged to a more human process of increasing the educational level, and not only conformably to women, but as well to men who make significant contribution to resolving ecological problems by means of ecologically safe technologies and industries.

The educational model to the XXI century is oriented at goals of Sustainable Development and shall be an outstripping educational system. First, as well as science it should develop faster than material and energy ones. By means of science, education and information science information shall be a priority in the future information society realizing goals of Sustainable Development.

Second, certain outstripping mechanism implying aiming at Future and especially at principals and goal of Sustainable Development should appear directly in the educational process. The process of futurization of education should be developing so that human conscience, which is getting shape, could manage to foresee Future and put into practice the most desirable of its models.

Education as a process and a result of learning by man of systematized knowledge, skills and habits oriented towards the SD model acquires also new systematic objectives and functions. When civilization passes on to the SD path the education should become not simply a factor which assists in realization of new civilization model, but the very priority mechanism as well (along with science). Unlike in the past history of man kind, which evolved in a natural spontaneous way the role of science and education, is changing substantially. The SD model should be created at first ideally by means of science as a whole, and than it should be introduced into the minds of people.

The SD as a new model of progress of society and its interaction with nature can not be formed up without science and education. This is the main difference between the epoch of transition to the SD path and the epoch of the Renaissance and Enlightenment when people also had

dreams of the "Kingdom of Reason", and in knowledge saw a primary means of progress. The Post-Renaissance progress of science and society in general demonstrated a subordinate role of science and education, another intellectual component parts of social progress, and mainly that was due to spontaneous process of naturally historical progress. Transition to SD noo-sphere orientation objectively puts science and education, and other spiritual and information factors forward to priority position in future manageable development, for all such transition should go on not spontaneously, but be directed towards the above mentioned objectives and principles of SD. Correspondingly, as a result of achievements in science, education and dissemination of knowledge, new interests, vitally important necessities and common human values, significantly different from the contemporary, are to be formed up. The industrial consumer society should give way to post-industrial information society, the society of priority of information and intellectual resources as compared to matter and energy. The intellectualization and informatization of society will allow forming up an energy-saving and material-saving economy and starting resolving the problem of ecological survival of mankind. In post-industrial, information society compatible with the SD model, education will occupy its worthy space it deserves, realizing its new social functions and objectives through informatization of all the spheres of human activities. And here it is important to emphasize that large-scale introduction of informations means will require its combination with education, and training, of large staff of teachers who mastered the basics of SD. I should like to emphasize the idea of priority of education as one of the main levers for transition to the SD path: because we speak here about large-scale and purpose-oriented transformation of consciousness, world outlook of people, their way of life and manner of interaction with nature and society. Man should stop thinking of himself as master of nature (philosophical postulate of Western civilization), or only as its slave (the basis of Oriental world outlook), and should occupy its proper place within the system of world structure that will help his own survival and preservation of nature.

In accordance with the above stated, during the transition towards the SD model, the whole system of education shall acquire two new global functions. First, the function which we will call neo-humanistic, or taking into consideration its noo-spheric orientation - the noo-humanistic. Its essences are being brought down to orientation of educational process towards survival and incessant progress of all mankind. The difference between the neo-humanism and the Renaissance and contemporary humanism is in totally new kinds of accents placed in the progress of man and mankind. Up to now humanism has been associated with only a recognition of man as a personality, recognition of his rights and freedoms, development of all his abilities in their totality, and affirmation of the



wellbeing of man as the highest criterion for progress. Even the principle "Everything in the name of man - everything for the good of man" was proclaimed, which served the ideological justification for departure from archaic social relations and social and economic structures.

But all those well-meant principles of "philosophy of civilized humanism" have proven to be nothing else but another social Utopia, for all-round development of essential forces of man could not become effective under conditions of global degradation of biosphere, and predacious exploitation of nature. Nature itself has set a kind of a limit to the exercise of rights and freedoms of man through a number of parameters, as if demanding from him to give up albeit civilized, but nevertheless primitive anthropocentrism which viewed man as a corollary and supreme objective of Creation. It was Nature which has to proclaim its rights, as if defending its "good" and "interests" which man has not taken into consideration, professing the values of allegedly Western civilization. At the UN Conference in Rio de Janeiro world community found that it was unable to give the same status to anthropo-centrism and biosphere-centrism, to rights and freedoms of man and to "rights" and "freedoms" of the rest of Nature. It is possible, that anthropocentric assymetry in interrelations of man and nature will be overcome in the "Charter of the Earth" which is to be adopted in the year 2000. Thus, the new humanistic values towards which educational process should be oriented mean, on the one hand, giving up traditional anthropocentrism (and actually identifying it as humanism), and on the other hand, continuing it in a new form, proceeding from the notion that mankind should survive and progress further on uninterruptedly, thus ensuring its own SD. In principle, mankind can not give completely up in Nature, but it is capable not to destroy it and in so doing - to create a natural basis for its own survival. But individualistic world outlook of Western civilization should also be overcome in the new anthropocentrism. Now the emphasis is being placed not on more pluralism and freedoms (which sounds good, but actually such approach destroys nature), but on stronger unity community without which the possibility of its survival in biospherically compatible form will not be realized.

The second function of education, which I should define here as ecological, is closely connected with the first one - neo humanistic. If in the first case the emphasis is placed on survival of mankind, and concern for its future generations, then the ecological function of education places emphasis on preservation of biosphere, nature in general (the Earth and Space), ensuring favorable ecological conditions and resources necessary for continuous development. And it would be in vain to think that the whole system of education will realize this function of its own if only new professional training is introduced - ecological education and new professional training in the line of environment protection and resource

management. It is necessary, without any doubts, but one should also speak of total ecologization of all education, but not only of the process of its diversification. In their totality and forming-up integrity the SD functions of education, elevating it to a new quality level, and to its own SD-trajectory. Proceeding from the above, and looking with optimism into the next century it is possible to present in concise manner basic principles of suggested SD-transformations in outstrip educational process the first of which have already been laid down in a number of my publications.<sup>1</sup>

1. Radical changes should be expected in all the existing programs, courses, disciplines, specialization, etc., in order to introduce the SD-transformation which would provide in educational process for priority of ideas and principles of ecologically sound sustainable development, introduction of new training courses, which embody the above mentioned ideas most completely.

2. As concept and content basis of SD require continuous improvements, it is necessary to intensify elaboration of versions of SD concept more adequate methodologically, and accelerate their introduction into educational sphere for its all the more effective noo-sphere orientation.

3. It is necessary also to form up legislative and regulatory basis for realization of global and national SD strategies, and adequate reflection of these laws in existing legislative acts regulating the educational process at all the levels.

4. In parallel and following to legal SD-transformations it is necessary to transform thinking and world outlook of people, their common human values, and moral standards and orientation which take more completely into account main SD ideas, and which help to realize them in educational and upbringing processes.

5. It is supposed to have accelerated and on a growing scale the SD training and re-training of teaching staff at all levels, ecologization of education, and more accelerated training of teachers in various areas of ecology and new disciplines and training courses initiated by ideas of SD civilization.

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<sup>1</sup> Referto: Урсул А.Д. Перспективы перехода Российского государства на модель устойчивого развития (Prospects for Transition of the Russian State to the Model of Sustainable Development), М., ПАГС, 1995; by the same author: Устойчивое развитие цивилизации и ноосферно-экологическое образование\\ Ноогенез и образование. Построение ноосферной школы. Тезисы межрегиональной конференции (Sustainable Development of Civilization and Noo-Spheric and Ecological Education (Noo-Genesis and Education. Building a Noo-Spheric School) Theses of Inter-Regional Conference, March 23-26, 1995. in Russian), Krasnoyarsk, 1995.

6. Special research and training and methodological centers are expected to appear which would realize in educational process the transition of mankind towards a new civilization model, and which would function in close interaction with corresponding international and national SD centers sending "waves" of SD-transformations throughout all educational system.

7. It will be necessary to introduce indices for evaluation of "co-participation" of education in the process of transition of society (nationally, regionally, locally, and globally) towards SD model, and addition of some of them to basic indicators of progress towards the SD.

8. Restructurization of all the spheres of human activities induced by ideas of new civilization model will lead to SD-transformations of structure of educational system, elaboration of new educational policy and strategy, establishment of new institutions of education.

9. It is supposed to have a considerable strengthening of state administration in the sphere of SD-transformation of all the system of education, support to those educational institutions which participate actively in realization of new model of civilization progress.

10. Since in increasingly global information society effective SD-transformations of the system of education and upbringing are impossible without strong support on the part of mass media, large scale dissemination of knowledges of SD, orientation of informatization in society towards reaching the objectives of SD, it is important to include it as an integral part into these social and information processes. The 21st century education system should be an integral part of the previous information civilization as the first step towards coming into being of noo-sphere.

It is evident, that this list of SD-transformations positions in education process is not exhaustive, which allows making present and future generations of people not objects of SD-transformations, but subjects of such kind of common civilization changes. As a result, the system of education will not only "inscribe" itself in the world community in its march to SD, but will become one of decisive levers of coming "great transition" era of civilization. And in its turn as one of the most important spheres of social activity the anticipate education will also pass to its own SD path in accordance with principles of SD-transformations which have been presented above, and others (which will be discovered later).

Thus, the traditional system of education is on the threshold of epoch changes the overall orientation of which should lead to survival of civilization and its continuous progress, as well as to preservation of biosphere, and natural environment.

## ТРАНЗИЦИЈА РУСИЈЕ КА ОДРЖИВОМ РАЗВОЈУ И МОДЕЛ БУДУЋЕГ ОБРАЗОВАЊА

### Резиме

У основи идеја преласка на одрживи развој (ОР) садржи разноврсне методе које укључују примену еколошки безбедне технологије у индустријску сферу, еколошки оријентисану економију, вођење демографске политике у целом свету, ради смањења антропогеног притиска на биосферу. Руски државни развојни систем подстиче развој духовног живота, културе и религије, историје и националне традиције у складу са регионалним и природним датостима чиме се сигурно доприноси остваривању идеје о одрживом развоју.

Прелазак на одрживи развој захтева трансформацију друштвених активности у свим сферама. У раду су дефинисане основе нових функција друштвених активности заснованих на принципима и идејама одрживог развоја, које помажу реализацију новог цивилизацијског модела - одрживог развоја. Ова идеја (ОР) захтева другачији систем образовања, који у 21. веку мора да претрпи супстанцијалне промене сагласно принципима одрживог развоја.

**Кључне речи:** образовање, одрживи развој, транзиција