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The subject of the theses is introduction of promotional experience in international industrial cooperation and involvement of SME to participation in national development programs of industrial cluster growth, modernization and diversification basing in modern technologies & innovations emphasizing potential of. RUSSIA - SOUTH AFRICA PARTNERSHIP IN TECHNOLOGIES & INNOVATIONS IN UNIDO/BRICS PROJECT

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BRICS PARITY

I. GENERAL INTRODUCTION AND ECONOMIC ASPECTS

GENERAL BRICS INTRODUCTION

BRICS countries partnership is characterized by the absence of dominating influences in economic, political and geographical aspects, which is creating equal “comfortable” conditions for cooperation between the participants of transcontinental union.

BRICS represents intercontinental conglomeration characterized by active development of Medium business and Middle class - a strategic goal that is the key pillar of social-economic sustainability of the society.

BRICS is global economic association of the **emerging countries** of the world, possessing their own resources for the development and having potential prospects for further development by economic activity.

According to the international specialists, future growth of the global economy will attributed mostly by BRICS economic growth basing on real sector development, financial sustainability and social stability enhancement. It is proved by figures:

1. At the present time Brazil, Russia, India, China and South Africa encompass 43% of the world's population. BRICS member countries occupy 30% of the planet introducing four continents: Latin American, Asian, European and African and account for 45% of its workforce.

BRICS countries have vast population all showing middle class growing based on SMEs

2. BRICS countries comprise the sector of the most actively developing economies in the world. BRICS share of the world GDP increased from 14.6% in 2000 to 25% in 2010 and continues to grow at a high speed. In terms of contribution to growth of global GDP of the world, these five economies accounted for 55 % during 2000–2010.

In 2015, according to the International Monetary Fund five countries of BRICS will account for as much as 61 % of global growth in three years time.

3. By 2030 members of BRICS, largest emerging economies Brazil, Russia, India, China and South Africa are expected to be among the 10 largest economies in the world.

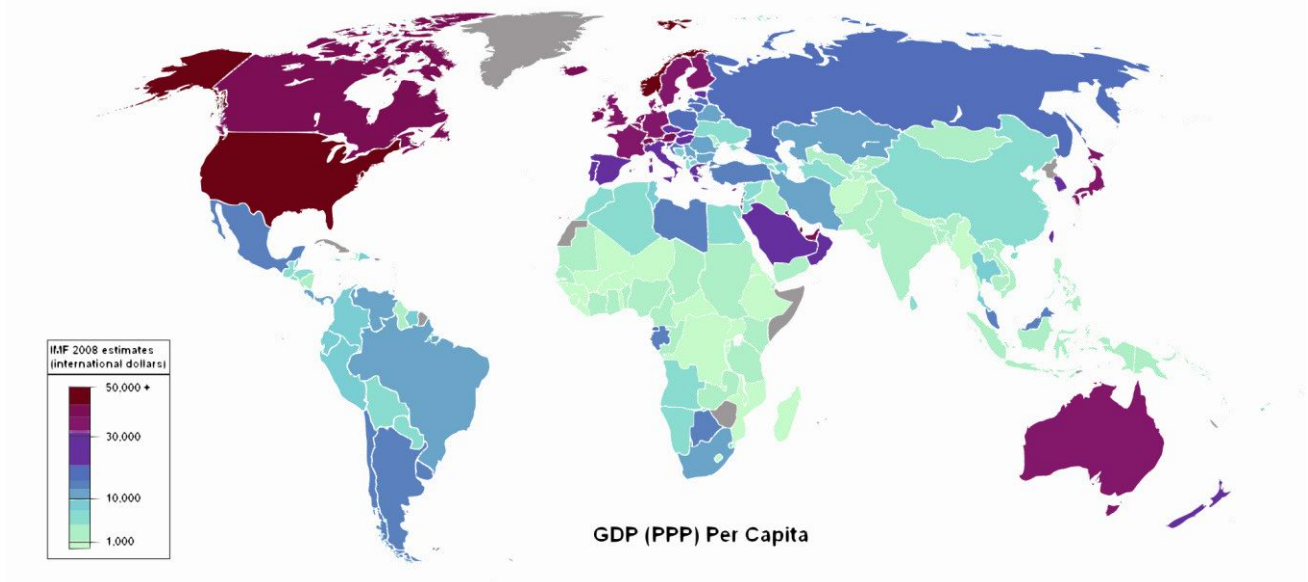
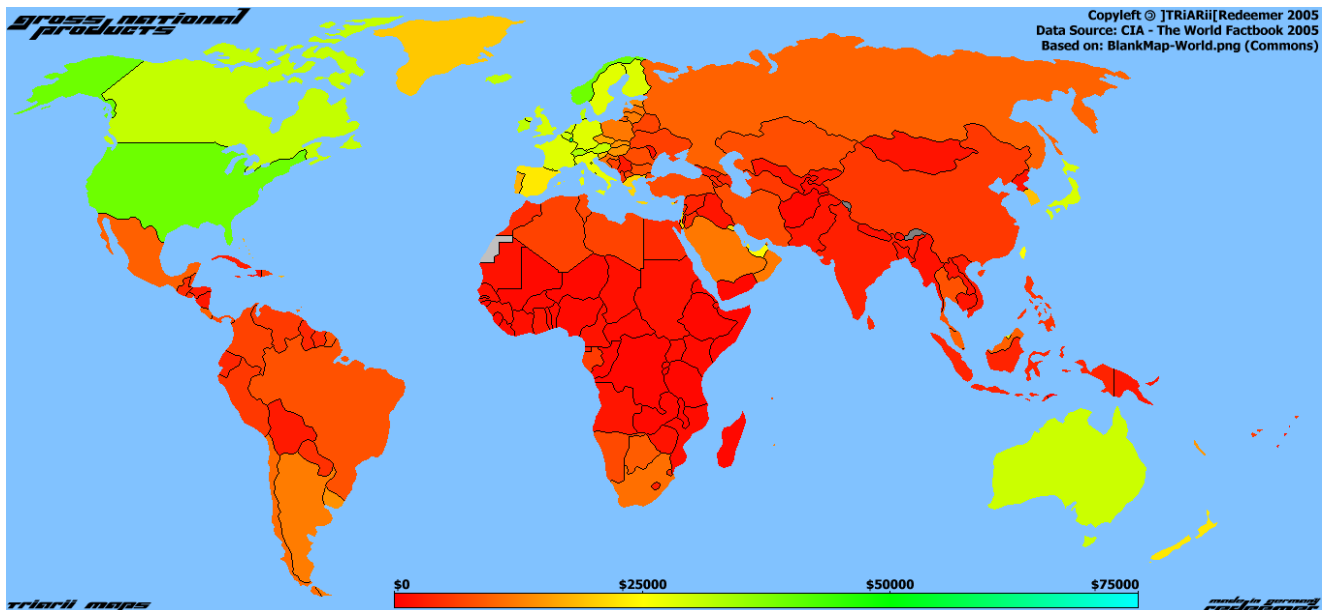
BRICS is becoming at the forefront of reshaping the global economy and recovery.

4. By 2050 according to the specialists, the BRICS economies are expected to exceed the size of G-7 countries – the richest currently countries of the world.

Equal (Parity) relations between the BRICS members concern vital activities of every society, first and foremost speaking of social-economic aspects.

Recounting to Purchase Power Parity (PPP) is considered to be the major benchmark for international comparison of economic indices.

Analytical data from International Monetary Fund, World Bank and World Fact Book shows that the BRICS countries comprise the one global block of **emerging and developing** countries on the basis of GDP per capita in PPP terms comparing with the developed countries.



The Global zone stretches from North pole to South pole, highlighting not only geographical polarity and unity of two terrain hemispheres, Northern and Southern, but economic multipolarity existing in global integration of World economies where BRICS countries hold a position of emerging countries.

Besides **PARITIES** consolidating BRICS there is also uniting factor of **COMPLIMENTARITIES** assisting to relationship in which different participants improve or emphasize each other's qualities. The BRICS grouping is still in a very early stage of its lifetime. Early stage will help BRICS countries to shape the **PRIORITIES** of strategy and work programs.

ECONOMIC ASPECTS

Advantageous position of the BRICS countries provides availability of resources vital for the world economy including: energy and mineral resources, agricultural raw and product, intellectual and labor resources.

It is important in BRICS countries cooperation interaction in mutually beneficial use of natural resources where Russia, Brazil and South Africa own vast natural resources with China and India as major raw material consumers.

The joint GDP of the BRIC countries amounts to around \$15 trillion or more than 25% of world GDP (\$55 trillion). The aggregate gold reserves total to \$1.5 trillion surpassing the reserves of G7 countries.

At present time around one third of the top-20 energy companies relate to the BRICS, one third – to European countries and one third to the USA. The same situation can be observed in other industries.

BRICS Summit 2011 Declaration highlighted that BRICS Technology cooperation has been enriching & mutually beneficial and that there is a great scope for closer partnerships among the BRICS countries..

SOCIO ECONOMIC ASPECTS

The core of real economy is industrial sector providing development of main clusters vitally important for each country: natural sources, energy, infrastructure, agro processing, social and consuming sectors.

There are three key sectors participating in Implementation of development programs: State sector, private companies of Big Business and private enterprises of Medium Business.

Medium business is the Third Pillar of Economy of the most countries all over the world assisting in providing of socio - economic sustainability of society.

Numerous middle term projects of Medium Business can add and to extend long term Mega projects of State & Big Business. It may also become dynamic and efficient field of international cooperation.

FINANCIAL ASPECTS

At present time the possibility of setting up a new Development Bank is considered for mobilizing resources for infrastructure and sustainable development projects in BRICS and in other countries with framing market economies and in developing countries.

II Financial BRICS Forum emphasized the role of the Bank in stimulating trade relations among the member-countries and mentioned setting up of BRICS Exchange Alliance as a joint initiative by related BRICS Securities Exchanges.

In the frame of BRICS 5 Development Bank of Southern Africa (DBSA) would host partners in the BRICS interbank cooperation mechanism while experts of the BRICS countries already tasked to prepare a feasibility study on a proposed new Development Bank.

FIFTH BRICS SUMMIT

South Africa will host the fifth BRICS Summit from 26 to 27 March 2013 in Durban **"BRICS and AFRICA: Partnership for Development, Integration and Industrialization"**

II. TECHNOLOGY & INNOVATION MOTIVATION

SCIENCE AND TECHNOLOGY ASPECTS

At BRICS Summit in 2010 President of Brazil Luiz da Silva emphasized: “Nowadays we pay a lot of attention to technology cooperation in the frame of BRICS”.

The BRICS countries own great technology basis and have considerable potential and leading experience that can be exchanged and used for beneficial cooperation

In the consecutive Declarations the first and foremost attention was paid to technology and innovation partnership as well as to the role of the Medium business and Middle class for achievement the development goals.

The 2011 Declaration stated the importance of cooperation in the field of science, technology and innovation for the development of economic sustainability and in 2012 one of the focuses was on industrial development and employment for the social stability.

The growing potential for cooperation in the field of science, technology and innovation let the BRICS members exchange the advanced experience in the fields of priority clusters of industrial development, making it enable to carry out joint innovation projects covering all phases of implementation of the projects including specialists training.

BRICS action plans foresee holding Business forums, seminars, carrying out mutual research on economic and trade issues, discussing ways of promoting scientific, technological and innovation cooperation in BRICS format, as well as continuing to hold the BRICS Think-tank Symposiums, and consider establishing a network of research centers of all BRICS countries.

Practical actions of the BRICS members, the results and further goals in various spheres reveal great prospects for cooperation within BRICS framework.

One of such international initiatives is UNIDO/ BRICS project “Partnership between countries in Technological and Innovations for developing SMEs”.

PROJECT REGIONAL MOTIVATION

UNIDO/BRICS project is aimed to enhance the development of industrial cooperation between the BRICS members on the basis of World scientific achievements, modern technology and innovations. For these purposes the Project Action Plan for 2012-2014 has been worked out for setting up Technology platform and establishing partnership for its practical implementation.

“The Technology platform of the BRICS countries is being worked out by UNIDO experts for uniting the technological potential of the participant countries to enhance the international industrial cooperation between the BRICS members for the sustainable economy establishment, development of real economy sector, financial sustainability and social stability reinforcement.

The action plan upon the setting up of Technology platform and its practical usage stems from the following factors determining the development of industrial sectors, their modernization and diversification:

- The ability of the owners of technological potential to supply the BRICS countries with the latest world-class technologies, competitive equipment, professional engineering services and specialists training.
- The demand of the national economies of the BRICS countries for the mutually beneficial technological cooperation for the active development of the priority clusters stated in the long-term plans for industrial development of the participant countries.

According to the 2011/12 Summits recommendations the strategic goal of the international industrial cooperation between the BRICS countries is the following – **active Medium business and Middle class development assistance for social-economic stability enhancement.**

Experience exchange is envisaged dealing with organizational and financial support of Medium business participation in the international industrial cooperation under the framework of private-public partnership on the basis of BRICS Technology platform (Brazil, Russia, India, China, South Africa).

NATIONAL MOTIVATION

As an example, brief information on South Africa's National Development Plan 2030 is provided. The Plan was endorsed by the Cabinet on September 10, 2012 and it reveals the key economic development directions of South Africa including BRICS partnership.

South Africa provides BRICS with African presence adding to the partnership with the experience of initiation and development of the latest economic strategies like NEPAD (New Partnership for Africa's Development). Besides South Africa has practical experience of regional economic integration under the framework of SADC (The Southern African Development Community) and owns modern technologies.

Some Plan's major aspects may be listed below defining the long-term prospects and directions for the cooperation and partnership, international as well:

a. The Plan defines the long-term foundations of South Africa's economic integration:

national – by expansion, modernization and diversification of the industry

regional - by mutual implementation of complex projects of SADC and Africa

global integration of South Africa to the world economy – via BRICS cooperation

b. For the development of the economy the Plan states out the necessity of using not only South Africa's own capacities but as well as the capacities of the global community in the spheres of science, technology and intellectual services, with the BRICS countries are the first in the list

c. The Plan defines strategic clusters of the industrial development of South Africa, previously stated out in the long-term plans of Department of Trade and Industry of South Africa (DTI IPAP), Department of Energy of South Africa (DOE IPR), Economic Development Department (New Path Growth), Ministry of Science and Technology (DST), Department of Ecology (DEA) and other including:

Agro Industrial Cluster– agricultural industry;

Mineral and Metal Cluster – minerals processing, metals formation

Manufacturing Cluster– manufacturing and remanufacturing

Construction and Infrastructure Cluster - infrastructure, construction

Green Economy Cluster- "Green economy"(eco-technologies, clean manufacturing).

d. The Plan highlights the social-economic orientation of the development goals:

- Modernization and diversification of the industry creates the **sustainable economy**
- Enhancement of the real sector facilitates the **financial stability**
- Development of the Medium business and of the well-being secures the **social stability**

e. Dealing with international cooperation the Plan takes into consideration the ongoing transformations in the global economy and the enhancement of BRICS leading positions. The Plan defines the long-term goal of economic integration of South Africa into the global economy via cooperation with BRICS as the strategic task by means of reinforcing relationships with China, India, Russia and Brazil.

f. The priority is the development and support of the Medium business as the basis for real sector further reinforcement and the enhancement of the country's well-being including systematical organizational and financial support of South African private companies under private-public partnership framework.

TECHNOLOGY MOTIVATION (shown on the case of South Africa in BRICS)

South Africa. The development of the Technology platform is based upon the initiative proposals from private and public enterprises of the BRICS countries with the focus on the priority clusters of the participants' industrial development.

For the development of international innovation cooperation South Africa owns the latest technologies:

- Liquid gas and liquid coal production including unique production of aviation fuel;
- Having no world analogues technology of solar energy films production;
- Unique technology of steel production from the magnetite ore waste products;
- Titanium production technology is being elaborated thus making South Africa one the leader in this sector;
- Technologies of ore primary processing based on many-years experience in mining;

- Progressive laboratory technologies of materials research and testing; **Bio Technologies**
- Nanotechnologies development including nanosteel research by the Nanosteel Institute of South Africa.
- SA Innovation for processing seawater into an alternative water, energy and fertilizer resource,

Metal and metal products fabrication is considered to be one of the priority clusters of South Africa's National Plan of development (NDP 2030) and the Industrial Policy Action Plan of the Department of Trade and Industry of South Africa (IPAP).

The Fifth BRICS Summit will take place in South Africa on March 15-17, 2013. Besides, two important international events in metal industry will be held before this under BRICS framework: "BRICS Foundry Forum" in Johannesburg on March 11-12, 2013 and "South Africa Metal Casting Conference" in Pilanesberg on March 13-14, 2013.

South Africa – BRICS. Supporting the active partnership under BRICS framework the following international Forums took place in South Africa in 2012:

«BRICS Economic Outlook in South Africa Conference», Cape Town, June 26-27, 2012

«The BRICS Africa Export Import Forum 2012», Johannesburg, July 15-17, 2010

South Africa's National Development Plan 2030 (NDP 2030) states out the importance of technology partnership with China, India, Russia and Brazil under BRICS framework highlighting the active stand of China and India upon the cooperation with South Africa and the increase of progress in relationships with Russia and Brazil.

The press release issued by the Presidency of South African President Jacob Zuma

During the Fourth BRICS Summit in New Delhi on March 28-29, 2012 Jacob Zuma, President of South Africa, had a series of meetings with D.A. Medvedev, President of Russia, and Dilma Rousseff, President of Brazil. Following the results of these meetings the Administration of Jacob Zuma issued press release pointing out the importance of cooperation in the key areas for the implementation of the new long-term plan of South Africa's development:

Cooperation with Russia – in the fields of engineering and education, mining industry, steel and platinum production, energy;

Cooperation with Brazil – in the fields of transportation and logistics, railways, motorways, cooperation between the Banks of development (DBSA-BNDES), gas resources.

Russia – South Africa. One of the key directions of South Africa's Development Plan is considered to be active engagement of Medium business into industrial cooperation and its support for gaining access to the modern international technologies.

Integration of such work can be shown as an example by activity of "International Science Bridge" (ISB). specializing in the sphere of development of technology cooperation and following to South Africa priority clusters of industrial development and jointly with Russian enterprises engaged, worked out the Concepts and Proposals on the basis of contemporary Russian technologies, engineering capacities and equipment:

- "Small metallurgy of scrap processing in South Africa: **steel Mini and Micro casting and rolling mills** – evaluation and application".
- "Small energy in South Africa: Renewable energy and **Mini-power stations** based on "Green coal" eco-technology".
- "Solar Water Heaters production and assembly **Mini plants** in South Africa: motivation and advantages".
- "Agricultural processing **Mini mills** in South Africa".
- "New building materials and technologies for housing construction by **Mini construction Plants**".
- **Mini Mills** for Industrial wastes processing in South Africa (in the process).

In cooperation with Russian partners ISB has made considerable job on Presentation of Conceptions and potential Projects for central and provincial South African organizations, as well as development corporations, financial institutions and private companies within four Provinces during business visits including investment mission in the frame of industrial development support program of the Department of Trade and Industry of South Africa (DTI EMIA).

Adaptability and motivation of the Conceptions and Projects with consideration of specific traits of cooperation with South African Medium business, made it easy to integrate it into working out of UNIDO/BRICS Project **“Partnership between the BRICS countries in the spheres of science, technology and innovations for middle and small business development”**.

With the assistance of UNIDO Moscow Center initiative partnership proposals of Russian enterprises and ISB have been oriented onto UNIDO/BRICS Project for creating of the BRICS Technology Platform for involvement of the Medium business into the international industrial cooperation.

Russian partners worked out Coordinating Action Plans 2012-2014 for the development of industrial cooperation and partnership in the priority branches on the basis of the established structure of regional interaction:

At implementation of Action Plans, worked out on the basis of past and present regional cooperation experience, long-term recommendations of South Africa's National Development Plan 2030 approved by SA Cabinet on 10 September 2012 will be taken into consideration.

MOTIVATION FOR RUSSIAN TECHNOLOGY PARTNERS

Africa – Russia are used to be traditional partners for industrial cooperation. With Russia technical assistance there were built 359 objects in Africa before 1991 including 132 industrial projects based on Russian technology, equipment and services in various national economy sectors of African countries including Transport, Energy, Mining, Oil-Gas, Construction, Fisheries, Water Resources, Education and Training.

It is remarkable that, in the frame of Program Russian-UNIDO cooperation, contemporary Russian Federation is appeared as technological donor for developing countries.

Also NEPAD Seminar, held some time ago in Moscow with the subject **“NEPAD: A CALL FOR A NEW PARTNERSHIP BETWEEN AFRICA AND RUSSIA”**, emphasized the expected role of the Russian Federation as Development Partner of International Community.

Russian Medium Business Enterprises (MBE) as Development partners have enough experience of international cooperation and possess enough resources including intellectual, technological and industrial as well as international cooperation experience based on science achievements and modern technologies

They possess experience with modern leading companies of the world in various fields as well many years of previous experience assisting to economic of developing countries of Africa. It makes Russian enterprises as potential partners and capable high professional participants of joint Technology and Innovation projects in international industrial partnership.

Noting above mentioned points it becomes clear that there is a potential basis existing for development of wide range of cooperation between Russia and South Africa in a new modern conditions and at all levels including as well Medium Business additionally to State Corporations and Big Business.

Modern international cooperation requires looking for new principles of business partnership and with new consolidated possibilities of promotion and support of regional, national and international programs of new joint projects.

International initiative – UNIDO / BRICS project “Partnership between BRICS countries in Technological and Innovations for developing SMEs” will become new interregional tools for development of new principles of partnership and creation of new fields and tracts for implementation of new projects.



I.V. Kulkov, National expert UNIDO/BRICS Project

November 2012 Moscow Russian Federation

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