

Technological Innovations and Usage - Socialist Perspective - Capitalist Profit Outlook - Soviet Union Experiences

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The unemployed reserve army has reached its highest level in all the countries. This crisis is the consequence of the development process of exploitative capitalist mode and its direction given to technological innovations. The dominance and domination of finance capital is on the rise. The proletarian class is getting victimized by the multiple and serious challenges associated with the issue of unemployment. The destruction of lives of majority is becoming normal. The crisis is always complicated by the implementation of neo-liberal policies as its solution within the powerful profit motive framework of monopoly capital. The long run continuation of the crisis became a permanent feature of present exploitative system. The movement of capital is brutal and barbarous. Therefore, economist Samir Amin strongly states that we should not end the crisis of capitalist system but the capitalist system itself. Because it is impossible to end crisis under the framework of the crisis system. It is proved that the emancipation of working class from all kinds of exploitation and oppression is possible only with the establishment of a Socialist System.

It is known to all that in Soviet Union, after the Bolshevik Revolution of 1917, wonderful endeavour took place for the first time in human history to build socialist society which is free from all kinds of exploitation and oppression. The consequence of substitution of strongly formulated Central Planning in the place of profit motive, made all the people to participate in the process of development as well as to derive gains from the achieved development within a short span of time. This is truly realisation of inclusive growth. The economists say that what has been achieved by US in 200 years with Laissez faire which ensure free interplay of market forces is attained by Soviet Union in 20 years with the formulation of Central Planning aimed at building a Socialist System. In the US, which is popularised as a matured democratic system, the achieved development is associated with strong economic inequalities, discrimination and crimes. While, the movement of development in Soviet Union which is aimed at building a Socialist System continued to remove economic inequalities and eradicate all kinds of discrimination that are continuing from the past system.

The gigantic economic crisis is clearly visible to the entire world. The people are searching for various ways and means to solve them. The present exploitative capitalist system, immersed in the complex crisis associated with the destruction of lives of majority will definitely be unsustainable and will not survive. Therefore, revolutionary transformation from the roots is needed. A people's democratic system which gradually transforms into

socialist system should be built in its place. In this context it is appropriate to evaluate and examine the practices and experiences of the wonderful socialist policies of Soviet Union initiated during 1920's and continued for some decades.

What are the Conditions Prevailing in Soviet Union at the time the Bolsheviks Seized Power?

Russia was a feudal empire ruled by a monarch, Tsar. It was characterized by highly backward agriculture sector, despite its predominance. Farms were scattered and fragmented. Owing to technological backwardness, the productivity was so low resulting in the scarcity of food grains and poverty of peasantry. The industrial sector was too backward due to under developed technical knowledge and innovations. Illiteracy was another problem. The economic inequalities and rural-urban disparities were also major challenges. In the words of Stalin, the Soviet Union was 150 years terribly backward when compared to developed capitalist countries in terms of development and technological innovations.

Industrialisation is crucial for development. For this, Machines, Machinery equipment, technology and technological innovations are essential. Foreign loans will not be available for imports. Moreover, the foreign co-operation will not be available as the exploitative capitalist system works for the failure of socialist system. The export of agricultural produce is the only means available to earn foreign exchange. However, it is impossible with its backward agricultural sector. The encircled exploitative forces of capitalism were cautiously searching for a small weakness so as to destroy the wonderful, scientific, social experiment of Soviet Union. In addition to internal backwardness, the acts of petty bourgeoisie exploitative forces cannot be under estimated. They always try to revoke the Soviet Union from socialist line. In these conditions, it is necessary to end domination-subordination relations and work for higher level social relations.

The Soviet Union should face strong exploitative capitalist system around it, should stand firmly and should control internal deviating forces. It warrants to raise all the sectors, technology, education and culture to higher level simultaneously in the post-revolution soviet economy. This will ensure success in achieving the goal of building socialist system.

Soviet Union in the Process of Articulation of Socialist System:

The emergence of socialist system in Soviet Union is the first in the history of human kind. Lenin, as early as in 1918 states that, its success requires the end of economic backwardness with an accelerated speed. For this, it is necessary to search for the availability of natural resources in the country. Further, rapid development in the technology and innovations are required. Simultaneously, conscious social relations should be built. It is also vital to make the people ready to work for the benefit of the system as a whole. The consciousness of the working class should be directed towards collective work so as to ensure them to continue their historical responsibility with the awareness of class struggle.

During 1921-28, under the leadership of Lenin, the New Economic Policy was implemented to revive the economy as well as industrial sector. It is a mixed system like state capitalism. Measures are taken to end Kulak system in agriculture and formulated state farms. The small and medium industries continued under individual ownership. While, large scale

industries, transportation, credit and foreign trade are under exclusive State control. Gradually contradictions emerged between the goals of the State and goals of individual producers. Lenin could recognise that the continuation of individual farms as well as small industries under private ownership will make the system move backward towards capitalist system. It is resolved in the Conference of XIV Communist Party Congress in December 1925, to attain self-sustaining development by establishing heavy industries and to achieve self-reliance by reducing import dependency to its minimum. Therefore, Command Socialism occupied the place of New Economic Policy. All the industries are nationalised. No question of market mechanism. The development targets are determined by the strongly formulated Central Plans. It is decided to minimise the imports of machines and machinery equipment, to speed up the formation of collective/community farms. To raise the agricultural production, it is decided to provide better seeds, fodder, fertilizers and tractors to the collective farms. Along with this, large industries' centred industrialisation should be accelerated with the aim of producing means of production, therefore, major part of the scarce capital should be allotted for it. All this is clearly explained by Stalin in his speech in the plenum of CPSU (13) on November 19, 1928. The first Five Year Plan of 1928-32 started. For this, financial resources are mobilized from the income of small and medium industries, agriculture sector, the state monopoly of foreign trade, tax on alcohol and loans from the people.

While Trotsky ally Preobrazhensky suggested in 1920 that the peasantry should be treated as internal colony and hence surplus should be appropriated from them. Stalin, who is in a key position at that time strongly rejected this proposal. Nobody could show any evidence of appropriating surplus from peasantry. Still, the bourgeoisie intellectuals popularised lies by stating that the peasantry of Soviet Union is brutally exploited. However, this issue is critically examined by Michael Ellman who stated that the net agriculture surplus is negative during 1928-32. Further, the volume of investment in industrial sector is increased by 4 times. Annual investment is two times higher than agricultural output. The national income increased by 60% during this period. All this is diverted towards investment. Moreover, he says that this kind of antagonism is not there between working class and peasantry. It is to be noted that Michael Ellman is not a Marxist sympathizer. He observed the facts and stated that Soviet Industrialisation is a great success story. The qualitative change in the living standards of people took place during 1920-40. Urban employment increased excessively. The efficiency of agriculture sector is elevated to a higher level. This is really a wonderful living example of the socialist practice even in its initial stages of building the process of great socialist system which will not accept any kind of exploitation in any form.

It is surprising to observe that after the beginning of the first Five Year Plan in 1928, within 12 years i.e., by 1940, they could achieve extraordinary transformation in the structures of industrial sector. Moreover, they could fulfil the targets of establishment of Heavy industry, self-reliance in the production of means of production, expansion of collective farms, and rise in the agricultural production due to the extension of technical assistance.

Further, they could reduce rural-urban disparities as well as Marginal Productivity disparities between agricultural and industrial sectors. All this achievement is a "Great Leap Forward". In order to sustain achieved development and to continue the goal of building Socialist System, the Soviet Union requires a powerful and strong defence system. It accomplished even this goal. They have seriously initiated measures to eradicate the remnants of feudal and capitalist exploitative systems. They collectivised 97 percent of cultivable land by 1940. Despite the allocation of major part of the increased national income for the production of means of production, economic development, raising the productivity in agricultural sector and defence, the living standards of people increased continuously. Another interesting achievement is that the central planning of Soviet Union eradicated agrarian crisis within 12 years of planning where as in the so called Capitalist Systems with free interplay of market forces, agriculture crisis further strengthened. In India, farmers' suicides became a normal phenomenon. So many foreign funded big NGOs emerged for the issue of compensation in this regard because they assume that the problem is a permanent phenomenon.

By 1940, Soviet Union could produce 80% more steel, 78 percent more cement and 92 percent more oil when compared to US. It stood on par with US in Defence, Science and Technology, Technological Innovations and Space Research. Therefore, it could achieve the status of Second Super Power.

The Strategic importance of electricity for development is identified by Lenin even prior to Bolshevik Revolution. The priority given to this sector resulted in the increase of electricity production to 48 billion KWH in 1940 from 5 billion KWH in 1928. The growth rate is as high as 866 percent. It has achieved 1000 percent rise in chemicals production.

It is remarkable to notice that all the developed capitalist nations seriously suffered from the 1930's Great Depression with rising unemployment, closure of industrial units due to lack of demand which led to further decline in employment, no earnings, no demand, no sales, no production, and the circle continued. While, it could not touch Soviet Union. Contrarily, the establishment of heavy industries, the production of means of production, and the employment increased with an accelerated speed. All this resulted in the rise in the living standards of people. Soviet Union could face II World War and won successfully due to the building of powerful Defence System. However, it lost capital resources as it is forced to allocate scarce capital resources for war. Still, it could revive shortly. The development of Soviet Union during 1950s has been popularised as 'The Golden Years of Development'.

By the end of 1930s they have established 8900 strategic important industries. They attained self-reliance and ended dependency on imports. The share of imports in Gross Domestic Product is just one percent. This will not be imagined either in developed countries or in emerging economies.

They have established schools, Higher Educational Institutions and Technical Institutes throughout the country. They ended illiteracy. Removed gender discrimination in education. They successfully included all the people in the process of development as well as in intellectual activity.

Education, Science and Technology :

The Soviet Union transformed perfectly into an industrial country from a backward agricultural country within two and half decades period after the Bolshevik Revolution. It could achieve self-reliance in the development and in production of means of production. The extension of collectivisation resulted in the fundamental change in agrarian relations. The self-reliance is achieved in the agricultural produce by providing better inputs and technical assistance. Contrarily, in the exploitative capitalist countries, they desire to raise agricultural production with new technology while strengthening exploitative agrarian relations. Consequently, agrarian crisis strengthened in these countries and became a permanent feature. For the continuation of socialist system, the Soviet Union built a strong defence system. The Soviet Union could stand in the development on par with US within shortest span of time as it is free from market forces, profit motive and individual private property. The 1930s great depression, which shook all the capitalist countries did not touch Soviet Union. The living standards of people improved remarkably, secured and protected lives and livelihoods. All kinds of discriminations started to end speedily. The collective social relations along with strong desire of all the people to protect the socialist system enabled them to face the attack of the Second World War. They could defeat 4th army of Japan that entered into Manchuria. It stood as a great living image that could show that the end of exploitation and oppression creates a wonderful human society as stated by Marx and Engels.

As early as in 1917, Lenin in his pamphlet clearly stated that Education, Science and Technological Innovations are crucial for Economic Development and Industrialisation. From the beginning, they have made serious attempts to make education and scientific knowledge accessible to all so as to formulate culture on scientific basis and to ensure all the People's participation in technological innovations. Contrarily, the allegation of Anthony Sutton, who failed to observe technological achievements in Space exploration, Nuclear energy applications, Indigenous technical progress in making Iron and Steel, Electricity generation, High Voltage transmission and Rocket Technology, simply states with his pre-determined notion that Soviet Union could achieve development by the import of technology from US. No country will become super power without highest level of indigenous technology and innovations. Maurice Dobb clearly stated that the Soviet Union achieved virtuous improvements in the lives and living conditions of people through the development of indigenous technology and innovations even in modern space research, nuclear energy and laser technology. The German Professor Bonn, who wrote a book on US, stated that "In USSR, the Golden Age of Science and Technology has come". The historian Kotkin observes that with the central planning targets in the place of profits, Soviet Union could compete with developed capitalist countries. In fact it extended helping hand to various countries and proved the moral superiority of Socialist System.

It could design its own computer as early as in 1940s. It could stand on top in Mathematics, Physics, Nuclear Physics, Chemistry and Astronomy. It could make atom bomb by 1949. It launched Artificial Satellites in 1957. Moreover, the Soviet Cosmonaut was

the first man in space. The study and research in Science, Social Sciences and Humanity continued on the basis of Historical and Dialectical Materialism.

Soviet Union Aimed Higher Education for All:

Three decades prior to the recognition of 'Education as fundamental Human Right' by UN through the Declaration of Universal Human Rights, the Soviet Union initiated serious measures to attain the goals of complete literacy, Higher Education and education of Science and Technology to all. That is the greatness and superiority of Socialist System. The larger part of scarce resources are allocated to achieve this end. It has established Higher and Technical Education Institutes in the entire nation. It introduced science education from secondary school onwards. The enrolment in Higher and Technical Education is one lakh in 1929 and it has increased to 2.3 lakh in 1932. It is wonderful to note that as high as 75 to 80 percent of students belonged to working class. The provision of stipend to all, encouraged the children of workers to come forward for education on a large scale. Their main goal is to connect entire working class with Science and Technology.

Indian Constitution commits for Free, Compulsory Primary Education for All. Leave about education, even after 75 years of Independence, which has now been declared as 'Amrit Kaal', we failed to achieve at least complete literacy. In 2000, UNO declared Eight Millennium Development Goals to make the world humane. The achievement of complete literacy is one of those goals. Even after 52 years of declaring 'Education as the basic human right', the exploitative capitalist system failed to attain this objective. This is a small example which clearly shows the cruel nature of process of development of capitalist system. It always speaks about 'Inclusive Growth' but in practice, the process of development excludes majority. Recently, the Indian government stopped talking about complete literacy but aimed at becoming 'Vishwa Guru'. This is a serious contradiction. Contrarily, the Socialist Soviet Union has achieved Higher Education for all in a short span of time, demonstrating the superiority of the system.

The Soviet Union has established 24 scientific research institutes with 8 branches in 1928. They are increased to 72 institutes with 83 branches by 1930. Thousands of Factory Labs are established. In 1931, as many as 40,000 workers can be seen in the works of Scientific Research. To make the working class part and parcel of Science and Technological innovations and to raise their expertise and mastery in technology, they have created special institutions in each and every factory, every collective farm and every higher education institution. Inter-sectoral connection is seriously initiated.

Soviet Union has established high level technical institutes which cannot be seen even in Europe like the Thermo Technical Institute, Physics Technical Institute etc. As many as 47 institutes for technical development of agriculture, 10 institutes for transportation, 44 for popular education and 34 institutes for public health are established. Engels in his 'Anti-Duhring' states that "the society emancipated from the shackles of capitalist production, brings forth a new generation of thoroughly developed producers who understands the scientific foundations of whole industrial process and who had practical experience in a

whole series of branches of production from beginning to end, will be able to create new forces of production”.

The successful inclusion of masses in the development of science and technology could reduce the disparities between physical and intellectual labour. The masses made serious efforts to attain expertise in science and technology. The State received thousands of suggestions from working class with regard to technological innovations. Thus, wonders are created. This is the “High level of socialist competition”. In this process, in Donetsk basin they invented a process to bring coal from mines through conveyors. The Academy of Sciences and the Geological Exploration Institutes always search for the new natural resource reserves. This process includes local people, teachers, and youth, in addition to scientists. The masses will participate in all the search and research. The strong collective effort is the basis for this.

Science is introduced from the school level because the rise in the living standards, health and culture are closely related to science. Thousands of scientists and engineers are graduated. There are more number of research journals to publish research work. In science education and mental labour, the gender discrimination is ended. The present exploitative imperialist system loudly gives slogans of women’s empowerment and gender equality but women’s labour reproductive functions and sexuality were deteriorated into a commercial commodity. It is really an embarrassment to the Capitalist system but it brutally says that ‘Socialism is Outdated’.

The State Institute of Applied Chemistry is established during 1918–20. It identified the close relationship between chemistry and public health. Number of factories are established by 1928 to produce fertilizers, pesticides, potassium products etc. A best method to manufacture synthetic rubber is invented in 1926. A large scale Industry is established during 1931–33 to manufacture potassium chloride from sylvinitite. A special ministry is created for the development of chemical industries in 1939. There is no wastage of raw materials and efficient use of by-products is ensured. Healthy working conditions are created and measures to protect environment are taken i.e., there is no question of environmental pollution. In this context, it is to be noted that in our Delhi, cases are filed against peasantry for burning stubble i.e., waste arising from the production of food grains but the government fails to transform the by-product into many useful products. Moreover, vulnerable working conditions are strengthened in exploitative capitalism and environmental pollution is always on the rise and so many international conferences to tackle the issues of climate change. The survival of earth is in danger.

In Soviet Union scientists, engineers, production experts and workers discuss collectively to determine about technology, innovation, planning and solving the problems if any. Inter-disciplinary approach in all the decisions and strong team work in all the activities is practised. There are only State Schools and State Labs which ensures creativity and there is no question of dangerous competition. Thus the Socialist Soviet Union could build entire lives of people on scientific basis systematically. This ensured secure, fruitful and peaceful lives to humankind.

Monopoly Capital – Technology – Crisis of Working Class

The greatness of exploitative capitalist system is always explained in terms of its top level achievements in technical progress and technological innovations owing to free interplay of market forces and invisible hand. In fact, profit motive directs technical progress and it is for profits of monopoly capital. The technology which yields relatively more surplus is used. The aim of technology modernisation is to raise labour exploitation. The facilities for workers, creation of healthy working environment, provision of leisure, raising living standards will not come under the purview of the goals of technological innovations. The related entire network i.e., scientists, labs, patents, everything is under the control of monopoly capital. They direct and dictate research from the perspective of their enormous profits. The technological innovations emerge with the goals of strengthening dominance of capital and oppress/control workers.

Powerful corporate forces are capable of appropriating the final results of modern research developed in public sector labs and grab patent rights. It is truly a social betrayal in brutal terms, to get patent right on the knowledge developed by human kind collectively over the generations for the betterment of humanity. Their accumulated capital in various forms finds easy ways to move to any country. Moreover, the emerging economies invite them by offering various concessions and incentives and accepts various conditions. The capital flows to third world countries creates the problem of unemployment in rich nations. The problem of unemployment, no job security, vulnerable working conditions, environmental degradation continuously intensify in third world countries. In order to raise their profits abnormally, the monopoly capital always tries to negate labour and labourers. All this results in the excessive rise in economic inequalities. The crisis will become complex and critical. The scientific research will be mainly towards wars, preparation of wars in the name of peace, the production of super luxury goods and related excessive advertisements. The permanence of unemployment, insecure jobs, erosion of labour rights and associated challenges throws the working class into pessimism. They will find their way out in Black magic, mysticism, religious superstitions etc. This works as a serious obstacle to raise the proletarian consciousness. Every innovation designed by Finance Capital creates new problems and new contradictions. It strengthens the cultural distortions.

We are mistaken to assume that these problems are confined to emerging economies, informal sector and unskilled labour. Recently, Elon Musk, a corporate giant, who appropriated Twitter, removed 10,000 highly skilled employees with just one mail. The remaining powerful corporate forces are following the same. The process of appropriating entire wealth by Monopoly Capital will not be smooth. It raises all kinds of discrimination, creates 'Criminal World' and strengthens it. Further, it traps the youth belonging to oppressed class, who suffers from various survival problems and whose lives are in critical conditions. To suppress the emergence of working class consciousness, the Finance Capital seriously tries to distort the youth, to harness their weakness through corporate media, internet, drugs etc. and finally moulds them as lumpen group. The political leaders always maintain these lumpen youth to prove their dominance, to continue their corrupt practises like land grabbing etc. and finally to win in elections. The cultural distortions will take the form of celebrations of various religious festivals like celebrations of Vinayaka chavithi etc.

Will the Critical Lives of Majority People Continue Permanently?

It is impossible to solve the crisis from within the framework of this exploitative system of monopoly capitalism. Moreover, the system will intensify the crises. This imposes additional burden on the revolutionary forces who tries to raise the consciousness level of oppressed class to consolidate them.

The development for the people and by the people will be possible only in the Socialist System which is emancipated from profit motive, market forces and individual private property. The technological innovations should not be for the wealth accumulation of billionaires but for the welfare of the society as a whole. This articulates higher level of social and human relations. The establishment of Socialist System in Soviet Union proved that the system will ensure decent lives to all. However, the reasons for its collapse should be discussed separately. The building of Socialist System is the only alternative to solve the crises created and intensified by the exploitative capitalist system. This warrants the building of strong struggles to direct the movement of society towards proper practical lines.