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The economic, demographic and social aspects of sustainable development

Abstract: In this paper, we have defined *Sustainable Development* as an approach to the overall development of a society that seeks to improve the ability of current generations to meet their needs, while preserving resources and leaving the possibility for future generations to satisfy their needs in a versatile and sustainable way. In this paper, we will argue that sustainability and sustainable development is a very complex problem and it encompasses a variety of elements concentrated in many social areas, such as ecology, economics, social relations, political relations and culture. So we will observe the term "sustainable development" as an integrative process of contemporary society, going from local communities and groups, through regional units, to the global level of modern society. In this paper, we will concentrate on the economic, demographic and social aspects of sustainable development and sustainable society, because they are the premise and basis of every other form of sustainable society.

Key words: *Sustainable development, economics sustainability, social and demographic aspects of sustainability*

Introduction

When talking about sustainable development, the most topics, materials, and attitudes are encountered in contemporary literature, and the largest number of authors pay attention to debates about environmental sustainability. Many scientific

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meetings, discussions at UN conferences, and other international gatherings are dedicated to environmental sustainability. Environmental problems became the focus of public interest, national and international activities in the 70s of the 20th century, and since then they have been constantly discussed. In this paper, we will advocate the position that sustainability and sustainable development is a very complex problem and includes many elements of concentrated and multiple social areas, such as ecology, economy, social relations, political relations and culture. Specifically, in this paper, we will concentrate on the economic, demographic and social aspects of sustainable development and sustainable society, because they are the premise and basis of every other form of a sustainable society.

Economy and sustainable development

Although the ecological dimension of sustainable development is the focus of all research, it should be emphasized that the economic dimension of sustainability is equally important. Actually, these two forms and two dimensions of sustainability are mutual, connected, intertwined and interpenetrate each other (condition each other). As Roberts emphasizes (Roberts, 1994: 37-53), the basic principles of sustainable development for any local and regional policy should strive for the integration of economic and environmental issues through three main components: a) the economic component, which includes the search for new forms of economic activity and types of business organizations that show a high degree of consideration of the consequences of their operations and that try to minimize the harmful effects on the environment and social relations; b) the social component, which implies the desirability of movement according to the pattern of spatial and social organization and which minimizes unnecessary or excessive use of resources, maximizes impacts on the environment and increases the standard of living and social protection; c) the ecological component should give priority to combining business and social elements with spatial problems in order to ensure ecologically responsible and socially balanced planning and development of local and regional space and society level.

Economic sustainability involves looking at the relationship between economic development, infrastructure, population, markets and resources. Similarly, transport and related infrastructure development play an important role in the relationship between places of residence and employment, that is, the movement of goods as economic activities. Initiatives for this can try to ensure that local transport strategies meet the needs of inward investors with a minimal negative impact on the environment. This could be an incentive for local levels of social organization to realize good public transport services or to locate near rail or water transport in cases where companies have large freight transport needs. For example, the “Business Circle initiative” in Verten (Stockholm), has led to local businesses influencing

public transport timetables in that area of the city, as well as mapping traffic flows for faster travel and better business in the area, with the aim of encouraging shared, more efficient travel planning (Hoff, 2011). In Trondheim (Norway), the municipality has introduced a fee for cars entering the city center, with differentiated tolls by time and the revenue is used for investment in transport. A similar scheme, but aimed at air transport, was introduced in Zurich with a landing fee surcharge for aircraft with high emissions (Rockstrom, J., Steffen, W, 2009: 472-475).

Although multinational companies may play a key role in some local environments, "it is unlikely that real progress can be made without the active participation of the majority of SMEs in environmental management partnerships" (Carls Pezzey & Toman, M. Allen, 2005:141). However, many such companies lack the resources, expertise and reliability needed to develop an environmental improvement program and may lack any formal strategic planning process. The goal could be to encourage "organic growth" of the local economy, provide advice and training to local companies, direct aid to new start-ups and expansion of existing small businesses, and include the principles of good practice and social responsibility in the criteria for such support programs.

Various schemes have been developed to address the environmental concerns of small and medium-sized enterprises. For example, the Internal Environmental Protection System in the area of Gelderland in the Netherlands has established a formal environmental management system in small businesses, including training for company managers, conducting production process assessments and advising companies on environmental management practices. In the London Borough of Sutton, the "Business Eco-Logic" project provided advice on energy savings, waste management, resource reduction and environmental management to local SMEs. In Wiltshire, the "Wiltshire Center for Sustainable Development" aims to provide education and training courses, as well as general advice, information and demonstrations on resource management and new environmental technologies. For business, the Center's service will include business advice and support, a "start-up" facility for sustainable business activities, and energy advice. In Bradford, the "Bradford City Council" was founded in 1994. Bradford Business and Environment Support Team (BEST) to enable SMEs to provide practical support for the environment. He also chaired the "Bradford Forum for the Business Environment", which provided local businesses with information on environmental legislation and opportunities, encouraged environmental action and acted as a platform for disseminating information on good practice. BEST was responsible for leading the "Bradford Business Local Agenda '21" consultation process and worked with a number of organizations to develop environmental training packages for use within the national network of business links, including the "Bradford City Challenge", RETEX (an EU program aimed at area regeneration for textile manufacturing), Bradford City Council and the local training and enterprise council (Daly, 2004: 1-6).

Various local authorities have encouraged the development of "green" business clubs or networks. For example, the "Calderdale and Kirklees Green

Business Network" in the UK aims to encourage good environmental management in local businesses through improving competitiveness, efficiency and employment opportunities. The network offers practical support and advice to local businesses, especially small and medium-sized enterprises, runs a waste storage and control project and an environmental waste compliance scheme, as well as encouraging the exchange of experiences through meetings to network all local activities on the "green economy" program (Daly, 2004: 5). Advice is given in areas such as pollution, waste minimization, energy and water efficiency, as well as legislation and management systems. The exchange of information and experience in improving the performance of SMEs and linking them to improving competitiveness has also been the subject of a joint EU project involving Bristol, Berlin, Copenhagen and Vienna.

All issues about technological change and sustainability can be broadly divided into two main areas. First, there has been a trend toward greater use of information and communication technologies that will have positive impacts on the environment and contribute to sustainability. Second, the activity was focused on changes in production technology, related to pollution problems and the development of cleaner technologies that reduce emissions of harmful substances as an integral part of the production process. It is a potential that is offered through the greater use of information and communication technologies. The growth of dispersive and decentralized industry enabled by greater use of ICT, which includes greater local control over the economy, is a theme often developed in the environmental literature. In this process, more independent local economies will develop in the future, whereby local control somehow leads to a reduction in the use of non-renewable resources and pollution. Encouraging telecommuting is the subject of a number of pilot projects in some US states, including California, Oregon and Washington.

Sustainable development from an economic point of view implies an integrative approach of the relationship between economics and ecology or a kind of "ecological economy", which is based on three fundamental principles: a) ecological services that are needed to sustain life must be rational and conserve resources, while the levels of waste and pollution they must be such that ecological capacity and biodiversity can assimilate them without damage and degeneration; b) consumption of resources must be within the production capacity of renewable sources; c) consumption of non-renewable resources should be balanced with investment in those non-renewable resources (Daly, 1990). This approach assumes that certain types and amounts of natural capital are essential not only for economic growth but also for sustaining economic activities. Therefore, capital created by human labor is not sufficient to replace natural capital to sustain human activities. Pezzey and Toman (2005:121-141) defined this concept as "strong sustainability", which means that natural and created capital should be in balance in order to create prerequisites for sustainable economic development.

One of the indicators of sustainability within this conceptual theme is the "ecological footprint" (ecological seal). "Ecological footprint" measures the

biological capacity or land area required by an ecosystem to produce the resources humans consume and absorb the wastes humans generate (Wackernagel & Rees, 1998). "Ecological footprint" is an indicator of the degree to which these mentioned activities extend to the use of renewable resources. The use of non-energy biological capacities can be measured by excluding the "footprints" necessary to absorb carbon dioxide emitted during energy production and use.

According to the views of neoclassical economics, replacing natural resources with artificial (human) capital would alleviate the negative economic consequences related to the physical scarcity of resources. When there is a market, an increased price would indicate an increase in resource scarcity, giving an incentive to the development of substitutions. As long as human capital leads to replacement of the current resource and there are plenty of options for replacement, limits to growth would be avoided. Decreasing returns on investment reduces capital accumulation along with a reduction in available resource inputs. Technological change could increase the productivity of capital and resources, which sustain growth, offsetting diminishing returns. Therefore, resource substitutability and technological innovation determine the physical limit of economic activities that require non-renewable resources as inputs. The sustainability indicator of non-renewable sources, within this market approach, is the cost of extracting primary energy resources. Physical depletion of non-renewable resources would not occur, because society as a whole tries to avoid consumption, because the depletion of resource stocks makes production, and therefore consumption, impossible (Smulders, 2005). Neoclassical economics predicts that society will reduce the current accelerated consumption of resources and, in return, conserve (save) resources for future consumption (especially of new generations) when they are close to complete exhaustion. Therefore, the substitution of non-renewable resources is the key message and practice of "ecological economy" which should dominate the economic dimension of sustainable development in the 21st century.

Of course, basic human needs include access to food, water, and energy. The sustainability of food and water supplies is a part of the material circulation in which the use of energy is also significant. Food and water production, transport, and waste management require the use of energy, and energy production requires the use of water, which creates a certain circulation dependency and challenge for sustainability.

Physical indicators following the above principles include: (a) the degree of dependence on natural hydrocarbon constituents for heating (including motive power), transportation and electricity generation; (b) the amount of natural hydrocarbon constituents in relation to natural energy; (c) biocapacity of using the non-energy "ecological footprint". All this indicates that energy affects the production of food, and that we can state that energy is one of the basic human needs. Economic indicators for measuring the state of transition include the cost of natural hydrocarbon extraction in relation to the scarcity of natural energy. Food and water prices can signal some part of the state of (un)sustainability of renewable material flows. However, this is questionable because the ecosystem services needed

to maintain food production and stable water circulation in the Earth system would not exactly be maintained at a high market price.

Although these physical and economic indicators are useful for tracking the overall direction of sustainability, the natural and social sciences cannot provide accurate forecasts for the future, but can only provide a track record or best estimate of past and present situations of resource status and economic sustainability. It is necessary to distinguish what happened in the past from future uncertainty in order to take it into account as a practical guide for activities in building a possible transition of an environment or society from bad to good sustainability.

Operational principles of sustainability and relevant indicators of sustainability also include knowledge produced by individuals and/or groups, which is potentially shared and used in society, from global to local scales. In order to evaluate the social process of production and use of knowledge in the transition to a new level of civilization, it is necessary to examine the reasons why some types of principles and indicators are widely produced, shared or used, while others are neglected. Physical indicators proposed by the "ecological economy" sometimes face difficulties in generating and collecting objective data, although some methods, such as the "ecological footprint", are widely used. These practical difficulties would also hinder the use of some indicators that are appropriate for measuring the sustainability transition.

Population dimension of sustainable development

For the consideration of sustainable development, one of the most important parts and issues is the population dimension, that is, the number of inhabitants from the local to the global level. Demographers and scientists of other sciences say that the 20th century was a century of rapid population growth and that a "demographic explosion" took place because the world population increased from 1.6 billion inhabitants at the beginning of the 20th century to 6.1 billion at the end of the 20th century. During the last two decades of the 20th century, the number of people in the world increased by about two billion people. No other period in human history has had such an increase in population. In September 2022, the population reached 8 billion. However, in the second half of the 21st century, the world will probably experience much milder population growth and possibly even mark the beginning of a decline compared to the previous period. Around the year 2100, the nearly two-century expansion of the world's population will come to an end. Forecasts say that the end of the 21st century will mark the end of the great increase in world population and will become the century of population aging (Ehrlich & Ehrlich, 1990). So, we are at the crossroads of two different demographic paths, on the one hand, there are countries that continue to experience high rates of population growth and on the other hand, there are countries that are already facing a rapidly aging population.

The rapid growth of the population in the 20th century, and especially the acceleration of the growth rate after the Second World War, led to the use of the term "population explosion" and related issues, problems and fears of hunger, socio-economic collapse and environmental disasters. Recently, significant aging of the population has been observed, especially in developed countries, which has led to the emergence of fears that public pension plans will fail and that those countries are most affected (mainly in Western Europe, Scandinavian countries and Japan) by the demographic transition, which could mark entering an era of economic, social, political and cultural stagnation.

Population, and especially the related issues of changing family forms, abortion, and migration are topics on which many people (scientists, politicians, planners, and ordinary observers) have their own views. This may be because, unlike many other subjects of scientific analysis, these topics directly touch the lives of almost all citizens. Everyone has a family, and many people have or are thinking of having children. Similarly, most people are involved in the labor market and are personally concerned about the security of their pensions. Obviously, questions about changes in the size and structure of the human species, our nation, or our ethnic group interest us in a rather existential way. Even many people who do not adhere to collective goals and are only interested in the possible implications of population trends for their own well-being believe that, at least in the medium and long term, population trends matter, whether in terms of population growth or population aging. It is clear that today we stand at the crossroads of two demographic regimes: further population growth in a large number of (underdeveloped) countries and significant population aging in the most developed countries.

Forecasts about stopping the rapid growth of the world population are based on the data that the annual growth rate has decreased from 2.1% in 1970 to 1.25% in 2010, and that the fertility rate has decreased from 4.46% in 1975 to 2.57% in 2010. Demographers believe that by the end of the third decade of the 21st century, it will decrease to the level of simple reproduction of about 2.1 children per woman. Armenia, the Bahamas, Barbados, Costa Rica, Cuba, Kazakhstan, Mauritius, Seychelles, Sri Lanka, Thailand, Trinidad and Tobago, Tunisia and Ukraine are among a much larger group of developing countries that now have fertility rates below the prime reproductive level. In fact, fertility in countries that together account for 45 percent of the world's total population is already below the level of simple reproduction (2 children per woman). Unfortunately, in some parts of the world, mainly in Africa, pandemics due to acquired immune deficiency syndrome (AIDS) have contributed to the increase in mortality, which will affect lower future population growth (Population Reference Bureau, 2003).

The demographic difference between young and still growing populations, on the one hand, and rapid aging and even population decline, on the other, means that we live in a seemingly paradoxical situation, which seems confusing, because we do not know whether it should be lower or higher fertility percentage. Such seemingly contradictory events and problems cannot be adequately explained by one

or the other existing conventional analytical frameworks used to study population. What is needed is a new, broader, multidimensional population paradigm that Kirk called "population balance" (Kirk, 1996:361-387). Unlike older concepts such as "population stabilization" that narrowly focus on population size, population balance simultaneously takes into account population size, age structure, and educational composition of the population.

Social aspect of sustainable development

As an indicator of the social state and social sustainability of society, the concept and scheme of gross domestic product (GDP) per capita is used almost exclusively. In the previous three decades, the GDP/PPP indicator (purchasing power parity)² has been used as a somewhat more precise indicator of the social state of countries and their population. However, it is an insufficient indicator for a comprehensive measure of quality of life and development, as it fails to capture the full distribution of income and wealth, nor does it show other important intangible aspects of well-being, such as education and health. Due to these shortcomings of GDP (GDP/PPP) per capita as the only indicator of social sustainability, UNDP offered a more comprehensive alternative by introducing the HDI formula (used since 1990). This index combines indicators of life expectancy, educational attainment and income into one unit on a scale between 0 and 1. The HDI (Human Development Index), which serves an important purpose in paying more attention to the social aspects of development, but also has some notable shortcomings (Kelley, 1991:315-324). The most problematic aspect of the HDI is that it is a highly abstract index that has no analog in real life. Partly for this reason, GDP per capita remains very popular because it somehow indicates the average amount that people receive as wages, although it is derived very differently.

LLE (Literate Life Expectancy) is used as an indicator of social development and quality of life, which combines two main dimensions: life expectancy and its empowerment through literacy. This indicator can be interpreted as the average number of years men and/or women live in a country with a certain level of literacy. The indicator includes mortality rate, specific age, literacy level, and certain lifestyle (Lutz, 1994/95:1-5). Thus, the LLE indicator classifies the population according to

² Purchasing power parity (PPP) is a measurement of the price of specific goods in different countries and is used to compare the absolute purchasing power of the countries' currencies. PPP is effectively the ratio of the price of a basket of goods at one location divided by the price of the basket of goods at a different location. The PPP inflation and exchange rate may differ from the market exchange rate because of tariffs, and other transaction costs. The purchasing power parity indicator can be used to compare economies regarding their gross domestic product (GDP), labour productivity and actual individual consumption, and in some cases to analyse price convergence and to compare the cost of living between places. The calculation of the PPP, according to the OECD, is made through a basket of goods that contains a "final product list [that] covers around 3,000 consumer goods and services, 30 occupations in government, 200 types of equipment goods and about 15 construction projects". [Krugman and Obstfeld (2009). *International Economics*. Pearson Education, Inc. OECD. "[Purchasing Power Parities - Frequently Asked Questions \(FAQs\)](#)". OECD. OECD.]

age, literacy status and mortality rate. Since 1995, the LLE indicator has been applied to many settings as a descriptive indicator, ranging from the comparative analysis of Mexican provinces to the comparison of major world regions. For now, however, LLE is calculated for 13 world regions.

The advantage of the LLE indicator compared to other indicators of social development is that it has a clear interpretation in terms of the individual life cycle. LLE can be directly interpreted as the average number of years of the life of people with an average literacy level (being able to read and write). It is not an abstract index on a relative scale, but is expressed in terms of individual years of life, indicating real experiences (just as GDP per capita indicates the amount of money). Unlike GDP per capita, LLE can be easily measured for men and women separately, making it well-suited for gender-specific analyses. It can also measure other subgroups of the population, be it urban or rural areas or provinces. This ability to describe within-country differentiations is another major advantage over the HDI, which depends on national calculations. It might be useful to compare these two very different types of indicators (LLE and GDP) because one is based on the individual characteristics of concrete people and the other on abstract economic accounting.

How useful an indicator is depends not only on its properties (as described above) but also on whether it actually measures what we want to measure. It must be emphasized that each individual numerical indicator is somewhat reductionist and brings less information than a set of different indicators. However, we must use a larger number of indicators because there is a possibility of selecting indicators and applying those that are more useful for a given purpose than others.

LLE (life expectancy and literacy) as a collective indicator of social development is based on two basic principles, and sets of indicators: a) age-specific mortality rates and b) age-specific literacy. There are compelling arguments for taking individual probabilities of living to old age and enhancing the quality of life through additional education as two of the most important and least uncertain aspects of human quality of life. Personal survival to old age and survival in the immediate family and among close friends are some of the most universal human aspirations imaginable. Individual life and its meaning is a necessary prerequisites for enjoying any quality of life. In economic terms, the increase in life expectancy is linked to the volume of investment, production, and consumption at the local or national level, while LLE adds longevity and literacy that can empower life in old age. Here we see that the combination of indicators is important for measuring the social aspect of sustainability.

Increasing life expectancy facilitates development, social progress and quality of life in a comprehensive manner at the societal level. Life expectancy is related to most things that we consider important elements of quality of life (effective health care, good housing, modern technology, good social security and economic infrastructure, safe working conditions, quality education, intellectual stimulation, etc.) Also, quality of life is made up of things that we want to avoid (armed conflict, malnutrition, poverty, dangerous work, stress, depression, etc.). One

might even go so far as to say that happiness tends to reduce adult mortality, while unhappiness increases the risk of mortality.

Here we will mention another factor that is important for monitoring social sustainability and social development, and that is the concept of *social integration*, which is understood as a procedure or strategy of including all social layers in the development and progress of society. However, some researchers believe that it is an unjustified imposition of uniformity or external ideals and values and disrespect for sociocultural differences among people. Here we will understand social integration as a process that deals with social differences and exclusion of people, members of a social group, who are denied equal access to resources, services, benefits and rights enjoyed by others in society. Such services, benefits and rights include access to education and health care, work and employment, participation in economic, social, political and civic life, and strong social ties with family, local community and voluntary associations.

This is particularly evident in today's rapidly moving process of globalization or global integration. However, not all countries and people participate evenly and equally and do not benefit from the process of globalization and the expansion of opportunities in the global economy, global technology, global cultural flows and global governance. According to a recent World Bank study from 2002, about 2 billion people (many of them from Asia and Africa) are currently excluded from the opportunity to enjoy the benefits of globalization (World Bank, 2002). But social exclusion is not only a by-product of globalization but is present as a characteristic of all societies when different rules and policies (formal and informal) create certain restrictions on some and favoring others (individuals, groups and communities) in accessing society's resources, as well as the "special" right to goods, services and activities. Certain groups of people are denied opportunities that are open to others, for reasons of age, sex, lifestyle, territorial and class origin, beliefs, physical characteristics and health. It is known that various social processes, institutions and mechanisms exclude people from fully participating in economic, social, cultural and political life.

In contrast to social exclusion, there is social integration as a safer procedure for building social sustainability. In this context, social integration refers to policies designed to better include or integrate those who are excluded from development processes and opportunities. Vulnerable groups are part of existing social networks, including families, households, clans, neighborhoods, communities, schools, and work units, and they require certain patterns of integration into the global or local economic and social environment. The promotion of social integration was adopted as one of the three main goals of the Copenhagen Declaration adopted at the World Summit for Social Development (the other two being the reduction of poverty and the creation of conditions for increased employment). This commitment reads: "We are committed to the promotion of social integration by fostering societies that are stable, secure and just and based on the promotion and protection of all human rights, as well as on non-discrimination, tolerance, respect for diversity, equal

opportunities, solidarity, security and participation of all people, including vulnerable groups and individuals" (United Nations, Geneva, 26 June-1 July 2000).

In the context of the aforementioned "Social Summit", it was pointed out that social cohesion and solidarity are the basic conditions for development and social progress. Therefore, efforts must be made to develop and strengthen institutions and mechanisms that encourage social integration. A well-educated, healthy, decent, socially protected citizen contributes to the social cohesion of the country and gives dynamism to all aspects of life and culture. By promoting inclusion and reducing exclusion and distance from major social resources, social development strengthens democratic institutions and processes, makes social and economic relations more harmonious, and provides a solid foundation for achieving long-term development and prosperity.

It has been noted that many aspects of globalization related to the increased movement of people within and across national borders, increased employment opportunities, and the rapid spread of information technology have provided more opportunities for people to improve their lives and quality of life. These improvements have helped to reduce existing disparities and encourage progress in social integration. However, experiences in this region indicate that many of those groups that are traditionally the subject of some measures for social integration, namely poor women, youth, the elderly, people with disabilities, ethnic minorities, and the indigenous population, are often unable to take advantage of new opportunities. that offers economic and technological development due to existing barriers inherent in traditional socio-cultural norms and practices or other development constraints.

There is another indicator of social exclusion and social difficulties that globalization brings, and that is the increased level of migration, either within countries or abroad. Over the past few decades, this phenomenon has become an important element for millions of people in their personal survival strategy. According to United Nations estimates for the period 1995-2000, in the ESCAP region as a whole, emigration reduced population growth by about 2%. This is only one indicator of the rate of migration in certain countries. Looking at some individual countries, Australia has a net population gain of 80,000 per year, while countries such as Bangladesh, India and Pakistan have experienced emigration losses of more than 100,000 people per year. Similarly, emigration rates are significant in China, Indonesia and the Philippines (UNCTAD, 2000). In the previous few decades, the majority of migrant workers from the region to West Asian countries originated from India, Indonesia, Pakistan, the Philippines, the Republic of Korea and Thailand. Since the 1980s, the newly industrialized economies of East and Southeast Asia (Taiwan, Hong Kong, Singapore, and Japan) have begun to attract migrant workers from less prosperous countries in the region (Seetharam, K.S., Bhakta Gubhaju and Jerrold W. Huguet, 2001: 45- 66).

Conclusion

Capitalism is spreading around the world and establishing a new world order that forces the free market, so the question is what can governments do to protect their citizens from environmental degradation related to industrial economic growth, unimpeded traffic, development and other aspects of sustainable development? We were looking for an answer to the question of how the spread of capitalism affects the economic and social sustainability of modern society, especially in less developed countries. In the paper, we pointed out several contradictions caused by globalization, which represent starting points for considering the overall sustainability of society. Although globalization works in "all domains of human activities" (Rosenau, 1997:365) we pointed out that it is necessary to focus especially on its economic and social components, all through the prism of world population growth with emphasis on the expansion of free markets as the driving force of globalization. Globalization reflects the ongoing "local-global dialectic" or tension between integrative and disintegrative economic and social forces. We concluded that economic, population and social elements are the basis of any discussion and construction of a strategy for the sustainable development of society. On this basis, the ecological, cultural and political sustainability of modern states, communities, and societies can be further developed.

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