

## Ignacy Sachs, the challenge of sustainable development\*

*Ignacy Sachs, o desafio do desenvolvimento sustentável*

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RESUMO: Ignacy Sachs foi um notável economista da escola desenvolvimentista clássica. Nascido na Polônia, estudou economia no Brasil e depois da guerra voltou para seu país de origem para trabalhar no serviço diplomático e realizar seu PhD em economia pela Universidade de Varsóvia. Estudou então com Michal Kalecki. Em 1968, ele se tornou professor na École d'Hautes Études en Sciences Sociales, em Paris, e partir dali se transformou em um dos pioneiros da teoria do desenvolvimento sustentável. Manteve sempre uma relação muito próxima com o Brasil, tendo criado na Maison des Sciences de l'Homme um Grupo de Estudos sobre o Brasil Contemporâneo.

PALAVRAS-CHAVE: desenvolvimento econômico; desenvolvimento sustentável; ecologia; econômico-economics.

ABSTRACT: Ignacy Sachs was a notable economist of the classical developmentalist school. Born in Poland, he studied economics in Brazil and after the war returned to his home country to work in the diplomatic service and pursue his PhD in economics at the University of Warsaw. He then studied with Michal Kalecki. In 1968 he became a professor at the École d'Hautes Études en Sciences Sociales, in Paris, and from there he became one of the pioneers of the theory of sustainable development. He has always maintained a very close relationship with Brazil, having created a Study Group on Contemporary Brazil at the Maison des Sciences de l'Homme.

KEYWORDS: economic development; sustainable development; ecology, economic-economics.

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## INTRODUCTION

Ignacy Sachs (1927-2023) was a developmental economist, a pioneer of sustainable development, and a political economist for whom social structures, power relations, institutions, and moral values were as important as market economic relations. In this essay, I want to discuss these three aspects of the wonderful human being and notable economist who, in Brazil, where he spent his youth and always maintained a strong connection with the country, he liked to be called Ignacio.<sup>1</sup>

The twentieth century was the century of the social sciences and, as a result, was marked by important advances in economic theory. From the 1930s onwards, it was the time of the Keynesian revolution and, from the 1940s, of the emergence of the classical structuralist developmentalism of Raúl Prebisch, Hans W. Singer, Arthur Lewis, Michal Kalecki, and Celso Furtado, and since the 1980s, of the neo-classical and neoliberal reactions. On the other hand, after the Second World War, it was the time of social democracy and the construction of the welfare state – a type of social formation that had Keynesianism and classical developmentalism as its theoretical bases. Finally, after the United Nations conference in Stockholm in 1972, the world turned to the problem of protecting nature and, sometime later, to the fight against global warming. Sachs was a very present player in these three projects: the developmentalist, the social democrat, and the protector of the environment, all three of which were united in the concept of sustainable development.

Sachs had a triple nationality: he was Polish, Brazilian, and French, and almost Indian because he had fallen in love with India when he was doing his PhD in economics at the University of Delhi. Polish because he was born in Poland, had fled Nazism with his parents, and returned to Poland after the World War II; Brazilian, because he studied in that country and turned Brazil into the main focus of his consulting; French, because France was the country that welcomed him in 1968.

Leaving Brazil, in 1954 he returned to Poland to work in the government and do his PhD, but he did so in India, where he served as second secretary of the Polish embassy for three years, between 1957 and 1960. In Poland, he met Michal Kalecki who, independently of John Maynard Keynes, created macroeconomics and, after World War II, participated in the classical structuralist school of development. Upon his arrival in Poland, he befriended Kalecki and, on his return from India, became one of his main assistants, heading the new Centre for Developing Economies. In 1968, when anti-Semitism had once again taken hold of his native country, Sachs went into exile, this time in France, where he quickly became a professor at the École d'Hautes Études en Sciences Sociales and founded, in 1973, the International Center for Research on Environment and Development (CIRED), which exists today and of which Sachs had been director until 1986. He then created the Center for Studies on Contemporary Brazil (CRBC), also at the École.

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<sup>1</sup> In 2013, after Sachs published his memoir, I wrote my first article about him, “Ignacy Sachs and the spaceship Earth.”

The privilege of having Michal Kalecki as the inspiration for his thesis on India is something that Sachs has repeatedly emphasized. He was thus expressing an old truth: the recognition of the masters is a sign of the greatness of the disciples. In his doctoral dissertation, *State Capitalism and Underdevelopment* (1960), Sachs found that after World War II, the state had increased its participation in the economy and that the ‘mixed economy’ model had become dominant in rich and developing countries. Among these countries that are on the periphery of capitalism, he sees two models of development: the Japanese and the Indian. The Japanese model, which implies (a) a broad association between the public bureaucracy and the capitalist class: “the public sector should have a permanent place only to cover social spending in the field of public services, by providing financing to private enterprises...; (b) the State can embark on new industrial adventures, but privatization is planned...; (c) the state facilitates the formation of monopoly groups.” The Indian model, on the other hand, “excels in ensuring the primacy of the state in the basic sectors of industry, by weakening the concentration of private capital, and presupposes a global system of planning” (Sachs 1960, p. 95, 202). As far as Brazil is concerned, Sachs has foreseen the preponderance of the Japanese model. After all, we now know that the Japanese model has prevailed not only in Brazil, but in all lagging countries that are searching to catch-up – a model of development in which the state controls and plans a significant part of the monopoly sector of the economy, but privatizes the competitive sector, leaving its coordination to the market. This has been combined with a tariff policy and a strategic industrial policy.

Sachs was a great intellectual who rejected the ivory tower of the university and was always and vigorously immersed in practice. In this practice, he always defended his ideals of freedom, social justice, and environmental protection. Always utopian, but also always pragmatic, involved in the definition of and participation in viable projects of economic, social and environmental interest, which strengthen the poor, especially those who work the land. Or to provide a solution to major global problems, such as protection of nature. He did not accept the offers of positions he received within the United Nations system, but followed the advice of his master, Michal Kalecki, when he left Poland: “If you can, be a consultant.” For Sachs, life was a succession of projects of general interest that he helped to define, and then, was the object of his action as a consultant. Theory appealed to him, but he was always focused on action. At each meeting, he told me about his projects. More general projects associated with sustainable development, but also specific and microeconomic projects distributed throughout Brazil. Like all people endowed with a republican spirit, he did not save the world but made his generous and determined contribution in this direction.

## THE ECONOMIST

In his doctoral thesis, defended at the University of Delhi in 1960, Sachs (1960, p. 25) is a Marxist, and his first problem is to define underdevelopment, which he considers to be the result of a “colonialism that has meant at least the imposition of an exogenous and uprooted capitalism on pre-capitalist structures.” Today, it is still the logic of imperialism – to impose on developing countries the logic of market capitalism, although that has not been the way the Global North guided its own process of industrialization. But he remarks that this analysis is very general. More useful is the thinking of the developmental economists of the time, among whom Sachs points out Hans Singer, who indicated the difficulties that exist in adapting the technical processes existing in the advanced countries to the conditions of the underdeveloped countries. And who shared with Prebisch the theory of the deterioration of the terms of trade.

Chapter 4 is the culmination of the thesis. Sachs (1960, p. 83-84) associates himself with Oskar Lange and rejects the simple identification of the state as an instrument of the ruling class. This identification is true for the advanced capitalist countries, but “the creation of a nationalized sector with the character of state capitalism is a step forward in underdeveloped actions.” And the author adds: “Under conditions in which social stratification has not yet progressed and in which the state is not an instrument of domination by the bourgeoisie or feudal lords, and in so far as it has become an expression of the broad national struggle for dependence, state capitalism can accelerate growth.” This is the position of a development economist at a time when developmentalism was more statist than it is today.

Given his dual training, Ignacy Sachs has always been a political economist whose nature he defines. “The *political economy* of development sacrifices the elegance of mechanistic models and the simplifications of *homo economicus* in the name of understanding decision-making processes, the power relations between the relations of economic and social agents, and their behaviors and strategies” (Sachs, 1968a, p. 14). This is the radical rejection of neoclassical economic theory.

Sachs’ master, Michal Kalecki, besides a macroeconomist in the 1930s, in the post-war period was also a developmentalist economist; he never believed in the alternative to developmentalism – economic liberalism. Actually, there are only two forms of economic coordination of capitalism, either developmentalism or economic liberalism. I know that the word ‘developmentalism’ does not have such a generic meaning in the economic literature, but when, in 2017, I wondered what the alternative form of economic liberalism was, I realized that there was no word for it. The closest thing to this was the “mixed economy,” which Sachs used at one time and which today I call “developmental economics.” The idea is that the developmentalist form, which involves moderate state intervention in the economy and a national perspective, is the superior alternative to the liberal form of coordination of capitalist economies. A developmentalism that is necessarily anti-imperialist and can be either progressive, as it was in the golden age of capitalism, after

the World War II, or conservative, as it was in the era of mercantilism and as today in the United States, after the failure of neoliberalism.

In terms of the scientific method, he adopted a historical perspective, rejecting the hypothetico-deductive models of neoliberal and neoclassical orthodoxy. For him, there is no such thing as pure social science: “When we set aside the models of pure theory and turn to the more ‘realistic’ mechanisms of action, specific to a particular economic system in a given context of circumstances, the use of the models becomes effective and, in our opinion, recommended” (Sachs, 1963, p. 21).

For him, economics is a theory, and it is also a way of thinking associated with practice. As he tells us, “the social sciences essentially have a heuristic value [of helping to think]. They help to ask the right questions, the relevance and articulation of which are not at all obvious and which would not occur to an un-informed observer. But the answers to these questions can only come from praxis” (2007, p. 323). A historical-deductive economic theory does not have the elegance of mathematical models, but it reflects reality and gives clues about macroeconomic policy and development policy. It allows for an economic policy based on political and social reality, on the division between rich and underdeveloped countries, on the difference between the center and the periphery, or more precisely, between the Empire and the semi-colonies of the periphery of capitalism.

In 1964, when Sachs published *Foreign Trade and Economic Development*, we already saw the development economist fully trained. And from the beginning of the book, he tells us about the straitjacket of the international division of labor that was imposed by the imperialist powers during colonial rule or as a result of “indirect domination” (Sachs, 1964, p. 2). “Indirect” or “ideological hegemony” domination, as I say it today, is the use of all the “soft power” of the Empire to persuade/pressure the peripheral countries to adopt economic liberalism and, in this way, to prevent them from industrializing or, if the country had already industrialized, to cause their deindustrialization, as happened with South America from about 1990 onwards. Economic liberalism is thus an instrument of imperial domination. This has happened when Britain tried to persuade the Germans not to industrialize, and continues to have this role today.

For Sachs, domination imposes the international division of labor, with rich countries exporting manufactured goods, while underdeveloped countries export raw materials. It is an unequal exchange that is at the center of the thought of Raúl Prebisch (1949), who was, I believe, the most important development economist, as well as the theses of external restriction and deterioration of the terms of trade, which he used to criticize neoclassical economic theory and defend industrialization. At the time, our author was not fully aware of Prebisch’s contribution, but it was clear to him that the international division of labor was not a “natural” thing. Although the division stemmed from the fact that the rich countries had made their industrial and capitalist revolution from the late eighteenth century to the late nineteenth century and had the technology and capital and, therefore, the power, they used their power to keep it permanent. For Sachs (1964, p. 8), “the interna-

tional division of labour will be determined to some extent by the evolution of the balance of political power in the world.”

I conclude this presentation of Ignacy Sachs as a development economist with his book, *A Political Economy of Development*, from 1977. It is a compilation of several articles he wrote as a consultant to the United Nations. Several of them refer to Latin America. The first article, from 1968, “Long-term Planning in a Mixed Economy” (1968a), is based on several studies by Kalecki written a little earlier.<sup>2</sup> Sachs means a “mixed economy” as an economy in which there is a dynamic public sector and a large private sector, both modern and traditional. This is the very concept of developmentalism which, according to Sachs/Kalecki, has three characteristics: planning through the control of investment; the control of foreign trade, capital movements, and the exchange rate; and indirect control of price levels. So, it was a strong developmentalism, not very different from what was adopted in Brazil in the 1950s, when growth accelerated, and no one was talking about economic liberalism, which had been demoralized since 1930.

It is also in this book that Sachs reveals that he has studied the Latin American structuralism of ECLAC and that he uses his work to propose the mobilization of domestic resources for investment. For him (1968c, p. 36, 38), “the underdeveloped economy is essentially an economy limited by supply, as well as by insufficient demand and untapped capacity.” The limitation on the supply side is due to the lack of capital, technology, and skilled personnel. On the demand side, he distinguishes between the essential goods sector and non-essential goods and argues that the latter “satisfy the selfish interests of an elite”, and do not contribute to the long-term growth process.” It is not Sachs the economist, but Sachs the political economist who is speaking at this moment. He is the morally indignant man he has always been. But capitalism is perverse. In 1968, the “Brazilian miracle” began, which lasted until 1973, with growth rates of more than 10% per year. And what drove demand was the increase in inequality and the incomes of the middle class and the wealthy class who bought the cars and other luxury goods that the country produced.

For Sachs (1968b, p. 46), “the development of several Latin American countries was distorted and eventually took the form of ‘perverse growth’, which is essentially due to the role of the market in factor allocation.” Economists who believe that “if an investment is profitable, it *ipso facto* meets the criterion of social utility” are mistaken. However, a sound investment policy must be based on the objectives set in the plan on the basis of considerations that have nothing to do with the rate of profit of an individual company.” Here is the economist who, at the time, shared with Celso Furtado the belief in the economic planning of capitalist countries. The neoliberal turn that occurred in the United States and the United Kingdom in 1980 (and in Latin America around 1990) undermined this belief, France was also devel-

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<sup>2</sup> See collected works by Michal Kalecki (1971); George Feiwel (1975).

oping rapidly in the 1960s and 1970s and had a General Planning Commission.<sup>3</sup> However, since 1980, the planning of the bursars seemed impossible. For Sachs, it was not.

In summary, as an economist, Sachs was a critic of the neoclassical economic theory that serves as the theoretical foundation of economic neoliberalism. The price paid by the world for the adoption of this theory and the corresponding neoliberal orthodoxy has been very high. This involved an attempt at a radical separation between science and morality in the name of an arrogant view of the social sciences as something as objective as the natural sciences. The world of being is one thing, the world of should be another, but if this distinction is made in a linear rather than dialectical manner, the result will either be an excessive belief in science or the attribution of a secondary role to moral questions. Sachs was an economist, but he was never unaware of the moral character of his science. On the contrary, although he knows well the difference between the two fields, he does not let himself be carried away by the beautiful song of science. For him, a social science is only legitimate if it is linked to values, if it is committed to the common good.

In one of his last works on the theory of economic development, “Revisiting development in the twenty-first century” (2009), he makes a broad analysis of the economic theory of development, how it flourished in the golden age of capitalism (1945-1975), and how it entered into crisis in the darkness of neoliberalism (1980-2020). He also analyzes the crisis of regimes that have tried to implement socialism but have failed, “because they have proven not to be a viable alternative to Western consumption patterns and lifestyles.” The main problem, however, was political: after all, the Soviet Union was an authoritarian regime that imposed itself in an imperialist way in Eastern Europe. There is, however, an alternative to liberal capitalism: “mixed economies” or what I call “developmental capitalism”. In his words, “the failure of real socialism and the deadlocks of neoliberal market theology indicate that the dominant institutional system will be that of mixed economies with a strong but regulated market sector, and with a significant presence of the developmental state” (Sachs, 2009, p. 14).

## THE ECO-ECONOMIST

In 2007, Sachs published his memoir, *The Third Shore*, in which he recounts how, in 1970, a friend of UNESCO invited him to participate in the first international conference on the environment in Tokyo. He hadn’t studied the subject before, but from that point on, he began to study it systematically. At this conference, he met William Kapp, who “was by far the most rigorous thinker of the relations between ecology, economics and society” (p. 249). “During this meeting, I under-

<sup>3</sup> The General Planning Commission, created in 1946, was abolished in 2006, although it had long since ceased to exist in practice.

stood for the first time the deep link between the problem of the environment and that of development (...) How should the planner use all his efforts to reconcile the logic of needs with the logic of markets (...) Another growth was needed” (p. 251). Inclusive development involving economic growth, reducing inequalities, and protecting the environment. And give particular importance to the issue of *decent work* – work that is properly paid, and that is carried out in conditions of health that are also acceptable and that gives rise to human relations that respect the dignity of the worker.

Sachs then became one of the leading economists of eco-development or sustainable development. He worked with Maurice Strong and Marc Nerfin on the drafting of the final declaration of the 1972 United Nations Stockholm Conference, from which environmental protection became a global issue and goal. In 1971, economists preparing for the 1972 Stockholm Conference met in Founex, near Geneva. During this meeting, two extreme oppositions confronted each other in terms of the environment and development. On the one hand, the defenders of “uncontrolled growth” who said “First growth and then we’ll see”, on the other, the defenders of “zero population growth, zero material growth”, but in the end, says Sachs, “we succeeded, through the conference, in defining a middle way” in which there was “the articulation of the social, the environmental and the economic” (p. 251-252). A year later, the Stockholm conference itself put the environment on the agenda once and for all. Maurice Strong was its Secretary-General; in the corridors of the conference, he threw out the word “eco-development” which would later be renamed “sustainable growth”; Marc Nerfin was his chief of staff.

In 1973, we had General Pinochet’s coup d’état in Chile. Despite this, ECLAC managed to organize a conference on development styles and the environment in 1974, in Cocoyoc, Mexico, chaired by Barbara Ward. Johan Galtung and Sachs drafted the declaration, which was immediately signed by the President of Mexico, Echeverria Alvarez. “The Cocoyoc meeting,” Sachs comments, “marks a turning point in history (...) An effective fight against underdevelopment requires stopping the *overdevelopment* of the rich, while developing countries must rely on their own strength” (p. 264). Subsequently, the United Nations regional economic commissions organized a series of seminars in other parts of the world. In 1980, however, the UN European Commission in Geneva suspended all studies on development styles. They disturbed the Empire.

Sachs did not give up, but it took a few more years to convince governments that it was necessary to renew the Stockholm Conference. Gro Harlem Brundtland, former Prime Minister of Norway, then devoted himself to this task by leading a group of notables who, in 1987, published the Brundtland Report (1987). It was from this report that the 1992 Rio de Janeiro conference – the Earth Summit or Eco-92 – was born, which met in June of the same year. The results of the summit were significant. Conventions on biodiversity and on climate change or global warming have been signed. The voluminous Agenda 21 document provided a rich menu of actions to be undertaken, which was to be summarized in a series of brochures that were to be distributed in many languages. But this did not materialize.

In his memoirs, Sachs explains that the United Nations was unable to organize the post-conference period. “And to this problem was added a deeper reason. Most of the recommendations of the Rio Summit ran counter to the neoliberal counter-reform that was in full swing at the time” (p. 277).

Shortly after the conference, Sachs authored the study “The Results of the Earth Summit: Advancing the Process” (1993). In it, he states that instead of calling the conference document “Earth Charter”, it should be called “Charter of Life”, “which would be more appropriate for a document aimed at establishing a lasting symbiosis between the *sociosphere* and the *biosphere*, defining rules for the inhabitants of the Garden of the Earth and transforming the ethical principles of synchronic and diachronic solidarity with present and future generations into criteria for action based on equity, social and methodological prudence.” Here is the normative and somewhat utopian philosopher who talks about sustainable development, which combines economic development, the reduction of inequalities, and the protection of nature. The phase that began for Sachs in 1972, in Stockholm, and which culminated in 1992, in Rio de Janeiro, was a fully satisfying phase for him, for the man who had never been a cold economist could now more easily be the moral philosopher he had always been.

After the commemoration of the 30th anniversary of the Stockholm Conference in the Swedish parliament, the President of Brazil convened the conference at Rio+10, and Sachs took over, but South Africa received the idea negatively, and the conference ended with words of no practical consequence. “What is certain, as he said, is that the momentum was broken.” The reduction of greenhouse gases, provided for in the Kyoto Protocol, “represented a tenth of the effort that will be necessary in the coming decades to prevent global warming” (p. 276-278).

## THE APPLIED ECONOMIST

Marc Nerfin, who had taken over the project management of the Dag Hammarskjöld Foundation in 1975, developed the idea of “another development”, which would find its natural extension at the International Foundation for Another Development (FIPAD), located in Nyon, Switzerland, still under the command of Nerfin. Since the preparations for the Stockholm Conference, he had become a close friend of Sachs. The work they have carried out since then, and which has been summarized here, was associated with the FIPAD, which operated until the early 1990s. It was here that the project of the “third system” on the emerging power of organized capitalist society was born. Thanks to this project, it has been possible to organize hundreds of conferences and to publish files on hundreds of projects by those who have difficulty making themselves heard. Sachs states that “I have undoubtedly experienced at Fipad the most enriching period of my career, by the diversity of the people I have been able to know there and the intensity of the debates with which I have been associated” (p. 287).

Now we have the applied economist associated with FIPAD. Every time I met

him, he had new stories to tell. Some refer to his plans to defend small farmers – as when he advised Sebrae to develop a project to produce oil palm in family units combined with commercial processing plants. At other times, he advised the Brazilian government or the United Nations on inclusive and self-sustainable development, or on the use of biomass for self-renewable energy production. In a book written for the United Nations UNCTAD, *The Biofuels Controversy* (2007), he did not see a conflict between energy and food security as long as the production of biomass for energy is well regulated by the state, based not only on cost, but also on social interest and environmental protection.

Sachs was endowed with a broad vision and a strong critical mind. For him, humanity is now in a deep impasse. In a 2009 article, “Revisiting Development in the Twenty-First Century,” we sit on the ruins of four paradigms: “With the invasion of Czechoslovakia in 1968 and the crushing of its project of socialism with a human face, real socialism began its death throes. The fall of the Berlin Wall in 1989 heralded her burial. Argentina’s descent into hell marked the failure of the neoliberal paradigm known as the Washington Consensus. Economic growth through the aggravation of inequalities was the third paradigm. This was the case with the “Brazilian miracle” at the time of the generals, and today it is China (...) There remains the social democratic paradigm, which has entered into crisis by renouncing its socialist origins”.

The great era of Ignacy Sachs – the period between 1970 and the early 2000s – was coming to an end. In 1988, the United Nations created the Intergovernmental Panel on Climate Change, IPCC. The central theme is no longer sustainable development but global warming which, despite all the negativisms, is becoming a reality that threatens the survival of humanity. The time has come for natural scientists, not political economists and moral thinkers (as was the case with our hero in this essay) concerned with development, equality, and the protection of nature. However, he never gives up. No longer able to save the world, he saved the poor through a large number of projects aimed at the most varied regions of the interior of Brazil. Chapters 14 to 16 of his memoirs are a good summary of his many projects.

In 2011, invited to give the *inaugural conferences* of the Esa Group that year, he wrote *The Visible Hand*, whose subtitle is “Succeeding in entering the Anthropocene”, Sachs offers us a great vision of the history of humanity to discuss its current environmental issues. Joking with Molière, he tells us that “in the same way that Monsieur Jourdain, in *Le Bourgeois Gentilhomme*, wrote prose without knowing it, we have for some time now entered a new geological era, the Anthropocene, but we have not realized it. In fact, three centuries of delay since the entry into the Anthropocene can be traced back to the Industrial Revolution”.

For Sachs, two great revolutions have marked humanity: the Neolithic Revolution and the Industrial Revolution. The first revolution lasted from 9,000 to 3,000 BC, and was marked by the invention of agriculture, the domestication of animals, the transition from wandering tribes to sedentary societies, polished stone, ceramics, metallurgy, the beginning of urbanization, and the emergence of the first empires or civilizations. It is the passage from prehistory to history. We have been

living for three centuries, since the industrial revolution, in the Anthropocene. Man has finally become relatively master of his history. By 2050, there will be 9 billion people on earth. The challenge is “to ensure that these 9 billion humans have a life worth living without sinking spaceship Earth.” Here, as at several other times, Sachs gives himself a poetic license. A ship that needs a visible hand to steer it. “I think that it is around the five fingers of our hand that our future should be organized. The first finger represents planning: you have to get organized. Then come three revolutions: an energy revolution, a green revolution, and a blue revolution (...) Finally, the fifth finger of the hand, the one that can touch all the others, represents international cooperation” Sachs, 2011, p. 9, 12, 13).

As the developmentalist that he has always been, Sachs believes in and defends planning, but in an open, flexible way. He recalls that this must involve businessmen, workers, organized civil society, and the state. And it is not a question of planning for the whole economy, but for the sectors that the market is not able to coordinate well. Planning must start at the local level, and by identifying, at this level, bottlenecks. It will then be necessary to articulate these plans at the regional and national levels. Something that must be done gradually and sustainably. It is through planning and day-to-day management that people ultimately achieve their goals of well-being, security, freedom, justice, and environmental protection.

As far as the energy revolution is concerned, Sachs bets on renewable energies, and reminds us that nuclear energy is Fausto's bet – which he seems to be right, as the nuclear accidents have shown. As far as the green revolution is concerned, it is not the “aristocratic and resource-intensive” green revolution, but the “evergreen revolution” that is developing mainly in India, which, according to Sachs (2004, p. 200), is “a second generation of the green revolution that goes beyond the first (which had an essentially productivist aspect) and proposes an agriculture that seeks reasonable incomes but, in harmony with nature, and, above all, oriented towards small producers, family farmers”. As for the Blue Revolution, he is betting on fish farming and intensive production involving fish farming, horticulture, and arboriculture.

Finally, Sachs emphasizes international cooperation to solve the major environmental problems of our time. He knows how difficult this cooperation is in a system of nation-states with very unequal levels of growth, all competing in the context of globalization. And he says, true to his moral worldview: “Ideally, we should dedicate ourselves to reducing the growth rate of those with an ecological footprint well above the global average, in order to allow those who are still below this level to benefit from their biocapacity.” But he is a remarkable economist who does not lose his sense of reality and adds from the outset: “But then things get complicated. If the economies of the major rich countries begin to decline, it will be extremely difficult to increase material production in countries that do not belong to the rich club” (2011, p. 27).

## CONCLUSION

The three main challenges facing the world are economic development, reasonable equality, and ecological sustainability. It is about promoting economic development and doing so in a way that reduces rather than increases inequalities, ensuring that this development is environmentally sustainable. Economic development is fundamental for the six billion people in rich and middle-income countries, such as Brazil, India, and China. In these countries, there is still a lot of poverty, but they have the human and financial resources to promote their own economic development. If they have elites and governments identified with the national interest, middle-income countries can, as is already the case mainly regarding dynamic Asian countries, converge on the income levels of rich countries. For poor countries, where a billion people live, there are no solutions in sight. In both cases, however, it is clear to Sachs that there is a need to reinvent the development-promoting state, which can and must take many forms, “but one thing is certain: despite the neoliberal mantra that proclaims the decline of states, the responsibility assumed by developmental states has increased” (2009, p. 15). And he then lists the five areas in which the developmentalist state must act: (1) the articulation on the one hand with the regional and local level and, on the other hand, with the transnational, in which “the nerve center is the interface between fragile nations and the world economy”; (2) the harmonization of social and environmental issues with economic development in search of “three-track solutions”; (3) the promotion of associations among companies, workers, the State and civil society; (4) the creation of new and flexible forms of planning; and (5) sponsorship of public research on selected topics related to the use of labor-intensive technologies, water and land saving technologies, and global warming mitigation. Spaceship Earth can be piloted in many ways, with many instruments, and at all levels of society. Both at the level of ideas and policies and organizations, of community life and individual action. Sachs values these actions of social construction as long as they aim for a future in which work is decent and human dignity is respected.

For Sachs, a long-term and environmentally friendly socio-economic development strategy should aspire to minimize the extraction of non-renewable resource stocks, limited by nature, by seeking not to endanger the planet’s thermal balances through the excessive use of fossil and nuclear fuels. However, it can and must take full advantage of the flow of solar energy and renewable resources obtained through the bioconversion of this energy, always paying attention to the normal triggering of ecological cycles, which ensure precisely the renewal of these resources. For him, what we must look for are *three-way solutions*, combining, it is worth repeating, growth, environmental protection, and the reduction of inequalities.

In short, economist Ignacy Sachs has always been a harsh critic of both neoliberalism and environmentalists who advocate zero growth. In his words (Sachs 1986, p. 28), “the ‘zeroists’ (proponents of the zero-growth rate) were trapped in a false alternative. Moreover, they confused two very different problems: the rate of growth (the zero rate having no stabilizing virtue in itself) and the rate of exploita-

tion of nature. More recently, he criticizes the idea that is developing in Europe today of a “degrowth” – a revival of the ideas of zero growth of the early 1970s – which today, instead of accentuating the depletion of natural resources, reflects the pessimism of Europeans about the future. As he said in his memoirs, “there is no question of stopping growth as long as there are poor people and yawning social inequalities; But it is imperative that this growth changes in terms of its modalities and, above all, in terms of the sharing of its fruits. We need another growth for another development” (Sachs, 2007: 252). Growth will continue to be necessary, Sachs reminds us, as long as it is a question of offering reasonable living conditions to all: “we have no right to paralyze ourselves until we have reached a decent level of material consumption”. But for this, it is necessary to remember Gandhi, one of his mentors, for whom development was about needs, not greed. And he adds that it is necessary to remember Father Lebrez,<sup>4</sup> who already in the 1950s affirmed that “the future belongs to a civilization of being in the equitable distribution of possessions” (Sachs, 2007: 280; 291).

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<sup>4</sup> Louis-Joseph Lebrez, Father Lebrez (1897-1966), was a French Dominican economist and social scientist and priest. In 1942, he created Économie et Humanisme, a center for research and action in economics that influenced several intellectuals in Latin America.

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