

Chapter 1

Healthy life and well-being for all

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Introduction

In 2015, the United Nations (UN) and the signatory countries agreed to the 2030 Agenda, which has become an important landmark for the sustainable development of the planet. This agenda is composed of 17 Sustainable Development Goals (SDG), which unfold to 169 targets that must be reached by that year. In addition, the document focuses on planet, people, peace, prosperity and partnerships, and considers aspects such as human needs for good health, education, improvement of the quality of life and justice, preservation and conservation of the environment, consumption of resources and production and waste management in a conscious way as relevant points.

In this Agenda, SDG 3 (Objetivos..., 2016, our translation) focuses on Quality Good health, aiming to “ensure healthy lives and promote well-being for all at all ages.” The World Health Organization (WHO) defines good health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity; while well-being is the measure that an individual or group is capable of, on the one hand, to achieve aspirations and satisfy needs and, on the other hand, to deal with the environment (FAO, 2013). Thus, good health ceased to be seen as an individual value and began to be treated collectively, being considered a fundamental right to be guaranteed for all, regardless of race, religion, socioeconomic status and political ideology.

With this focus, nine targets for SDG 3 were established based on the reduction of maternal mortality; the end of avoidable infant deaths; combat of epidemics and diseases transmitted by water and other vehicles; reduction of premature deaths due to non-communicable diseases; prevention and treatments related to alcohol, tobacco and narcotic use; reduction of deaths in traffic and hazardous chemical situations; and the necessary access to good health systems.

SDG 3 in the global context

Concerns regarding good health and well-being have been under discussion globally. In the 21st century, the occurrence of diseases still relates to nutritional deficiency, especially in low and middle-income countries, and the difficulty of accessing food in regions of extreme poverty. In 2000, in the UN Millennium Declaration, Eight Millennium Development Goals (MDGs), with 22 targets, were proposed, of which 3 focused on good health issues (reducing child mortality; improving the health of pregnant women; combating AIDS, malaria and other diseases), showing which initiatives needed to be taken to reverse this condition.

One of the chronic issues that have been pointed out is nutritional deficiency (Figure 1) and overweight (Figure 2). According to UN data, about 2 billion people have some type of nutritional deficiency and 1.9 billion are overweight (Nações Unidas, 2017). In addition, 25% of all children less than 5 years of age suffer from short stature (Figure 3), and 31% have vitamin A deficiency. The estimated cost of malnutrition impact on the world economy reaches 5% of global Gross Domestic Product (GDP), equivalent to 3.5 trillion dollars per year, or US\$ 500 per person per year. The Food and Agriculture Organization of the United Nations (FAO) (FAO, 2013) claims that around 870 million people on the planet are still starving (2010–2012 biennium), and billions suffer from insufficient food intake.

SDG 3 in the Brazilian context

In Brazil, a major event on this theme occurred in 1986, with the 8^a *Conferência Nacional de Saúde* (8th National Good Health Conference), considered the landmark of the Brazilian sanitary reform. This meeting brought up topics such as the need to expand the concept of good health and of a new national health system and the orientation of health financing policy (Brasil, 1986).

The final report of this conference became an instrument that influenced the responsibilities of the State in assuring the right to good health for the whole population, access conditions and quality of public services, providing subsidies for the elaboration of health related articles in Brazil Constitution (Brasil, 1988). A major objective was the implementation of a health system with attributions and competences for the federal, state and municipal spheres, which culminated in the Unified and Decentralized Health System as an immediate and progressive need for the Sistema Único de Saúde (Unified Health System – SUS) (Souza; Costa, 2010).

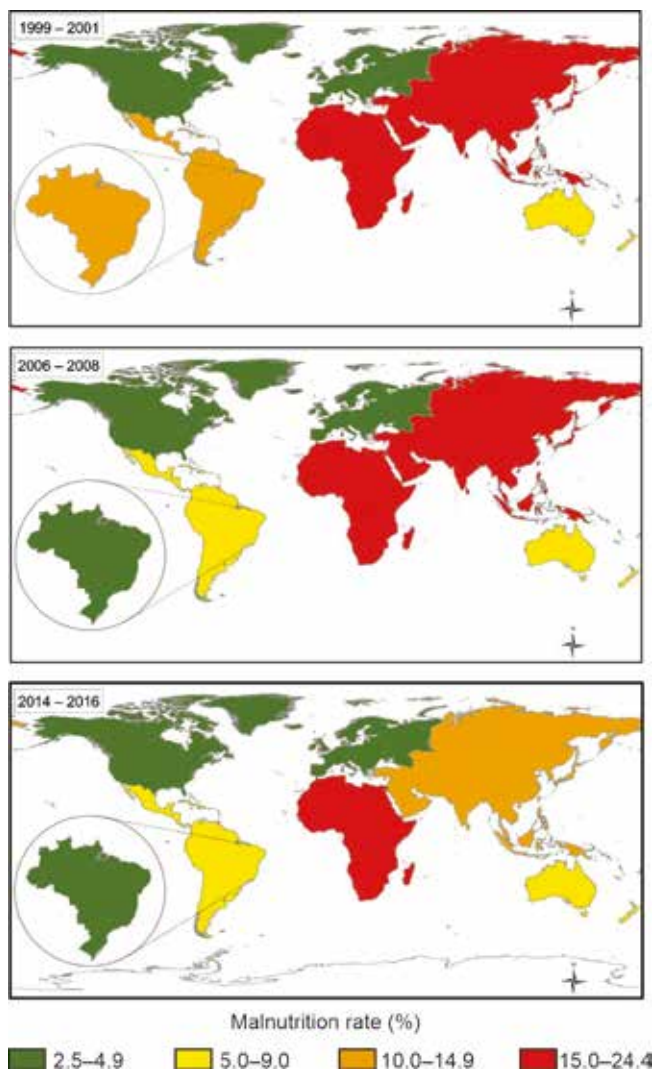


Figure 1. Malnutrition in the world, emphasizing on Brazil, in the periods 1999–2001, 2006–2008 and 2014–2016.

Source: Adapted from FAO (2013).

Subsequently, in 1988, the Brazilian Constitution defined the guidelines for the SUS creation with states and municipalities autonomy, with participatory popular management and establishment of good health as “a right of all and a duty of the State”, according to art. 196 of the Constitution (Brasil, 1988).

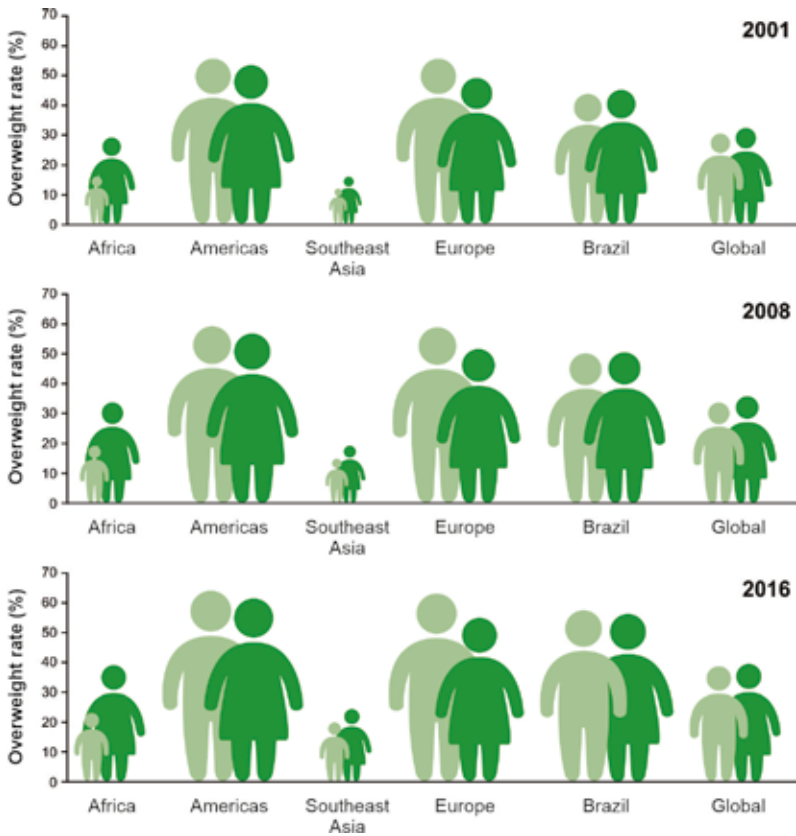


Figure 2. Overweight rate recorded in the continents, in Brazil and in the world, in 2001, 2008 and 2016.

Source: Adapted from FAO (2013).

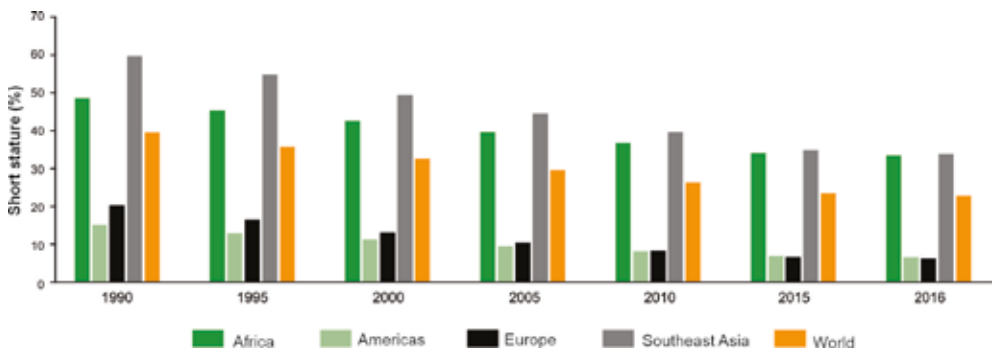


Figure 3. Short stature rates recorded in the continents and in the world, from 1990 to 2016.

Source: Adapted from FAO (2013).

According to data from the Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of Health, the number of children who are underweight and has growth failure has decreased, while the number of overweight children increased significantly. However, Lima (2016), in a comparative study of good health in Brazil and in the countries of the Organisation for Economic Co-operation and Development (OECD), reports that Brazil performs below average when compared to the others.

Thus, Brazilian society shows the need for the development of joint, solid and urgent actions, considering topics such as basic sanitation, nutrition and sustainable agricultural production for the fulfillment of the SDG 3 targets. Thus, to reach the targets proposed for this SDG, Brazilian social policies must be characterized as part of economic and political interests, recognizing social rights and seeking for the design and development of actions that reduce social inequalities, ensure healthy life and promote well-being for all Brazilians.

SDG 3 in Embrapa scope

Science and technology outcomes in the agricultural sector and food science are capable of improving the good health and well-being of the population, helping to reduce diseases related to malnutrition besides meeting growing consumer demand for healthier diets. Advances in research on food, nutrition and good health and their relationships have brought clarity to the diet role in improving the life of human beings.

Aligned with these issues, Embrapa shows its concern in the VI Master Plan 2014–2034. In this document, it states the vision of “Being a world reference in the generation and supply of information, knowledge and technologies, contributing to innovation and sustainability of agriculture and food safety” (Embrapa, 2015, p. 8, our translation).

Among the eight macro-themes proposed as pillars that guide Embrapa RD&I action discussions are Food Safety, Nutrition and Good Health, which, with the broad impact axes and transversal themes, guided the definition of its 12 Strategic Goals (SG) (Embrapa, 2015). Among them, Goal 7 relates the closest to SDG 3, aiming to “Promote the advancement of knowledge and technological solutions focused on expanding the contributions of agricultural research to the integration between food, nutrition and good health” (Embrapa, 2015, p. 13, our translation)

as a way to contribute to the development of healthier and better quality foods (Figure 4).

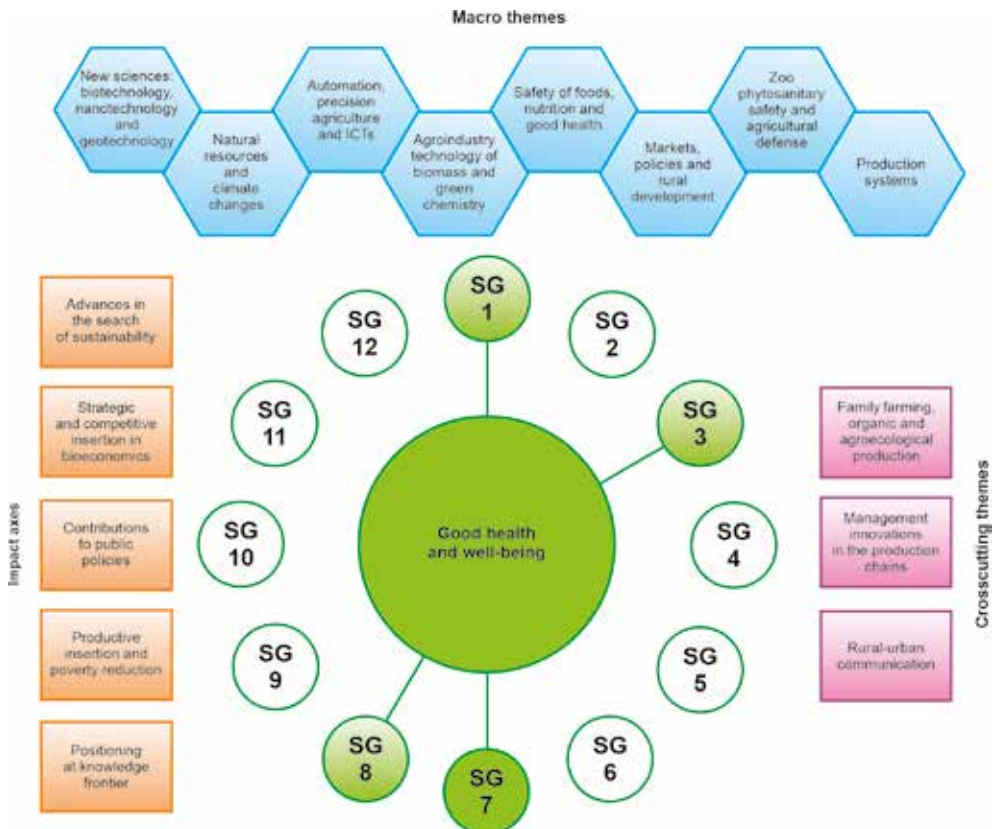


Figure 4. Strategic map of Embrapa and its relationship with SDG 3 and its 12 Strategic Goals (SG).

The alignment of projects that meet the goals of

Developing knowledge and technologies for the adequate management and sustainable use of Brazilian biomes [(SG 1),] Extending the knowledge base and generating assets that accelerate development and incorporation to agro-food and agro-industrial systems of advanced solutions based on emerging sciences and technologies [(SG 3) and] Generating agricultural innovation assets based on the use of biocomponents, substances and technological routes that contribute to the development of new bio-industries focused on renewable energy, green chemistry and new materials [(SG 8)] (Embrapa, 2015, p. 12-13, our translation).

This alignment shows that Embrapa, through the generation of knowledge, technologies, services and processes, contributes to the improvement of agricultural production and food quality and, consequently, to the achievement of the targets proposed for SDG 3.

Thus, the research has the challenge of developing technologies that are more efficient for agricultural production, seeking to contemplate the needs of food and other products in order to guarantee the population's food safety. Therefore, as part of the research and innovation system, Embrapa has been contributing to meet society's growing demands for the development of a dynamic, complex and, at the same time, more sustainable agriculture.

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