WHAT IS SUSTAINABLE AGRICULTURE?

Sustainable agriculture must satisfy human needs; enhance environmental quality and the natural resource base; sustain the economic vitality of food and agriculture systems and improve the quality of life for farmers, ranchers, forest managers, fishers, agricultural workers and society as a whole.[10]

Improving agricultural sustainability requires multi-faceted, collaborative solutions involving producers, agribusinesses, transporters, retailers and policymakers.

The 2017 GAP Report® describes the critical role productivity plays in sustainable food and agriculture systems (pages 8–17) and puts a human face on this complex challenge through stories from the U.S., India, Kenya, Vietnam and Colombia (pages 18–66).

Satisfies human needs

Improves the lives of agricultural producers and society as a whole

Enhances environmental quality and the natural resource base

Sustains the economic vitality of food and agriculture systems

Agriculture and the Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) establish targets for achieving inclusive economic growth, social development and natural resource conservation and biodiversity by 2030. The SDGs recognize the interconnectedness of the global community — its people, its economies and the environment.

Sustainable agriculture practices and technologies contribute to many of the 17 SDGs by helping to end hunger and malnutrition, reducing postharvest loss and food waste, mitigating climate change, providing clean sources of energy, preserving biodiversity, reducing poverty and promoting good health, gender equality and education.

Satisfies Human Needs

The SDGs call for an end to hunger and malnutrition, with an emphasis on doubling the productivity of small-scale producers who are more likely to be net food buyers, living in poverty and struggling with malnutrition. Reducing postharvest losses and food waste through responsible consumption will increase the amount of nutritious food available for farmers and consumers, while lowering environmental impacts.

Sustains the Economic Vitality of Agriculture

Drought-tolerant and pest-resistant seeds, mechanization and healthy livestock enable farmers to produce more output while reducing their input costs, thereby increasing their incomes. Affordable financing and weather index insurance give farmers the confidence to grow their operations by protecting their capital assets when crops fail. Value-added agricultural production and trade stimulate the economy and create jobs.

Enhances Environmental Quality and the Natural Resource Base

Agriculture can mitigate climate change. By improving soil, nutrient and water management practices, increasing livestock productivity and promoting biodiversity through mixed cropping systems and agroforestry, producers can supply food while also reducing greenhouse gas emissions.

Improves the Quality of Life for Agricultural Producers and Society as a Whole

Increased agricultural productivity and incomes enable small-scale farmers to send their children to school. Innovation improves the lives of women farmers and co-operatives empower women to become entrepreneurs in the agricultural value chain. As agricultural incomes grow, communities invest in clean water and sanitation.

Sustainable Agriculture Is Built on Productivity

The United Nations defines sustainable growth as, "meeting the needs of the present without compromising the ability of future generations to meet their own needs." No one understands this delicate balancing act better than farmers, ranchers, forest managers and fishers.

Do I plant to the edge of my property to earn more during this season of low crop prices? Or do I place more erodible land in conservation, preserving the health of my soil for the future?

Do I adopt unfamiliar cultivation practices that will help me adapt to climate change even though it will require additional labor for a few years?

Do I buy more livestock to increase my output? Or do I invest in better feed and veterinary services to improve the productivity and health of my current herd?

Do I invest in capital improvements like a tractor or more land that I can pass on to the next generation? Or do I rent them and keep my farm competitive today?

As they balance the demands of the present with the needs of the future, producers decide how much risk they are willing to take. They must consider the risk-management options available to them, as well as factors they cannot control like weather, market prices and economic or political uncertainty.

While trade-offs are inevitable, **policies and investments that support agricultural productivity and expand risk management capacity give producers the best chance to meet current and future needs,** while increasing their adaptability and resilience.

STRATEGIES FOR MEETING AGRICULTURAL DEMAND

There are multiple approaches to meeting the current and future demand for agricultural products.

» **Land Expansion** — Producers use more land to produce more, and in some cases, convert forest to cropland or rangeland.

» **Irrigation** — Producers deploy or extend irrigation systems to protect land against drought and improve its productive capacity, which may permit multiple cropping seasons. If not carefully managed, groundwater may be depleted.

» **Intensification** — Producers increase applications of fertilizer, machinery, labor, seeds, herbicides or other inputs on existing land to grow more crops or raise more livestock.

Meeting demand in a way that reflects the needs of producers and consumers today, while safeguarding our future agricultural capacity, is best achieved another way:

» **Productivity** — Adopting technologies and production practices that result in more output from all existing resources, as measured by **Total Factor Productivity (TFP).**