**Condition Change: UC ANR contributed to increased emerging food economies and markets**

**Issue**

California is the nation’s largest agricultural producer and exporter. The state’s agricultural sector is vibrant and diverse, producing more than 400 commodities. For many of these specialty crops, California is often the nation’s major producer. Although California already has the most diverse agriculture in the nation, the search for new opportunities, as a response to on-going challenges, does not stop. The agricultural sector’s economic viability faces uncertainty at individual farm, industry, and global levels. Competition based on price and quality requires all commodity groups and all farmers and ranchers to continually innovate to stay abreast of market forces. Small-scale and limited resource producers are more exposed to risks and more susceptible to failure, and thus need different market opportunities.

**Methods**

UC ANR develops new scientific knowledge and extended science-based information that help create new food products and market opportunities.

A UC Agricultural Experiment Station researcher at the UC Berkeley location is developing alternative paradigms for global food and natural resource systems. The project focuses on how public policy can be designed to protect food and resource systems against fragility while striking a balance between public and private goods. These are big picture, high level concepts that have both local use in California and wider global application. The effort includes graduate student training, ensuring the next generation of resource economists will be well-grounded in the skills they will need to continue to meet the on-going challenge of achieving long-term sustainability for food systems (Gordon Rausser).

Another AES scientist at UC Berkeley hosted three workshops on agrifood supply chains with 30 participants each. These were held at the Energy Biosciences Institute which houses cutting-edge efforts that create new technologies affecting supply chains around the globe. The workshops aim to improve decision-making by increasing understanding of how the supply chain operates and markets interact; in order to lead to more effective designs of supply chains, which increase the utilization of new knowledge and allow introduction of new innovative products to the state (David Zilberman).

An AES scientist at the UC Davis location is studying ethical cacao-chocolate commodity chains, livelihoods, and agro-diversity. UC ANR has a long tradition of partnering with stakeholders in the grower community to investigate novel opportunities for establishing food systems based on new production practices. This research on the potential of a local fine chocolate market is a current example. While the research and outreach are focused on the embryonic California cacao/fine chocolate supply chain, the potential impact has application both to cacao supply chains elsewhere in the world, and also to other supply chains which seek to improve the ability of producers to capture an ethical share of the value in the consumed product (Ryan Galt).

UC Cooperative Extension (UCCE) academics continue to work on coffee as a new crop for small scale farmers in Southern and Central California. Trends in production and consumption of coffee show an increasing demand for specialty, high value coffees. Research continues to evaluate techniques to optimize the production of coffee nursery plants and to evaluate coffee varieties under frost-free areas growing conditions in parts of California (Ramiro Lobo).

As a result of UC ANR research and extension, participants utilized research-based information on emerging food economies and markets. Outcomes with specific indicators follow.

**Outcomes**

**Participants are trying out new market opportunities.**

* Small-scale prospective coffee growers have learned it is possible for them to grow their own nursery plants which results in a significant reduction for startup costs. In addition, these limited resource farmers are trialing coffee on their farm using coffee plant starts provided by UCCE. (Ramiro Lobo)

**Science-based information applied to food economy and market policy and decision-making.**

* UC ANR research on supply chains informed the June 2018 World Bank conference which focused on the impact of new value chains and technology on agribusiness and farmers and their capacity to implement innovation, as well as the policy and institutional implications of transforming value chains and the agrifood system. (David Zilberman)

These measured outcomes helped create new market opportunities, which can expand revenue sources and thus strengthen local food systems and emerging food economies. For example, new commercial plantings of coffee have expanded up and down the California coast offering a promising new, high value crop alternative. In this way, UC ANR helps maintain the competitive edge of the California food system and the state’s role as a global leader in agriculture -- contributing to the public value of promoting economic prosperity in California.