

## Emergency at a Cattle Farm: The Case of Babcock Ranch

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## **Background**

Babcock Ranch is located in southeastern Charlotte County approximately 18 miles east of Punta Gorda and 34 miles west of Lake Okeechobee, near Fort Myers, Florida. The ranch was named after Edward Babcock, a lumber icon and mayor of Pittsburgh. The property was purchased in 1914 and was owned by the Babcock family for more than 90 years. Kitson & Partners purchased the 91,000-acre ranch on July 31, 2006, and on the same day sold 80% of the ranch land to the State of Florida and Lee County (Babcock Ranch, 2020). Subsequently, the Babcock Ranch preserve Act was enacted by the Florida legislature in 2006. This made it the first Florida preserve responsible for generating its own funding under public-private management partnership in collaborations with the Florida Fish and Wildlife Conservation Commission and the Florida Forest Service. The transaction holds as the largest single land preservation purchase in the state history of Florida (FDACS, 2020).

As a part of the purchase, an agreement was placed to preserve more than 73,000 acres of the most environmentally valuable areas of the ranch. This ensured that approximately ninety percent of Babcock Ranch's total land would remain undeveloped and preserved as open space, nature reserves, or for agricultural use. The land-use plan involved ranching and other business operations, such as eco-tours, a hiking trail, and an equestrian trail. Kitson & Partners managed the preserve for the state until July 2015 when Tarpon Blue Land & Resource Management was selected as the new contract manager. The new management plans to continue business enterprises to maintain the publicly owned land as a nature reserve with accommodations for recreation, including hunting, camping, and hiking (K. Smith. Personal communication, 2020).

## **Current Situation**

Currently, Babcock Ranch preserve holds 76,000 acres of undeveloped land, a fully operating ranch, and an ecotourism enterprise. The ranch houses 2,500 heads of beef cattle that graze on 16,000 acres of pasture. The animal numbers are commensurate with the USDA National Resources Conservation Service recommendations (K. Smith. Personal communication, 2020). The management operates the farm as a commercial livestock enterprise and performs livestock management practices including vaccinations, calf care, and artificial insemination. The farm provides nutrient supplements to cows with molasses, vitamins, and minerals during the later stages of pregnancy. The ranch has 3 full-time employees (1 ranch manager, 1 cowboy, and 1 equipment operator) and is supported by other daily workers that go between farms to work on cattle. The property manages an in-house restaurant that serves food to ranch and ecotourism visitors.

## **Overall statistics – Irma**

Hurricane Irma originated on the west coast of Africa on August 27, 2017. While moving across the Atlantic Ocean, Irma strengthened rapidly in environmental conditions to be rated as a category 5 storm with high sustained winds up to 185 mph (Cangialosi, 2018). When Irma approached the warm waters of the Florida straits, the storms intensified and became a

category 4 as soon as it entered Key West. At the time, Irma changed the direction to NNW over the Gulf of Mexico and arrived inland over SW Florida, after which it weakened quickly due to land influences. Irma's center was located east of Naples and Fort Myers by 0000 UTC on 11 September and was considered a category 2 hurricane. Although Irma weakened over Florida, the wind field spread drastically with winds extending up to 360 nmil from the center causing significant damages to life and property. Storm surge from the hurricane was reported to be about 3 to 5 ft above ground level in the region from Naples to Ft. Myers. Irma produced heavy rain across much of the state of Florida totaling 10 - 15 inches. Rainfall on days leading to Irma had saturated the land leading to reduced water drainage. The storms led to direct loss of 10 human lives, in addition to wind and water damage totaling around 50 billion USD.

### **Irma at the Babcock Ranch preserve**

Hurricane Irma was an unfortunate event at the ranch. The damage to the physical property on the farm was concentrated to the shade structures. Multiple losses were incurred ranging from destruction of shades, flooding, and other structural damages including tour buses (K. Smith, Personal communication, 26 February 2020).

The manager made himself available during the entire recovery response period. Communication was the key during those hours. Although the manager was out of town during the disaster, he was in constant contact with the employees. Management considers that efficient preparedness helped incur minimal damage at the farm (Roberts, 2017). Unlike nearby cattle farms who lost several cows and had reduced reproductive performance, this particular farm did not report the deaths of any cattle or elevated reproductive failure.

The most serious effect on the property was related to flood and the loss of electricity. Power was not restored until 8 weeks after the storm. This was because the property was at the end of the electricity supply line.

Despite the damages, Babcock Ranch was ready and prepared to handle the natural disaster. There were predetermined speculations and planning to prepare for the disaster. The storm was initially identified to hit the east coast but soon changed direction to the ranch area. Yet, the fuel storage units were filled to maximum capacity. In total, about 2,000 gallons of diesel and 500 gallons of gasoline were available in storage. This abundance of fuel helped them operate multiple pieces of equipment during the fuel shortage after the disaster. In addition, plywood and generators were purchased in preparation for the storm. The ranch management had shared some of their resources with other farms that requested support. However, as soon as the storm changed the course, they had to request additional generators from nearby friends. The restaurant in the property that serves food to visitors was to full capacity. However, due to power outage, food spoilage was of concern.

Some other damages observed were due to the rising water levels. Many buildings in the property were flooded. Because the area had received rain from previous few weeks, the land was saturated and therefore the additional rainwater could not be drained. As water levels rose

up to 4 ft high, some people living in the houses as well as some horses had to be evacuated. Under those circumstances, a military truck already available on the farm was the only working vehicle, which was used to move around and help feeding the animals. Another way to get back on the farm was on horseback to check the animals. In addition, the ranch experienced significant roof damage at an old barn. The entire roof of the building collapsed to the ground. Most of the buildings' roof shingles and screens were blown away because of strong winds.

The primary focus of the farm was the safety of the animals, specifically cattle, and to make sure they would not run towards the road creating a potential hazard to themselves and to passing vehicles. One of the positive aspects that helped recovery and minimized damage was a thorough fence maintenance performed before the storm. Trees and branches hanging over the fence and fence lines were removed and well managed. After the storm, cows were monitored using drones, showing that every cow was safe and moved to the drier spots in the property. Although the ranch faced significant damage on the east side, there were no cows in those areas. The external fence line suffered significant damage due to several large oak trees falling over them, but internal fences were intact. Although a large pasture area was flooded, this waterlogged condition helped to eliminate some invasive species on the property.

### **Structural Frame**

The farm acquired decent structural loss. The farm reached out to the community for receiving and providing support, and sharing generators for power. The animals, in particular, did not suffer a lot of loss. The conception rate in cows did not change and weaning weights of the calves did not drop in the consecutive year. Some animals may have died from the storm but this number was not greater than the natural loss the farm suffers every year. Animals in these areas may have become resilient from storms and floods and have developed an instinct to shelter around big trees and palmetto plants.

The farm acquired close to a minimal structural loss. The eco-tour was shut down for two months, because of no power to run computer systems. The tour route had a lot of debris and branches and needed some time to clear up. Cypress trees which were a major attraction on the site were hard hit. Culverts on the property were blown out and water was everywhere after the storm. The aftermath of the storm was that they could not cut the wood for the consecutive year because of salvage wood that had to be trimmed due to the disaster. The farm is still waiting for disaster recovery relief funds promised by the government.

### **Human Resource Frame**

This aspect of the farm was most severely impacted by the storm. Because of the day-to-day operations being ceased, the seasonal workers would have a break in income due to loss of employment. The farm ensured them a means of income and made sure that they were not off the payroll. The workers were tasked with cleaning the property, clearing out debris, cutting fallen branches, clearing roads for easy transportation. There was a strong feeling of cooperation among employees. The ranch also provided meals to the workers for weeks after

this disaster. Every employee was provided lunch and dinner throughout the recovery period. Because of no power in the area, employees that did not have the means to eat were in a problematic situation. The availability of large stockpiles of food from the restaurant, and the management decision to utilize those were very helpful to support the employees. This was to ensure that all employees had sound physical and mental health.

Since most of the employees also suffered a loss to their personal property, the management recommended that employees focus on personal recovery before reporting back to work. A priority of the management was to make sure that everyone was safe. Management individually checked the status of all individuals involved in the farm and supported them with the necessary items including generators and food. The farm being a small operation was helpful because that helped the people to be flexible on their responsibilities.

### **Political Frame**

Because of the complex organizational structure, farm decisions at this ranch are controlled by some rules and regulations. The farm should follow the state regulation on the number of animals on the farm, amount of timber allowed to be sold annually, and development activities permitted. Even within this complexity, the decision making process is streamlined. During the time of emergency, the crisis was handled by careful managerial decisions, close supervision, and direction. Although specific procedures are not formalized on paper yet, but the management considers that there is limited use of formalized document for the small operation.

### **Future Preparedness**

The management has learned a lot of lessons from this disaster experience. They have understood that preparation is key to resiliency. Although they don't have a written document to serve as a future guideline, they have increased preparation in terms of fuel storage and contingency management plans. There is not a written provision formalized yet but everyone is made aware of their responsibilities during times of need.

## **The Classroom Case Study Discussion**

Students at TAMU enrolled in ANSC 429 during the fall 2020 semester will work in this case study. The case study will focus on a discussion as well as a critical evaluation of three different scenarios related to the cattle management operation. **The students will be divided into 3 teams to work in groups.**

Use the leadership frames mentioned below to think through the following 3 scenarios:

- Suppose you are appointed as a new manager to the Babcock ranch. What key areas would you focus at the ranch to prepare the farm and make it more resilient to disasters like Irma, focus on the structural and human resource frames?

- If this farm was in Texas/Colorado, how would the scenario be different? What different factors would you be more concerned with, focus on political frame?
- Consider that this is a dairy farm, what different situations would you see at a dairy farm during such calamities? How would you prepare your farm for future disasters?

### **Leadership Frames**

**Structural.** Structural frames include the changes the farm makes as an organization for adopting to the natural calamities. As a farming operation, how would you change the structure of your farm to prepare for the next pandemic? What different roles of the individuals on the farm (full time and part-time employees) would change? Will the power dynamics change? How would you ensure working with another organization in each of these scenarios?

**Human resources.** As the organization comes to tackle new challenges due to disaster, how are you prepared? What hiring decisions would you change? What training and competency building exercise would help this farm deal with the next disaster? What were the modified needs for human resources? Would you change the qualifications for a new hire? Would you train the current employee to reduce the future cost?

**Political.** Political frame will include discussion on how organization networks are helpful and distribution and competition of resources between organizations and other exploring organizations like extension services for support Political frame include the political relationships of the organization. How the organizational structure will affect the disaster response? Will it be different if the farm was entirely private owned? How will this be different if the farm was in another state? What state agencies would the farm could utilize to recover from the disaster?

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