India has the largest paddy output in the world and is also the fourth largest exporter of rice in the world. Paddy is cultivated at least twice a year in most parts of India. But, paddy fields also require a lot of water for its production. Although, drip irrigation has been a sensation, it cannot be used for paddy fields.

Generally, water coming from either the borewell or from canals are stored in a temporary storage called tanks and then distributed to fragments/segments of paddy fields by smaller canals from the tank. Conventionally, the opening, from which the water is let into the fragments of paddy fields have to be manually opened and closed which is not only hectic but also leads to water wastage if not closed in time.

We, team keep it simple, aim at achieving smart and sufficient distribution of water to paddy fields using automation. From the tank, PVC pipes run to each and every fragment. These pipes avoid water loss due to seepage from the soil. The opening of the PVC pipes at each fragment is controlled using a custom designed mobile application. The app is designed in order to control the opening and closing of each and every nozzle at the fragment, through which the water enters the paddy field in a controlled manner. Also, the speed at which the water is let out can be controlled.

Additionally, a small circuit (open circuit) is placed at the end of each fragment. Once the water reaches the end of that fragment, the circuit is completed as water is a good conductor of electricity following which a notification is pushed in the mobile application indicating that the segment has received sufficient water and the water supply to this segment can be cut off using the app, if required. Similarly, the entire field can be irrigated without much wastage of water.

This automated system of irrigation ensures minimum wastage of water, reduces human intervention, without compromising on the amount of water needed by the crop, for its sustained development.