Synthetic biology is one of the rising fields of research just after Artificial Intelligence + Nanotechnology. Synthetic biology revolves around the concept of restructuring biological cells to produce a desired effect. The tenants of Synthetic biology are not new, genetic splicing, genome sequencing & bioremediation have been known for decades, however with rapid advancement in technology, the testing machinary & softwares have seen rapid reduction in price & time saving in nature. previously what would have required a room full of computation power can now be done in the field with a laptop and a usb connected device.

Using Synthetic biology an natural evolutionary based process is isolated, recreated & the scaled up to be mass produced. Many of the world problems are anthropogenic in nature, solutions that could be reached through biology are. cheap and more forgiving on environment. For example India has large tracts of land under sugarcane cultivation. It is fairly water intensive, labour intensive and post harvest cleaning causes air pollution. Scientists in labs have isolated a trace sweetening agent from Stevia leaves, now they are able to artificially produced these sweet substance in a large quantity ~~much~~. at a much cheaper cost.

This ability of synthetic biology to cut down on cost, labour & time is scarily resembling the first Industrial revolution. When Steam power Industries rose, they cut down labour, time & increased profit this singular phenomenon could be linked to the entire Colonization era, the world wars and so on. So there is no doubt that the synthetic biology..

is the foundation for a modern industrial revolution.

So how can India, a developing nation make use of this wonderful opportunity to utilise the barely navigated world of Synthetic biology. It needs to utilize its existing structures such as ITs business incubators tied up with the IIT's NIT's and other reputed universities and colleges to disseminate information & the technology to achieve it. With availability of handheld genome sequencers, analysing a gram of soil will yield thousands of genomes, there must be a nationally connected genomic database, researchers must be allowed to coordinate research, once a workable model is identified private partnership must be brought in to commercialize it. For every thousand genomes, one might strike gold. India shouldn't miss the opportunity as Synthetic biology might be the next black gold.