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Engineering is used in almost all facets of living and in all countries, and makes possible the existence of human civilizations. Different regions and societies adapt to their environments and determine their own resources and uses for engineering. The standards of life achieved in countries are often a function of engineering-related factors. Recently, efforts have increased to make engineering activities more sustainable and, simultaneously, attempts have been made to describe engineering sustainability and the requirements for it.

In some ways, the concept of engineering sustainability is simply the application of the general definitions of sustainability to engineering. In other ways, engineering sustainability is more complex and involved. That is, engineering sustainability involves the provision of engineering services in a sustainable manner, which in turn necessitates that engineering services be provided for all people in ways that, now and in the future, are sufficient to provide basic necessities, affordable, not detrimental to the environment, and acceptable to communities and people. Although this definition has some circular aspects, it emphasizes some of the essential points of engineering sustainability. A universal agreement on a definition of engineering sustainability has not yet been achieved.

Utility optimization not only consists of handling resources in a smart manner, but also optimizing the path or manner in which they are handled. Adjusting the placement of machines as well as defining the flow of resources throughout the shop floor is also an integral part of the utility optimization process. An efficient flow ensures an efficient execution of process and minimum wastage of time and resources. This is usually done through the use of process flow charts do determine process steps as well as Pareto charts to determine the importance of every resource in terms of its usage and need in every process.Optimization of resource usage not only decreases the amount of waste generated, but also leads to greater profits and creates opportunities for recycling and reusing the wasted resources. In a lot of cases, resource optimization leads to a reduction in carbon footprint which is vital due to the currently degrading environmental conditions.

The whole world is currently progressing at an unbelievable rate and the environment is getting affected due to that very progress Resource optimization, hence, has become necessary not only for generating greater profits and minimizing wastage of resources, but also for sustainability.  “Recycle and Reuse” has become the motto for every major organization and new ways to optimize resource usage are constantly being researched and put into use. Since the progression of technology is inevitable, there will always be a great need for effective resource optimization processes which contribute to both- organization’s profits as well as sustainability.

Also Engineering resources in the country can be optimized by having a transparent contractor-worker relationship. Contracts are awarded to engineering firms, ie rehabilitation of an express way. Such contracts should have a human resources manager, an engineering supervisor, an economist. Likewise an ecological expert should be on board.

Human resource managers look out for the input of laborers both skilled and unskilled and likewise should compared to their output.

The engineering supervisor should ensure the the job done by these worker meet all engineering requirements and specification. This must be done without bias.

The economist here must work hand in hand with both the human resource manager and the supervisor as he controls their funding. However, this power shouldn't’t be abused. He must correlate with the supervisor to know how the material chosen, the engineering approach taken and a few other factors affect the funding. Likewise he should seek to support human management as some or more workers may have troubles either individually or collectively.

The ecologist literally plays a behind the scenes role and only steps in when any step taken into the project seeks to harm the environment.

With all these put into place, the office of the presidency should give their best shot at ensuring no corrupted individuals are a part of the project. This enables smooth flow of funds from the presidency to the mere workers and this boosts communication.