**Mechanization and automation**

Human labour in industrial process is the physical activity of providing the services in an economy, mechanization on the other hand is the introduction of machines or automatic devices into a process that was largely or exclusively done by human beings or animals.While mechanization and automation have undoubtedly increased efficiency and productivity, they also pose a threat to human labor, as machines and robots are capable of performing tasks that were once exclusive to humans.The economic importance of each is crucial in any industry and well being of modern society.

  **Advantages of mechanization and automation**

 Conversion of data from one form to another form is easily done while using machines such as computer.For example writing on the tape after it is typed on paper.

 Farm mechanization has helped In increasing the volume of agricultural production as it encourages multiple cropping which was not possible under traditional farming.

 Farm mechanization reduces dependence upon animal power which is costly and also slow in operation.The conventional Way where animals were used was slow and time consuming compared to the use of farm machinery.

Mechanization decreases human Safety concerns on Sites where the automated systems may carry out work in environments and zones that may pose danger for humans. For example in digging of tunnels and underground work. Machines also come in handy incase of disease outbreak as it happens during Covid-19 pandemic where automated vehicle were used to make deliveries.

Mechanization of agriculture helps in achieving self sufficiency and surpluses in food crops and other and animal yield. Where daily farming is done in large scale it's the machines used in milking and storage ensures speedy and efficient performance of tasks. The high yield in of crops and animal production ensures the farmer can sell the surplus and complement his/her income.

Mechanization has made it easy to do crop irrigation easily unlike before. The availability of water supply from tube wells together with the use of new package of modern irrigation machines and modern inputs helps to increase crop yields.

Mechanizing farm operations reduces labor requirements by increasing the speed and efficiency of tasks such as land preparation and leveling. This not only makes cultivation more manageable, but also enables farmers to bring larger areas under production, leading to increased yields.

Lower insurance costs for builders in areas where building and construction can be mechanized. It becomes cost friendly when it comes to insurance costs of the human labour on site as the only cost that would be incurred is that of the machine and the operator.

The implementation of mechanization enhances the efficiency and safety of construction workers. Engaging in tasks that involve lifting or moving heavy machinery or materials can pose significant risks, especially when working at high elevations. However, the adoption of automated equipment eliminates concerns about potential hazards that employees may face.

 Mechanization ensures that there is little to no building-site construction waste thereby optimizing the use of materials and manpower where the machines are automated.This also ensures site cleanliness.

 Mechanization reduces the cost of production of crops and hence increasing income of farmers by minimizing pre and post harvest losses.

 The complex projects involving high grade and large quantities of materials can be handled increasing the size of the project.

Farm mechanization makes it possible to divert the land used for growing fodder for animals to growing food and non-food crops.Mechanzation makes the land more productive generally.

Mechanization ensures quality standards are maintained and hence increases the quality of end product. This Increases sustainability over a building’s lifetime.

Time schedule can be kept in any kind of work or environment especially where the machines are automated.

Avoids boring and repetitive jobs giving a higher labour productivity and higher wages of the skilled personnel involved while also minimizing foreign manpower on site.

 By mechanization you are able to produce cheaper goods which increases disposable income of consumers.

Mechanization lessens the dependency on other agencies to provide services like copying, printing, and other similar matters in offices as it requires fewer formalities and controls to monitor the flow of work between departments.

**Disadvantages** **of mechanization and automation**

Use of machines ignore some of the human and social relations at work

Mechanization creates structural unemployment due technological advancement

Unavailability of skilled personnel who can operate certain machines that are Complex and difficult to work with.

Initial cost of mechanization and automation is very high.

Mechanization/automation eliminates or reduces human activities which may lead to sedentary lifestyle.

Automated systems can show lack of empathy as it lacks the understanding and may work on commands given.

Loss of human interaction due to dealing with computers and machines leads to lower quality of life.

Creates winners and losers hence increase in inequality.This is because only a skilled person will have the job and others will loose.

Automation could increase monopoly power

Both human labor and mechanization play important roles in modern society. While mechanization has increased efficiency and productivity, human labor is still necessary for many tasks that require personal touch, decision-making, and employment opportunities. It is essential to find a balance between human labor and mechanization to ensure sustainable economic growth and social development.

**References**

Llale, J. and Setati, M. (2020) A review of the advantages and disadvantages of the use of automation and robotics in the construction industry, springer.com.

Arthi, S. and Sangeetha, K. (2021a) ATM Banking System, semanticscholar.org.

Khan, M. et al. (2020) MI Khan, ASM Nuruzzaman, R Haque, MM Rahman, F Azam, iabse-bd.org.

Ting, K. (1992) Mechanization, automation, and computerization for greenhouse production, journals.ashs.org.