AI Based Chest X-ray Application Launched in Raj-Silicosis Portal

Why In News?

On October 6, 2023, Dr. Samit Sharma, Government Secretary of Social Justice and Empowerment of Rajasthan said that Artificial Intelligence Tools/Application has been developed to make the silicosis identification and silicosis certification process more accessible, simple and technology based.

Key Points:

- Dr. Samit Sharma said that an Artificial Intelligence (AI) based application has been developed on Raj Silicosis Portal, which can be used in the silicosis certification process on the new Silicosis Portal at District Pneumoconiosis Board level.
- It was inaugurated by Rajasthan's Social Justice and Empowerment Minister Tikaram Julie.
- **Benefits of AI based applications:**
    - The AI-enabled silicosis screening system is a testament to the government's progressive stance on using technology to accelerate delivery of medical care and economic support to the most vulnerable sections of society.
    - This application evaluates chest x-ray on parameters, based on deep learning. This will help radiologists to identify silicosis patients through chest x-ray and will help in reducing human errors.
    - Through this technology, the workload of radiologists will be reduced, and it will be easier to weed out those who are not suffering from silicosis from the applications received.
    - Rapid screening will enable prompt medical attention and reduce the burden on health care resources.
    - Early detection of the disease will allow timely intervention and treatment, potentially preventing disease progression.
- **Artificial Intelligence:**
    - Artificial Intelligence means intellectual ability, developed artificially.
    - Through this, a computer system or robotic system is created, which is tried to run on the basis of the same logic on which the human brain works.

How will AI based applications work?

- Artificial Intelligence Application is a screening tool, which will analyze the findings of Chest X-ray using technology and will help in decision making for silicosis certification.
- The core of this initiative is an advanced deep learning model, carefully developed and rigorously tested at every step using extensive datasets. For this, 40 thousand chest X-ray images obtained from across the state have been used. This effort is supported by the technical expertise of Wadhwani Institute for Artificial Intelligence.
- Radiologists and silicosis certificate issuing officers will be able to take the same decisions as before for certification as per their clinical judgment.
- **Rajasthan Pneumoconiosis Policy-2019**
    - Pneumoconiosis Policy-2019 was implemented by the state government. Rajasthan is the first state in the country to implement silicosis policy for the welfare of mining workers including BOCW.

- In this policy, apart from the assistance amount of Rs 3 lakh, there is a provision of pension of Rs 1.5 thousand per month and other benefits to the patients suffering from silicosis.
- For this, silicosis certification and payment is done by the special qualified person of the Directorate through Raj Silicosis Portal.
- In this process, after the application by the beneficiary, the chest X-ray is analyzed and examined by a radiologist and certified as suffering from silicosis.

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