

22. Mechanisation of farming

The Farm Power Index is a top down projection of the usage of mechanised power on farms. This is especially focused on the use of tractors and tillers, but also the use of irrigation pumps.

The last decade

One man power tillers and tractors have spread rapidly in Bangladesh. The capital cost of purchase is declining rapidly due to competition between local, Chinese and Indian manufacturers. Similarly, the spread of irrigation has allowed the boro rice crop to expand, vastly improving food supply and security.

Assumptions of model

The model assumes the hours of operation per unit remain similar, and that all growth in mechanisation power comes in the form of new units.

Levels

Level 1

By 2050, 1.57 times the 2010 amount of machinery is in use.

Level 2

By 2050, 2.33 times the 2010 amount of machinery is in use.

Level 3

By 2050, 3.09 times the 2010 amount of machinery is in use.

Level 4

By 2050, 3.84 times the 2010 amount of machinery is in use.

Interaction with other levers

While this lever sets the overall amount of mechanisation, a second lever 'Farm Fuel Mix' can alter the ratio of fuel types used, resulting in a very different demand profile.

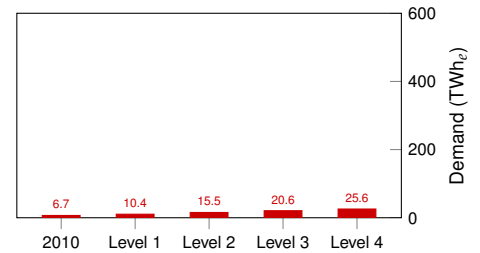


Figure 22.1: 2050 Farm Mechanization Demand. Fuel mix 1

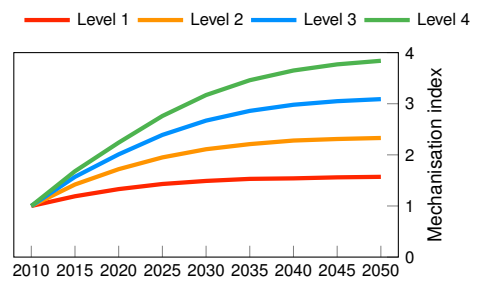


Figure 22.2: Development of capacity by scenario



Figure 22.3: A two wheeled tractor, Bangladesh