POLICY BRIEF

Drip irrigation practice in Mizoram for combating the effect of climate change to on farmers in Mizoram.

INTEGRATED MOUNTAIN INITIATIVE

Ministry of Environment, Forest and Climate Change
Government of India

GBPNIHESD

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Background

Mizoram is blessed with a moderate climatic condition in the country. Although the state climatic condition is suitable for the growth of most of the plants, it has started experiencing the effect of climate change.

There is change in rainfall pattern with seasonal dry period and heavy rainfall that wash away soil nutrients and thus reduce annual crop production. This also leads to scarcity in freshwater. The year 2005, saw extended dry periods in Mizoram. Many springs and streams dried up accompanied by large-scale landslides (ICIMOD, 2008).

Drip irrigation known as micro irrigation can ensure equitable water distribution, save water and energy input as well as increase crop yield. Crop yields are adversely affected both in excess or deficit of water supply.

Drip irrigation is a technique in which water flows through a filter into special drip pipes, with emitters located at different spacing. Drip irrigation is adaptable to any farmable slope and is suitable for most soils. Basically, the farmer can control how much water each plant gets so that there is little water waste. This method is effective because it avoids the arbitrary placement of water over the whole expanse of a field, regardless of whether the plant is actually receiving the nourishment or not. Additionally, drip irrigation can help decrease eutrophication (which is when bodies of water receive an unhealthy dose of fertilizers such as nitrogen and phosphorus through farm runoff). Instead of excess runoff dragging harmful chemicals into rivers and streams, little to no water is wasted. Through drip irrigation only the immediate root zone of each plant is wetted. Therefore, this can be a very efficient method of irrigation.

Practising drip irrigation system is one good adaptive measure for combating the effect of climate change which is now practised in various districts of Mizoram by hundreds of farmers.

Observation and findings:

Within the study area drip irrigation system was practiced in two types of land a) slope or terrace land and b) plain area. This study illustrates that drip irrigation system is spreading in Mizoram for agriculture or farming practices due to increasing demand of water. The practice of drip irrigation could be considered as an adaptation measure for the farmer, because it required less amount of water and enable farmers to grow plants throughout the year.

1. It was found that terrace areas required less amount of water compared to plain area because water flows at a higher rate and was distributed evenly within a shorter period of time compared to the plain area.

2. Mulching film was used to cover the water dripping area which prevent the rapid loss of water and thus required lesser amount of water as it conserves the water longer.

Recommendations:

1. Although drip irrigation system itself is good enough to be taken as an adaptive measure for combating the effect of climate change, use of mulching film with drip irrigation makes the system even more effective. Therefore, there is a need to increase the usage of mulching film in combination with drip irrigation among the farmers.

2. Proper maintenance of drip pipeline is required as clogging can occur easily. Therefore, training program is necessary at the beginning of installation and at least once in a year for long term usage by the farmers.

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