**Rice husk availability in Cambodia**

*General guidance on leakage in biomass project activities* said “the quantity of available biomass in the region (e.g., 50 km radius), is at least 25% larger than the quantity of biomass that is utilised including the project activity”

**Comparison of volume of rice husk consumptions and productions in a rice mill**

(Rice husk production (availability) in the mill (t)/ Rice husk consumption in the mill (t): %)

* Technology 3 (case 24 rice mills): Average 265% > 125%

Only one case out of 24 cases ( 2000 t out of 160,080 t of total production) is less than the threshold　(117%, 48t shortage from the threshold). The surpass percentage in other 23 rice mills ranges from 147% to 598%.

* Technology 4 (source: Angkor Bio Cogen Co.,Ltd. (2005)): 142% > 125%

**Rice husk availability in 50km radius**

The provability of appearance of rice mill having less than 25% surpass of rice husk is 4% (1/24) or 1% (2,000t/160,080t) for technology 3. Then, it needs to see the case of 50km radius as following.

|  |  |  |
| --- | --- | --- |
| Land area of Cambodia (Sq.km) | 176,520 |  |
| 50km radius (Sq.km) | 7,850 |  |
| Land area/50km radius | 22.49 | ① |
| Total number of rice mills | 27,407 | 22,397 |
| Average number of rice mills in 50 km radius | 1218.8 | 996.0 |
| Milled rice in Cambodia (t) | 5,619,000 | ② |
| Rice husk (t) ①/60% ×20% | 2,060,300 | ③ |
| Average rice production in 50 km radius (t)　②/① | 249,882 | ④ |
| Average rice husk production in 50 km radius (t)　③/① | 91,623 | ⑤ |
| 10% (threshold of baseline scenario (100%-90%), possible maximum share of technology 3 under the SB )　×　④ (t) | 24,988 | ⑥  <160,080t  (24 cases total production) |

Average number of rice mills in 50km radius in Cambodia is around 1,000.

In 50km radius in Cambodia, average rice husk production is about 250,000t and rice husk production is about 90,000t. Considering to threshold of additionality of 90% (possible maximum share of Technology 3 is 10%), Technology 3 would have about 25,000t at maximum of production in 50km radius in Cambodia. The possibility of appearance of the rice mill which may have less than 25% surpass rice husk in 50km radius in Cambodia is one at most. Even if the rice mill exists in the area and has 48t of shortage from the threshold in the mill, there is still about 90,000t of available rice husk in the 50km radius area. Thus, there is no competitive situation for rice husk in Cambodia.