

Second Biomass Asia Workshop

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LAO PDR

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Map of Laos



1. General Information about Laos

- 1. Country:** Centrally located in GMR
Area = 236,800 km²
Mountainous, land locked and tropical
- 2. Provinces:** 16 provinces
One Special Zone
One Municipality
Vientiane is capital

- 3. Population: 5.6 million**
80% in rural areas
2.6% annual pop. growth
Life expectancy 53 years
9% infant mortality
- 4. Economy: Narrow base - resource exploitation**
GNP per capita of US\$375.3
GDP growth of 6.5% annually
48.1% of GDP from agriculture
25.7% of GDP from industry
25.2% of GDP from services

2004 Statistic of Energy Supply are installed in Lao PDR

No	Type of electricity generation	Installed capacity MW	Percentage of power generation %	Remark
01	Large and Medium Hydropower	625	97.74	
02	Small/Micro	5.2	0.82	Renewable
03	Diesel	8.95	1.4	
04	PV Solar	0.20	0.04	Renewable
05	Total:	639	100	

The target of the Government

- **45% Electrified by the year 2005**
- **70% Electrified by the year 2010**
- **90% Electrified by the year 2020**

(47% are electrified by 2005)



Statistic of Rice : Harvest areas and Production in Laos 2000-2005

No	Province / year	Harvested Area (ha)					Production (tons)				
		2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
1	Vientiane Mun	70750	69842	71256	75690	72771	263090	284700	299100	298418	295380
2	Phonsaly	21740	18423	14004	13526	14523	44508	40330	32580	31971	40730
3	Luangnamtha	19220	21915	21116	15384	21652	46195	59760	59780	35819	63470
4	Oudomxay	29430	32095	28933	17512	30066	65856	70290	70890	43673	76250
5	Bokeo	11980	15785	16616	16678	17338	36090	46860	49560	51607	59410
6	Luangprabang	43710	43255	40423	37908	33152	95680	95240	92690	84212	83970
7	Huaphanh	26690	30800	29317	24132	26925	63190	73810	80420	75235	82960
8	Xayabury	37580	39788	39894	42464	44816	100320	107480	113670	125689	139550
9	Xiengkhuang	25010	23358	23775	24017	24996	64680	67470	65480	65877	70000
10	Vientiane	46830	56540	54810	55729	52316	155500	218760	220970	189160	204720
11	Borikhamxay	38490	29557	24278	34758	34745	113601	92990	83790	112620	127080
12	Khammuane	43160	46992	52127	57392	51830	145910	138480	174500	198707	154230
13	Savannakhet	126650	130541	139582	145458	155034	433740	463080	499700	457467	533305
14	Saravane	56060	68880	67934	71036	69923	178100	206250	220280	230197	228610
15	Sekong	7130	8168	8286	8218	4600	17310	19410	21070	20152	13490
16	Champasack	91680	93010	85315	96099	95740	321720	297350	270550	293174	304510
17	Attapeu	17320	13915	16102	16450	15963	48670	41250	49380	50463	39560
18	Xaysomboun SR	6080	3911	4336	3866	3930	16540	10990	12090	10659	11775
19	TOTAL	719510	746775	738104	756317	770320	2210700	2334500	2416500	2375100	2529000

Agricultural Information

Statistic of sugar : Harvest areas and Production in Laos

No	Province / year	Harvested Area (ha)					Production (tons)				
		2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
1	Vientiane Mun	980	1136	1,114	2,149	630	30,980	45,440	40,661	82,789	23,000
2	Phonsaly	1310	420	694	785	350	68,830	22,050	35,463	39,092	17,500
3	Luangnamtha	780	775	921	1,253	1,453	46,620	46,500	43,840	66,926	68,100
4	Oudomxay	510	602	425	433	150	10,120	10,291	17,157	15,884	6,100
5	Bokeo	50	20	20	6	-	1,250	500	640	192	-
6	Luangprabang	40	120	132	180	110	880	2,640	2,904	3,960	2,450
7	Huaphanh	990	190	430	250	320	22,770	4,370	9,890	5,980	7,400
8	Xayabury	40	0	184	...	135	760	-	5,949	5,450
9	Xiengkhuang	240	240	86	230	-	6,000	6,000	2,154	5,750	-
10	Vientiane	430	155	263	427	747	8,190	2,325	6,312	9,906	17,800
11	Borikhamxay	1740	1130	815	1,110	1,183	43,480	28,250	20,375	27,750	29,600
12	Khammuane	240	350	388	350	85	5,370	7,700	9,118	7,775	2,000
13	Savannakhet	80	64	228	179	978	22,770	1,053	5,274	4,245	22,600
14	Saravane	30	98	15	82	10	480	1,568	375	2,050	250
15	Sekong	480	200	240	318	147	10,080	4,200	5,520	7,248	3,400
16	Champasack	260	1040	476	1,010	510	6,240	24,960	11,424	24,240	12,200
17	Attapeu	180	50	200	200	210	3,660	1,000	4,980	4,630	5,200
18	Xaysomboun SR	20	0	-	12	380	-	-	...	250
19	TOTAL	8400	6590	6,631	8,962	7,030	288,860	208,847	222,036	308,417	223,300

Wood logging in Laos

No	Cutting Period	Volume (m3)
1	1999-2000	500,000
2	2000-2001	415,526
3	2001-2002	300,000
4	2002-2003	300,000
5	2003-2004	270,000
6	2004-2005	150,000
7	2005-2006	370,000 (NamTeun2 Hydropower Project 300,000 m3)

Source : Ministry of Agriculture and Forestry

Number of sawmills and Rice mills in Laos 2004-2005

No	Description	Numbers
01	Sawmills	194
02	Rice mills	19,669

2. Present status of using the sawdust , waste wood and ricehusk



**First Demonstration
Biomass
by ricehusk**

Supported by NEDO

Capacity : 200 KW

Implemented by TRI

**(Technology
Research Institute)**

Some sawmills used west wood for drying the furniture



West wood are using as the fuel for heating – boil the water and supply hot steam for drying the furniture

Sawdust are using as Charcoal



**Charcoal from the
Neeramoon Wood
Waste Processing
CO.,LTD**

Waste wood & sawdust are using
as charcoal by local people living
near by



Sawdust ,Waste wood and Ricehusk ,
are not being used for any business



Sawdust and waste wood



ricehusk burned

3.Potential of Biomass



Potential for the Biomass in Laos by ricehusk

Ricehusk in Savanakhet province about 480.000ton of paddy rice per year

Potential of Biomass by waste wood from the sawmills



- Waste wood are using as fuel for boilers

Potential of Biomass by sugarbagasse



Wangthap Sugar Factory

Potential Biomass by waste wood

- There are many hydropower Plants are going to be constructed
 1. NamTheun 2 , 1088 MW is underconstruction , the waste wood about **300.000 – 400.000 m³**
 2. Other Hydropower Power Plants

4. Recommendation for Biomass in Laos

- The government support the Biomass Project in Laos
- Select the potential sites for the implementation as sustainable pilot project
- Implement some projects for the cleaning of waste wood , sawdust and ricehusk and is best for environment
- We need your assistance to implement the pilot Biomass Project in Laos

Thank you very much