

**GOVERNMENT OF INDIA
POWER
LOK SABHA**

STARRED QUESTION NO:113
ANSWERED ON:01.03.2001
NATIONAL POWER POLICY FOR HYDRO POWER GENERATION
VILAS BABURAO MUTTEMWAR

Will the Minister of POWER be pleased to state:

- (a) whether the Government have formulated new National Power Policy particularly for development of hydro power generation;
- (b) if so, the details thereof;
- (c) the details of review of progress in respect of on-going hydro power projects in terms of physical and financial targets, set and achieved, during the last three years, project-wise;
- (d) the details of hydro power potentials identified and new power projects formulated with location and capacity, State-wise; and
- (e) the investment proposed in general and Maharashtra in particular?

Answer

THE MINISTER OF POWER (SHRI SURESH P. PRABHU)

(a) to (e) : A Statement is laid on the Table of the House.

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF STARRED QUESTION NO. 113 TO BE ANSWERED IN TI LOK SABHA ON 01.03.2001 REGARDING NATIONAL POWER POLICY FOR HYDRO POWER GENERATION.

(a) to (e) : Government of India had announced a policy on Hydro Power Development in August, 1998 in order to accelerate the pace of hydro power development in the country. The Policy envisages the following measures for this purpose :-

- (i) Providing adequate funds to Central Sector and State Sector Hydel Projects;
- (ii) Basin-wise development of new hydro potential sites;
- (iii) Creation of shelf of projects and bankable DPRs through intensive survey and investigations;
- (iv) Promoting private investment through joint venture arrangement;
- (v) Establishing a dedicated fund for promoting hydel projects;
- (vi) Rationalisation of hydro tariff;
- (vii) Providing an institutional mechanism for dealing with geological risks;
- (viii) Taking projects locked up in inter-State issues or languishing due to want of funds; and
- (ix) Providing greater thrust for development of small hydel projects.

The hydro capacity addition target and achievement during the last three years have been as under :-

| Target | Achievement | | |
|-----------|-------------|--------|----|
| 1997-98 | 516 MW | 223 | MW |
| 1998-99 | 544.5 MW | 542.5 | MW |
| 1999-2000 | 1563 MW | 1371.5 | MW |

The project wise details of the physical and financial performance of on- going hydroelectric projects programmed for commissioning during these years are given in Annexure-I.

The hydro potential of the country has been assessed at 84044 MW (at 60%load factor). The State-wise hydro potential identified is indicated in Annexure-II. At present, 50 sanctioned hydroelectric projects aggregating to 13755.85 MW at an estimated cost of Rs.57031.52 crores are under execution in the country for likely benefits during 9th Plan and beyond. The project-wise details indicating location, capacity and investment are given in Annexure-III. This includes Ghatghar PSS (2x125 MW) and Bhivpuri PSS (1x90 MW) in Maharashtra at an estimated cost of Rs.919.87 crores. In addition, 14 schemes with an installed capacity of 3607.9 MW have been cleared by Central Electricity Authority, 4 schemes with an aggregate installed capacity of 350 MW are under examination, 166 schemes with an aggregate installed capacity of about 50418 MW are under various states of survey and investigations and 90 schemes with an installed capacity of 49,505 MW have been returned to project authorities for re- examination.

During the last three years five new hydroelectric projects have been sanctioned under Central Sector. These are Chamera II (300 MW) in Himachal Pradesh; Loktak Downstream (90 MW) in Manipur; Teesta Stage V (500 MW) in Sikkim; Koteshwar (400 MW) in Uttaranchal and Tuirial (60 MW) in Mizoram. The net budgetary support has been significantly raised from Rs.1125.53 crores in 1997-98 to Rs.1982.15 crores in 2001-02 to promote large and medium size hydroelectric projects under Central Sector.

Government of India has initiated action to develop about 30,000 MW of hydro power in the various parts of the country. A substantial portion of this is in the North East, Jammu & Kashmir, Himachal Pradesh and Uttaranchal. An MOU has been signed with Jammu & Kashmir to develop 7 hydroelectric projects (2798 MW) under Central Sector. Similarly, in North East, action has been initiated to develop hydroelectric projects in Siang and Subansiri Basins (20700 MW). In addition, Kameng (600 MW) and Ranganadi Stage II (180 MW) in Arunachal Pradesh, Tuivai (60 MW) in Mizoram and Tipaimukh (1500 MW) in Manipur are also proposed to be developed under the Central Sector. In Himachal Pradesh Parbati Projects (2051 MW), Kol Dam Project (800 MW), Rampur HEF (580 MW) have been identified for development. Government of India is also according high priority in developing hydroelectric projects languishing for want of funds and projects locked up in inter-State disputes. A Memorandum of Understanding has been signed with Government of Madhya Pradesh to jointly develop Omkareshwar (520 MW) and Indira Sagar Project (1000 MW) in Madhya Pradesh.

ANNEXURE-I

ANNEXURE REFERRED TO IN PARTS (a) TO (e) OF THE STATEMENT LAID IN REPLY TO QUESTION NO.113 TO BE ANSWERED IN THE LOK SABHA ON 1.3.2001 REGARDING NATIONAL POWER POLICY FOR HYDRO POWER GENERATION.

Physical and Financial Targets and Achievements during the last three years, project-wise.

1997-98

| Name of Project & Installed Capacity | Physical Performance | Financial Performance |
|--------------------------------------|----------------------|-----------------------|
| | [Rs. Crores] | |

| State | Target | Achievement | Alloc | Actual |
|-------|--------|-------------|--------------|--------------|
| [MW] | [MW] | [MW] | [Rs. Crores] | [Rs. Crores] |

Central Sector

| | | | | | |
|------------------------|----------|----|-----|-------|--------|
| 1. Doyang [3x25 MW] | Nagaland | 25 | Nil | 50.00 | 125.65 |
|------------------------|----------|----|-----|-------|--------|

State Sector

| | | | | | |
|-------------------------|-----|---|-----|-----|------|
| 2. Sewa-III [3x3 MW] | J&K | 9 | Nil | 8.5 | 5.62 |
|-------------------------|-----|---|-----|-----|------|

| | | | | | |
|------------------------------|-----|-----|-----|----|------|
| 3. Chenani-III [3x2.5 MW] | J&K | 7.5 | Nil | 11 | 4.78 |
|------------------------------|-----|-----|-----|----|------|

4. Sobla U.P. 6 Nil 1 0.79
[2x3 MW]
5. Kadana PSS Gujarat 60 Nil 1.90 0.99
Extn. [2x60 MW]
6. Warna Mah. 16 8 1 1.06
[2x8 MW]
7. Dudhganga Mah. 24 Nil 1.60 1.99
[2x12 MW]
8. Singur A.P. 15 Nil 4.22 1.11
[2x7.5 MW]
9. Kalinadi-II Ktk. 90 50 75.40 82.26
Kadra [3x50 MW]
Kodasalli [3x40 MW]
10. Lower Kerala 120 120 7.0 37.73
Periyar
[3x60 MW]
11. Kakkad Kerala 50 Nil 10.20 12.27
[2x25 MW]
12. Poringal- Kerala 16 Nil 4.70 15.29
kuthu LB
Extn. [1x16 MW]
13. Sathanur T.N. 7.5 Nil 0.42 4.64
Dam [1x7.5 MW]
14. Lower T.N. 8 8 4.68 4.74
Bhawani Dam RBC
15. Eastern Bihar 5 5 1.50 0.19
Gandak [3x5 MW]
16. Teesta Falls W.B. 45 30 72.35 58.73
Phase-I & II
[3x7.5 MW Each]
17. Potteru Orissa 6 Nil 3.00 1.56
[1x3+1x3 MW]
18. Nuranang Ar.Pradesh 6 6 2.0 N.A.
[3x2 MW]
19. Bhadra RBC Ktk. Nil 6.0 5.0 1.58

TOTAL: 516 233

1998-99

1. Doyang Nagaland 25 Nil 90.00 54.00
[3x25 MW]

State Sector

2. Sobla U.P. 6 6 N.A. N.A.
[2x3 MW]

3. Upper Sindh-II J&K 35 Nil 45.50 34.50
[2x35 MW]

4. Sewa-III J&K 9 Nil 5.58 6.86
[3x3 MW]

5. Chenani-III J&K 7.5 Nil 7.60 6.18
[3x2.5 MW]

6. Ranjit Sagar Punjab 150 Nil 300 403.03
Dam
[4x150 MW]

7. Warna Mah. 8 8 1.25 2.22
[2x8 MW]

8. Dudhganga Mah. 12 Nil 1.80 1.96
[2x12 MW]

9. Kadana Gujarat 60 60 2.14 1.77
PSS Extn.
[2x60 MW]

10. Singur A.P. 7.5 Nil 8.65 8.61
[2x7.5 MW]

11. Kalinadi-II Ktk. 180 180 45.93 35.13
Kadra[3x50 MW]
Kodasalli[3x40 MW]

12. Poringal Kerala 16 16 3.4 5.82
kuthu LB
Extn. [1x16 MW]

13. Sathanur T.N. 7.5 7.5 1.51 2.54
Dam
[1x7.5 MW]

14. Potteru Orissa 6 Nil 3.00 1.96
PH.I & II
[1x3+1x3 MW]

15. Teesta W.B. 15 15 42.31 36.87
Canal Falls
PH-II [3x7.5 MW]

16. Koyna St.IV Mah. Nil 250 290.00 173.10
[4x250 MW]

TOTAL: 544.5 542.5

1999-2000

1. Doyang Nagaland 50 Nil 110 190
[3x25 MW]

2. Rangit-III Sikkim 20 60 106.55 104.49
[3x20 MW]

State Sector

3. Sewa-III J&K 9 Nil 4.60 3.39
[3x3 MW]

4. Chenani-III J&K 7.5 Nil 5.80 4.82
[3x2.5 MW]

5. Upper Sindh-II J&K Nil 35 9.09 35.68
[2x35 MW]

6. Ranjit Sagar Punjab 300 Nil 145.0 208.39
Dam [4x150 MW]

7. Rajghat M.P. 45 45 19.69 7.60
[3x15 MW]

8. Dudhganga Mah. 24 24 3.09 3.53
[2x12 MW]

9. Koyna St.IV Mah. 500 750 113 61.85
[4x250 MW]

10. Singur A.P. 15 15 6.57 3.78
[2x7.5 MW]

11. Kakkad Kerala 50 50 1.10 9.84
[2x25MW]

12. Kalinadi-II Ktk. 40 40 21.22 14.79
Kodasalli
[3x40 MW]

13. Parson's Valley T.N. 30 30 9.11 12.26
[1x30 MW]

14. Upper Indravati Orissa 450 300 94.65 148.79
[4x150 MW]

15. Teesta W.B. 22.5 22.5 16.10 23.02
Canal Falls
[3x3x7.5 MW]

TOTAL: 1563 1371.5

ANNEXURE-II

ANNEXURE REFERRED TO IN PARTS (a) TO (e) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO.113 TO BE ANSWERED IN THE LOK SABHA ON 1.3.2001 REGARDING NATIONAL POWER POLICY FOR HYDRO POWER GENERATION.

STATUS OF HYDRO-ELECTRIC POTENTIAL DEVELOPMENT As on 1.2.2001

| Region/State | Potential assessed at 60% L.F.[MW] | Potential developed at 60% L.F.[MW] | % eloped Under Development | Potential Under Development at 60% pment underdevelop- | % Under Develop- | % of potential developed + |
|--------------|------------------------------------|-------------------------------------|----------------------------|--|------------------|----------------------------|
|--------------|------------------------------------|-------------------------------------|----------------------------|--|------------------|----------------------------|

NORTHERN

| | | | | | | |
|---------------|----------|---------|-------|---------|-------|-------|
| J& K | 7487.00 | 501.83 | 6.70 | 385.50 | 5.15 | 11.85 |
| H.P. | 11647.00 | 2012.90 | 17.28 | 631.33 | 5.42 | 22.70 |
| Punjab | 922.00 | 656.33 | 71.19 | 173.33 | 18.80 | 89.99 |
| Haryana | 64.00 | 51.67 | 80.73 | 11.67 | 18.23 | 98.96 |
| Rajasthan | 291.00 | 192.67 | 66.21 | 8.00 | 2.75 | 68.96 |
| Uttar Pradesh | 9744.00 | 1145.33 | 11.75 | 1334.00 | 13.69 | 25.44 |

SubTotal[NR] 30155.00 4560.73 15.12 2543.83 8.44 23.56

WESTERN

| | | | | | | |
|-------------|---------|---------|-------|---------|-------|-------|
| M.P. | 2774.00 | 587.83 | 21.19 | 1202.72 | 43.36 | 64.55 |
| Gujarat | 409.00 | 138.67 | 33.90 | 110.67 | 27.06 | 60.96 |
| Maharashtra | 2460.00 | 1118.83 | 45.48 | 186.83 | 7.59 | 53.08 |
| Goa | 36.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

SubTotal[WR] 5679.00 1845.33 32.49 1500.22 26.42 58.91

SOUTHERN

A. P. 2909.00 1402.25 48.20 34.37 1.18 49.39
Karnataka 4347.00 2304.50 53.01 328.67 7.56 60.57
Kerala 2301.00 1125.50 48.91 219.30 9.53 58.44
Tamil Nadu 1206.00 946.50 78.48 67.50 5.60 84.08

Sub Total [SR] 10763.00 5778.75 53.69 649.83 6.04 59.73

EASTERN

Bihar 538.00 119.95 22.30 211.00 39.22 61.51
Orissa 1983.00 1100.50 55.50 8.95 0.45 55.95
West Bengal 1786.00 91.33 5.11 9.83 0.55 5.66
Sikkim 1283.00 57.50 4.48 109.00 8.50 12.98

SubTotal [ER] 5590.00 1369.28 24.50 338.78 6.06 30.56

NORTH EASTERN

Meghalaya 1070.00 121.67 11.37 0.00 0.00 11.37
Tripura 9.00 8.50 94.44 0.00 0.00 94.44
Manipur 1176.00 73.17 6.22 47.83 4.07 10.29
Assam 351.00 111.67 31.81 90.83 25.88 57.69
Nagaland 1040.00 56.00 5.38 25.88 2.49 7.87
Arunachal Prad 26756.00 16.50 0.06 108.33 0.40 0.47
Mizoram 1455.00 1.00 0.07 36.83 2.53 2.60

SubTotal [NER] 31857.00 388.50 1.22 309.72 0.97 2.19

ALL INDIA 84044.00 13942.60 16.59 5342.38 6.36 22.95

ANNEXURE-III

ANNEXURE REFERRED TO IN PARTS (a) TO (e) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO.113 TO BE ANSWERED IN THE LOK SABHA ON 1.3.2001 REGARDING NATIONAL POWER POLICY FOR HYDRO POWER GENERATION.

HYDRO SCHEMES UNDER CONSTRUCTION As on 22.2.2001

Sl.No. Name of Scheme Sector/ Installed Cap. Commng. Latest Estimated Expenditure
State [MW] Schedule Cost [Rs.Crs.] Upto 3/2000
CENTRAL SECTOR

1 Nathpa Jhakri H.P 6x250 1500.00 2001-02+ 7666.31 4576.33
2 Dulhasti J&K 3x130 390.00 2001-02+ 3559.77 2463.56
3 Chamera St.II H.P. 3x100 300.00 2004-05 1684.02 300.01
4 Loktak D/S Manipur 3x30 90.00 2006-07 578.62 6.59
5 Teesta St.V Sik. 3x170 510 2006-07 2198.04 36.98
6 Dhauliganga U.P. 4x70 280.00 2004-05 1578.31 271.94
7 Tehri St.I U.P. 4x250 1000.00 2001-03+ 5690.64 2484.83
8 Koteshwar U.P. 4x100 400.00 2005-06 1301.56 41.47
9 Ranganadi Ar. Pr. 3x135 405.00 2001-02 1446.09 993.68
10 Tuirial Miz. 2x30 60.00 2005-07 448.19 19.82
11 Kopili St.II Ass. 1x25 25.00 2001-02 76.09 9.62
12 Indira Sagar M.P. 8x125 1000.00 10th Plan 4558.34 1121.51

TOTAL :CENTRAL SECTOR 5960.00 30785.98 12326.34

STATE SECTOR

NORTHERN REGION

13 WYC Har. 2x7.2 14.40 2002-03 94.00 7.97

14 Larji H.P. 3x42 126.00 10th Plan 796.98 144.05

15[a] Upper Sindh-II J&K 2x35 70.00 1999-01 399.50 330.50
U-I Rolled

15[b] Upper Sindh-II J&K 1x35 35.00 2000-01 42.27 25.39
Extn.

16 Sewa St-III J&K 3x3 9.00 2000-01 60.00 43.93

17 Shahpur-kandi # Pun. 2x40+2x 168.00 11th Plan 1538.00 65.06
40+1x8

18 Lakhwar Vyasi \$ U.P. 3x100+ 420.00 10th Plan 1446.00 233.13
2x60

19 Maneri Bhali-II\$ U.P. 4x76 304.00 2003-05 1249.18 150.22

20 Katapathar # U.P. 2x9.5 19.00 2005-06 27.58 N.A.

TOTAL: NORTHERN REGION 1165.40 5653.51 1000.25

WESTERN REGION

21 Sardar Sarovar Guj./ 6x200+ 1450.00 2001-04+ 3267.25 1982.57
M.P./ 5x50
Mah.

22 Bansagar Tons M.P. 2x15+ 90.00 2001-02+ 956.81 758.69 U-1,
PH-II & PH-III 3x20 PH-III Rolled

23 Bansagar Tons M.P. 2x10 20.00 2001-02+ 84.97 5.31
PH-IV

24 Ghatghar PSS Mah. 2x125 250.00 2004-05 830.00 130.00

25 Bhivpuri PSS # Mah. 1x90 90.00 Beyond 89.87 N.A.
9th Plan

TOTAL : WESTERN REGION 1900.00 5238.90 2876.57

26 Srisailam LBPH A.P. 6x150 900.00 2000-02+ 2482.00 2018.34

27 Brindavan # Ktk. 2x6 12.00 2001-02+ 51.24 8.30

28 Sarpadi Ktk. 3x30 90.00 2002-03 369.45 4.68

29 Sharavathi Ktk. 4x60 240.00 2001-02 420.00 313.52

Tail Race U-1 Rolled

30 Malankara Ker. 3x3.5 10.50 2002-03 41.57 6.22

31 Kuttiyadi Ker. 3x1.25 3.75 10th Plan 13.38 7.02
Tail Race

32. Pykara Ultimate T.N. 3x50 150 10th Plan 373.06 176.07
33 Kalpong` A&N 3x1.75 5.20 2001-02 47.31 31.83

TOTAL :SOUTHERN REGION 1411.45 3798.01 2565.98

EASTERN REGION

34 Chandil Bih. 2x4 8.00 2001-02 32.49 26.45
35 North Koel \$ Bih. 2x12 24.00 2001-02+ 47.34 36.47
36 Upper Indravati Orissa 4x150 600.00 1999-01 1107.10 1036.57
U-1,2 & 3
Commnd.
37 Potteru Orissa 1x3+1x3 6.00 2001-02 18.83 19.82
38 Balimela Dam Orissa 2x30 60.00 10th Plan 69.30 20.00
Toe PH

39 Rammam St.I # W.B. 3x12 36.00 10th Plan 176.59 0.30
40 Purulia PSS W.B. 4x225 900.00 2004-06 3188.90 67.10
41 Rolep-I # Sik. 2x4.5 9.00 2003-04 45.00 1.26

TOTAL : EASTERN REGION 1643.00 4685.55 1207.97

NORTH-EASTERN REGION

42 Karbi Langpi \$ Ass. 2x50 100.00 2003-04 288.37 128.01
[Lower-Borpani]
43 Dhansiri \$ Ass. 5x3x1.33 20.00 2002-03 78.63 38.94
44 Likim - Ro Nag. 3x8 24.00 2001-02 186.59 168.25

TOTAL:NORTH-EASTERN REGION 144.00 553.59 335.20

TOTAL :STATE SECTOR 6263.85 19929.56 7985.97

PRIVATE SECTOR

45 Baspa St-II \$ H.P. 3x100 300.00 2001-02+ 949.23 675.67
46 Malana H.P. 2x43 86.00 10th Plan 332.71 N.A.
47 Vishnu Prayag U.P. 4x100 400.00 10th Plan 1614.66 193.28
48 Srinagar U.P. 4x82.5 330.00 2005-06 1699.12 100.00
49 aheshwar \$ M.P. 10x40 400.00 2003-05 1673.00 126.49
50 Boothanthankettu \$ Ker. 16.00 16.00 2001-02+ 47.26 N.A.

TOTAL : PRIVATE SECTOR 1532.00 6315.98 1095.44

TOTAL :ALL INDIA 13755.85 57031.52 21407.75

Hydro Capacity already spun/ 565.00
Commissioned out of the above.

New Hydro Capacity under 13190.85
Execution

+ Capacity addition of 3767 MW may slip from the revised 9th Plan programme of 8399.2 MW.

Works of the project are yet to be taken up.
\$ Works of the project are held up.