#### MINISTRY OF HEALTH AND FAMILY WELFARE

Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy

#### Performance Audit Report on 'AYUSH'

#### 1. Introduction

- 1.1 National Health Policy, 1983 referred to our rich heritage of medical and health sciences and highlighted under utilisation of the vast infrastructure available in the Indian System of Medicine and Homoeopathy. For addressing the health care delivery services through the Indian system of Medicine and Homoeopathy, Government of India (GOI) established (1995) an independent department of Indian Systems of Medicine and Homoeopathy (ISM&H) under the Ministry of Health and Family Welfare. Government thereafter, approved a separate national policy on ISM&H in 2002 which, inter-alia, reiterated that Ayurveda, Unani, Homoeopathy, and Yoga offered a wide range of preventive, promotive and curative treatments and renamed the department of ISM&H as the Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) in November 2003.
- 1.2 The Department of AYUSH headed by the Secretary to Government, in the Ministry of Health and Family Welfare is the nodal agency for overall direction, coordination, budgetary control and policy interventions for implementation of the policy. Out of the 35 States/UTs, 21 States established a separate Directorate to coordinate and implement AYUSH related programmes. An infrastructure of 3845 hospitals with 65159 beds, 23630 dispensaries, 6.91 lakh registered practitioners, 439 and 96 under-graduate and post-graduate colleges with admission capacity of 23555 and 1888 students respectively and 9226 licensed pharmacies, was created in the country as of March 2003.
- 1.3 With a view to augmenting educational facilities, carrying out research activities, ensuring availability of adequate plant based raw material and quality control of drugs, mainstreaming of AYUSH drugs in the National health care delivery system, the Ministry launched several centrally sponsored and central plan schemes. The Ministry set up two Regulatory bodies, namely, the Central Council of Indian Medicine (CCIM) and the Central Council of Homoeopathy (CCH) for prescribing standards for infrastructure, developing curriculum, inspection of medical colleges/institutions and maintaining Central Register of Practitioners. The Ministry also established Research Councils for identifying and prioritising research activities/areas and Apex level bodies to act as centres of excellence.

# 2. Objectives of the Scheme

- **2.1** The objectives under the National Policy on AYUSH of 2002, can be grouped under the following heads:
  - Strengthening the standards of medical, nursing and pharmacy education through strong regulatory control, upgradation of course curricula,

- strengthening of infrastructural facilities in AYUSH educational institutes and setting up of model colleges and centres of excellence,
- Re-orientation and prioritisation of research activities and areas in 'AYUSH' covering clinical trials, pharmacology and toxicology keeping in view the strength of each system and contemporary relevance,
- Drug standardisation, regulation and enforcement including adherence to good manufacturing practices (GMPs) and publication of formulations and pharmacopoeial standards,
- Conservation and sustainable use of medicinal plants including remunerative farming for ensuring availability of authentic and quality raw drugs with essential components as required under pharmacopoeial standards,
- Integration of AYUSH with health care delivery systems for optimal use of the vast infrastructure of hospitals, dispensaries and physicians, and
- Ensuring affordable AYUSH services and safe and efficacious drugs

# 3. Audit objectives

- 3.1 The performance audit of Department of AYUSH sought to assess the
  - efficacy of planning for implementation of various programmes, budgetary allocation and utilisation of funds,
  - results of the efforts of the Union Government/States to strengthen medical education,
  - efficiency and extent of achievement of research activities and dissemination of research findings for the benefit of educationists, researchers, manufacturers and common man,
  - extent of achievement of drug standardisation and availability of authentic AYUSH drugs, regulation, enforcement, adherence to Good Manufacturing Practices (GMPs) and publication of formulations and pharmacopoeial standards of AYUSH drugs,
  - extent of conservation and sustainable supply of medicinal plants for research work, development of agro-techniques, contractual farming for developing marketing mechanism, and
  - extent of expansion of the outreach of health care under AYUSH and integration of AYUSH with modern medicines, Health Care Delivery System and National Health Programmes

# 4. Audit methodology and audit criteria

- **4.1** The performance audit of AYUSH covered the period 2000-01 to 2004-05 and was conducted through sample check of the records in the Ministry of Health and Family Welfare including its subordinate offices and implementing agencies in 29 States and Union Territories. The sample for audit covered all Regulatory bodies, Research councils and Apex level institutions and 25 to 30 *per cent* of the expenditure in the subordinate offices. Details of samples are indicated in **Annex-1**.
- **4.2** The criteria used for the performance audit were

- attainment of the prescribed levels of performance of each scheme and programme including level of coordination between the Central and State Governments towards integrating various schemes,
- progress in review of minimum standards of education comprising faculty, infrastructure and hospital facilities prescribed by the regulatory bodies,
- inspection of new colleges recommended for recognition, upgradation of colleges recommended and number of colleges in which recognition was withdrawn based on inspections made,
- outcome of research culminating in the shape of patents, development of new drugs and curing endemic diseases,
- achievement of promotional and commercial schemes run by the Ministry on the development of medicinal plant sector,
- performance of pharmacopoeial committees with reference to which standards, if any, were developed for AYUSH,
- extent to which drug testing laboratories and pharmacies of States were strengthened under Centrally Sponsored Scheme, and
- extent to which the Ministry had been able to integrate the AYUSH systems with the modern health care and how far their reach had expanded.
- 4.3 Director General of Audit, Central Revenues/Principal Accountants General, Accountants General and their subordinate officers discussed the audit plan and audit objectives in entry and exit conferences between November 2004 and March 2005 with the representatives of the Ministry of Health and Family Welfare and departments of AYUSH in respective States as also respective heads of Regulatory bodies, Research Councils and other senior officers. The recommendations were discussed with the Secretary (AYUSH) and other senior officers of the Department including the Regulatory and Research Councils on 6 October 2005. Their views as expressed in the meeting have been appropriately reflected in the report.

# 5. Audit findings

# 5.1 Efficacy of Planning, Budgetary Allocation and utilisation of funds.

**5.1.1** Table 1 below contains the details of Budget Estimates, Revised Estimates and actual expenditure incurred by the Department of AYUSH from 2000-01 to 2004-05.

Table 1: Budget Estimates, Revised Estimates & Actual Expenditure

(Rupees in crore)

Year	Budget estimates		Revised estimates		Actual expenditure			Percentage		
	Plan	Non	Total	Plan	Non	Total	Plan	Non	Total	utilisation of
		Plan			Plan			Plan		plan funds w.r.t. BE
2000-01	100.00	43.50	143.50	90.00	44.14	134.14	79.46	43.51	122.97	79
2001-02	120.00	45.56	165.56	90.00	44.84	134.84	82.15	43.58	125.73	68
2002-03	150.00	50.86	200.86	105.00	50.66	155.66	89.78	49.31	139.09	60
2003-04	145.00	51.47	196.47	135.00	51.47	186.47	133.96	51.01	184.97	92
2004-05	173.00	52.73	225.73	200.00	59.20	259.20	198.76	62.07	260.83	115
Total	688.00	244.12	932.12	620.00	250.31	870.31	584.11	249.48	833.59	85

- **5.1.2** Audit noticed that Budget provisions during 2000-05 constituted only two *per cent* of total health budget of the Union Government as against 10% envisaged in the National Policy on ISM&H-2002 which sought to raise the share of allocation for AYUSH in the total health plan at the central level to 10 *per cent* to be increased at the rate of 5 *per cent* in every Five Year Plan. Government did not allocate the targeted funds till 2005-06, when Rs. 350 crore were provided for the scheme in the budget, which meant inadequate support all along, for the achievement of envisaged objectives.
- **5.1.3** Table 2 contains activity-wise allocation of funds between 2000-01 and 2004-05. Research and Education alone accounted for 65 percent of the total allocation of funds under AYUSH indicating the priority that Government accorded to these activities. Detailed allocation of funds under different schemes and activities is given in **Annex-2**.

Table 2 Activity-wise allocation of funds (2000-01 to 2004-05)

S.No.	Items of expenditure	Rs. in crore	Percentage
1	Education	256.77	30
2	Research	294.78	35
3	Quality control	155.46	19
4	Health Care	74.44	9
5	Information, Education and Communication	21.95	3
6	Administrative and others	30.19	4
	Total	833.59	100

**5.1.4** Audit examination revealed that out of Rs. 50.87 crore that the Ministry released to 12 states during 2000-01 to 2004-05, Rs. 30.98 crore (61 *per cent*) were routed through the States whereas Rs. 19.89 crore (39 *per cent*) were released directly to the implementing agencies. Out of the total funds of Rs.50.87 crore that the Ministry had released, Rs.36.52 crore (72 *per cent*) remained unutilised.

The Ministry stated (September 2005) that substantial amount remaining unutilised related to the scheme for strengthening Drug Testing Laboratories and Pharmacies and that the construction of buildings and procurement of equipment for which funds were provided under the scheme to the States were a time consuming activity and that the Government was pursuing the matter with the State Governments. It was further stated that monitoring and evaluation of projects sanctioned under various Centrally Sponsored Schemes was being done by Secretary (AYUSH).

- **5.1.5** Further examination of the promptness of release of funds by the State Governments to implementing agencies revealed that State Governments did not release Rs. 16.94 crore that represented 55 percent of the total amount released, the delay going upto 36 months. Out of the total amount of Rs. 62.63 crore that the Ministry had released during 2002-03 and 2003-04 as much as Rs. 14.82 crore (24 *per cent*) were released only in March in the two years.
- **5.1.6** The Ministry not only failed to provide the envisaged or targeted funds for the schemes under AYUSH till 2005-06 but could also not ensure complete utilisation of funds released. State Governments, in turn, delayed release of funds to implementing agencies and also released substantial funds only in March which would appear to have been a ploy to prevent lapse of funds. Achievement of objectives of the scheme that

depended on prompt and complete disbursement of allocated funds thus became, ab initio, doubtful and difficult.

#### **5.1.7** Recommendations

- The Ministry needs to install a system for querying the data through a computer based tracking system to suit its monitoring requirements.
- The Ministry needs to avoid release of funds at the fag end of each financial year, streamline the system and procedure of transfer of funds to States and further allotment by States to implementing agencies by identifying the specific bottlenecks and monitoring the internal procedures closely and
- The Ministry may consider insisting on refund of unutilised balances retained by the State Governments for over a year, which would help avoid blocking of resources when competing sectors face resource crunch.
- **5.1.8** The Ministry stated (September 2005) that Secretary (AYUSH) had been writing to the Chief Secretaries of the States to make the funds available to the implementing agencies expeditiously and ensure proper utilisation thereof within the stipulated period. It was further stated during the Exit Conference (October 2005) that the Ministry was constantly rationalising and reprioritising various schemes and that the Planning Commission had been requested to allow release of funds to different states through the State Health Societies instead of routing these through the State Governments. The Ministry also agreed to the suggestion of audit of installing a system for querying the data through a computer based tracking system to suit its monitoring requirements.

# 5.2 Results of efforts of Strengthening Medical Education

- **5.2.1** The Ministry adopted the mechanism of strengthening medical education through Regulatory Councils and National/Apex level institutions. Accordingly, the Ministry set up two Regulatory Councils namely, the Central Council of Indian Medicine (CCIM) and the Central Council of Homoeopathy (CCH) as autonomous bodies, under the Indian Medicine Central Council (IMCC) Act, 1970 and the Homoeopathy Central Council (HCC) Act, 1973 which were responsible for
  - advising the Government in matters relating to recognition and withdrawal of medical qualification,
  - prescribing minimum standards of infrastructure and manpower to be maintained by medical institutions,
  - undertaking regular inspection to ensure adherence to the standards, and
  - maintaining Central Registers of Practitioners and update them from time to time.
- **5.2.2** Government brought about amendments in 2002-2003 to both the Acts referred to in Para 5.2.1 requiring that prior permission of the Ministry be obtained for opening new colleges, starting new courses and increasing intake of students.

- **5.2.3** Records of CCIM and CCH indicated that as of March 2005, medical qualification awarded by 69 out of 444 colleges was yet to be recognised. The Councils allowed these colleges to run various courses from time to time without recognition. Though the courses of the concerned universities were not recognised, 6830<sup>1</sup> students had already passed out from various colleges of Ayurveda and Unani systems during 1997-2005. Ministry granted permission to two Homoeopathy colleges (in Chhatisgarh and Orissa) for continuance of courses in new sessions during 2003-04 and 2004-05 respectively against the specific advice of the Regulatory Council though these colleges lacked adequate infrastructural facilities. The students passing out of such colleges would face the prospect of not being considered recognised AYUSH practitioners, that could be not only detrimental to the growth of the system but also put a question mark on their future career.
- **5.2.4** Test check of records of 142<sup>2</sup> colleges including 35 new colleges, which were inspected by the representatives of Regulatory Councils during 2000-05, revealed that none of these colleges met the minimum requirement of infrastructural and teaching facility standards prescribed by the Councils. Table 3 contains the brief description of the deficiencies noticed in audit.

Table 3: Deficiencies in infrastructural facilities in AYUSH colleges

Sl.	Ayurvedic and Unani Colleges	No. of	colleges	Remarks
No.		Ayurvedic (Total 58)	Unani (Total 14)	
1.	Deficiency in faculty or in minimum covered area of college building	55	14	-
2.	Deficiency in minimum covered area, bed strength, essential or other staff, IPD or OPD in attached hospital	49	14	-
3.	Deficiency in minimum sitting capacity, books or staff in library	42	11	In one Ayurvedic college, sitting facility was not available in the library.
4.	Deficiency in herbal garden with regard to minimum prescribed area, maintenance of required number of plants or sufficient staff	46	11	In three Ayurvedic and one Unani colleges, herbal gardens had not been set up.
5.	Deficiency in space, staff or equipment in respect of laboratory	48	12	Two Ayurvedic colleges were operating without laboratory facilities.
6.	Deficiency in space, staff or equipment in respect of pharmacy	38	10	Nine colleges were functioning without the facility of attached pharmacy.
7.	Deficiency in panchkarma <sup>3</sup> facilities	13	Not applicable	Panchkarma facilities were not available in two Ayurvedic colleges.

<sup>&</sup>lt;sup>1</sup> excludes position of Homoeopathy students passed out as this information was not available

<sup>&</sup>lt;sup>2</sup> Ayurveda: 58; Unani: 14 and Homoeopathy: 70

<sup>&</sup>lt;sup>3</sup> Panchkarma is a renowned therapeutic treatment in Ayurveda and aims at removal of causative factors of somatic and psychosomatic diseases.

	Homoeopathy colleges	No. of colleges (Total 70)	Remarks
1.	Non-availability of own college building, deficiency in library, minimum number of class rooms or faculty	57	Four colleges were operating from 2-3 class rooms
2.	Deficiency in bed strength, IPD, OPD, essential or other hospital staff in attached hospital or non- availability of own building	69	In eight colleges, number of patients in IPD ranged from 1 to 10
3.	Non-availability of required number of departments, faculty, other staff, library or equipment	70	In two cases, there was no separate staff for attached hospital

**5.2.5** Test-check of records of educational institutes in Andhra Pradesh, Chhatisgarh, Delhi, Haryana, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal revealed shortage of teaching staff ranging between 19 and 72 per cent, of paramedical and other staff ranging between 13 and 78 per cent while bed occupancy ranged between 1 and 71 per cent.

The Ministry while accepting the deficiencies pointed out in audit agreed (September 2005) to strengthen the regulatory oversight by giving permission to new colleges strictly on meeting minimum standards.

- 5.2.6 The Councils (CCIM & CCH) granted permission or recognition to new as well as existing colleges for admission of a specified number of students on session-to-session basis on the recommendations of a committee of experts nominated by the Councils for inspection of each college. In case the representatives of the Councils did not inspect a specific college in a particular year, permission for admission in the next academic session was given on the basis of previous inspection. However, CCH was granting permission on a one-time basis instead of session to session basis until specifically revoked by the Council/Ministry, notwithstanding the fact that these colleges did not have the required infrastructural facilities including faculty as per prescribed norms and standards.
- **5.2.7** Table 4 indicates the year-wise position of the number of colleges inspected, colleges permitted to run courses on the basis of new inspections or on the basis of previous inspections and cases in which the Councils disallowed permission.

Table 4: Year-wise institutions inspected and status of permission

Year	System	Total no. of institutions	Institutions inspected (percentage)	Cases in which permission given on the basis of inspection	Cases in which permission refused	Cases in which permission given on the basis of previous inspection (percentage)
1	2	3	4	5	6	7
2000-01	Ayurveda	190	113 (59)	105	8	68* (36)
	Unani	34	34 (100)	33	1	=
	Homoeopathy	150	97 (65)	96	1	53 (35)
2001-02	Ayurveda	194	63 (32)	50	13	126* (65)
	Unani	34	27 (79)	25	2	7 (21)
	Homoeopathy	160	114 (71)	113	1	45* (28)

2002-03	Ayurveda	211	100 (47)	93	7	105* (50)
	Unani	38	27 (71)	26	1	10* (26)
	Homoeopathy	182	100 (55)	98	2	80* (44)
2003-04	Ayurveda	211	96 (45)	94	2	103* (49)
	Unani	38	29 (76)	26	3	9 (24)
	Homoeopathy	182	72 (40)	67	5	110 (60)
2004-05	Ayurveda	221	127 (57)	123	4	84* (38)
	Unani	39	34 (87)	31	3	5 (13)
	Homoeopathy	184	40 (23)	37	3	138* (75)

<sup>\*</sup>Variation between the total number of institutions (col. 3), institutions inspected (col. 4) and institutions in which permission given on the basis of previous inspections (col. 7) is on account of cases where permission was not given in earlier years and no further inspection was conducted in the absence of replies, or cases being sub-judice etc.

#### 5.2.8 Audit scrutiny revealed that:

- only 32 to 59 *per cent* of the Ayurvedic colleges and 23 to 71 *per cent* of the Homoeopathy colleges were inspected every year by regulatory Councils during 2000-05.
- colleges with persistent deficiencies in infrastructure that were denied permission to run courses during 2000-05 ranged between 1 and 13 during these years.
- 61 to 62 *per cent* colleges of Ayurveda and Homoeopathy were inspected only once or twice in the last five years.
- teams of experts constituted by the Councils for inspection of colleges included members of the Executive Committee of these Councils. As these members also took part in the Executive Committee's meetings in which inspection reports were considered, there could be a conflict of interest diluting the regulatory mechanism, and
- no systematic or rational system for inspecting the colleges had been devised or followed and visits were generally carried out randomly.
- **5.2.9** Well-equipped colleges with attached hospitals were a pre-requisite for improving educational standards, clinical experience and research. The Ministry in its reply (September 2005) stated that there was growing concern over mushrooming of sub-standard colleges.
- **5.2.10** Audit examination also revealed that the Ministry had constituted a Commission of Inquiry headed by a retired judge of Delhi High Court in January 2004 to investigate complaints made by certain individuals and institutions and 52 Parliamentarians against the functioning of CCH. The terms of reference of the Commission, *inter-alia*, included investigation into violations of section 20(1) of the CCH Act, 1973 in granting recognition to new colleges and deputing executive committee members, who participated in the decision making process for inspection of the colleges. The report of the Commission was awaited as of March 2005. Audit noticed that though complaints had mentioned involvement of the Vice-President of CCH, he was nominated by the Council as a member of the Inquiry Commission.

The Ministry, while agreeing with the audit observations stated (September 2005) that the system of inspection of colleges would be considered by the Councils at the earliest. The Ministry while acknowledging in the Exit Conference (October 2005) that the inspections made by regulatory bodies had been deficient, stated that strict adherence to prescribed norms was now being ensured while granting recognition to

colleges and that amendments to different laws was being actively considered to overcome various bottlenecks.

**5.2.11** Preparation and maintenance of a database of practitioners of AYUSH was one of the important functions of the Regulatory bodies. A Central Register containing the names of persons enrolled on any State Register of Indian medicine or Homoeopathy and who possessed any of the recognised medical qualifications included in the respective schedules of the Acts was to be maintained and notified in the Gazette of India. A practitioner who did not possess a recognised medical qualification and had been practicing Indian medicine or Homoeopathy before the commencement of Central Acts was also eligible for enrollment on the State register of Indian medicine or Homoeopathy.

**5.2.12** While the Central Register of Homoeopathy was required to be maintained in two parts, Part-I containing the names of practitioners who had a recognised Medical qualification in Homoeopathy and Part-II the names of other practitioners, the Central Register of Indian Medicine was maintained only for qualified practitioners. Against 6.95 lakh AYUSH practitioners (4.93 lakh qualified and 2.02 lakh non-qualified) registered with the States, as of December 2002, database of only 1.86 lakh practitioners had been maintained by both the councils. Out of 29 States and 7 Union Territories (UTs), records was maintained in only 20 States/UTs and notified upto the year indicated against each state in Table 5.

Table 5: Notification of data of registered practitioners maintained upto the year ended

Sl. No.	States/Union Territories	Ayurved & Unani	Homoeopathy
1.	Andhra Pradesh	March 1994	1989
2.	Assam	December 1986	1988
3.	Bihar	March 1997	-
4.	Chandigarh	-	1988
5.	Delhi	March 2001	1988
6.	Gujarat	December 1999	1988
7.	Haryana	December 1999	1988
8.	Himachal Pradesh	March 1997	1989
9.	Jammu & Kashmir	1983	-
10.	Karnataka	March 1994	1988
11.	Kerala	March 1994	1988
12.	Madhya Pradesh	March 2000	1988
13.	Maharashtra	March 1991	1988
14.	Meghalaya	-	1988
15.	Orissa	March 2002	1988
16.	Punjab	December 1998	1988
17.	Rajasthan	March 2002	1988
18.	Tamil Nadu	March 2001	1988
19.	Uttar Pradesh	March 2000	1989
20.	West Bengal	March 1994	1989

**5.2.13** The database had not been updated and revised for periods ranging between 3 and 22 years in respect of the above states. Details of practitioners in Arunachal Pradesh, Goa, Manipur, Mizoram, Nagaland and Sikkim had not been maintained in any of the Central Registers. Delay in notification of the Central Register deprived the practitioners of the opportunity to practice in other states or throughout the country.

The Ministry stated (September 2005) that efforts were being made to update and revise the registers of practitioners on priority.

# **5.2.14** Status of AYUSH medical colleges

Table 6 below depicts the status of AYUSH colleges imparting education in 'Ayurveda', 'Unani', and 'Homoeopathy' systems in the country.

Total no. of colleges during the year **Systems** 2003-04 2000-01 2001-02 2002-03 2004-05 Total PG Total PG Total PG Total PG Total PG coll<u>eges\*</u> colleges\* colleges\* colleges\* colleges\* Ayurvedic 52 55 60 190 194 211 211 60 221 60 Unani 34 4 34 5 38 38 39 7 6 6 150 Homoeopathy 15 160 21 182 31 182 31 184 31 374 71 97 97 388 81 431 431 444 98 **Total** 

Table 6: Position of AYUSH colleges

**5.2.15** Audit noticed that the total number of AYUSH medical colleges under Ayurveda, Unani and Homoeopathy systems increased by 19 *per cent*, from 374 at the end of March 2001 to 444 at the end of March 2005. **Annex-3** contains state-wise details of government and non-government colleges. While Bihar, Karnataka, Madhya Pradesh, Maharashtra, and Uttar Pradesh accounted for 62 *per cent* of the total AYUSH medical education institutions, no college had been set up in Manipur, Meghalaya, Mizoram, Nagaland and Sikkim.

#### 5.2.16 National/Apex level institutes

Kolkata (NIH)

Department of AYUSH had been financing five apex level institutions of Ayurveda, Unani and Homoeopathy in different parts of the country which were to act as centres of excellence and were expected to develop high standards of teaching, training, research and high quality patient care. Details of financial assistance provided to the apex institutions, courses run by them and intake capacity are given in **Annex-4.** Table 7 contains the gist of audit findings from a test check of records of National/Apex level institutes.

Name of the Audit observation/comments Period Expenditure institute involved No. involved (Rs. in crore) 1 2000-01 31.23 National Institute i) There was shortage of 19 teachers of Homoeopathy, ii) 17 posts sanctioned by the Ministry for

PG courses in April 2004 were not filled

practical classes were not achieved

per cent due to

medical/nursing personnel.

various departments

iii) Minimum targets of theoretical and

iv) Bed occupancy ranged between 47 and

v) Shortfall of essential equipment/ material ranged between 34 and 86 per cent in

shortage

Table 7: Gist of audit findings in National/Apex level Institutions.

2004-05

<sup>\*</sup>Includes colleges imparting PG courses

		vi) There were no facilities for conducting clinical trials vii) Old equipment in the operation theatre needed replacement.		
2	National Institute of Ayurveda, Jaipur (NIA)	i) Shortage of nine teaching staff and 13 and 36 <i>per cent</i> paramedical staff ii) Bed occupancy declined from 71 to 54 <i>per cent</i> during 2000-01 and 2003-04	-do-	48.64
3	Institute of Post Graduate Training & Research in Ayurveda, Gujarat (IPGTRA)	In 150 bed attached hospital, patients declined by 21 <i>per cent</i> during 2000-01 and 2003-04	-do-	25.81
4	National Institute of Unani Medicine, Bangalore (NIUM)	<ul><li>i) Post of professors/readers were not filled</li><li>ii) Post graduate classes were taken by lecturers</li></ul>	2004-05	16.50
5	Rashtriya Ayurveda Vidyapeeth, New Delhi (RAV)	<ul><li>i) No specific targets in terms of admission of students were fixed.</li><li>ii) There was poor response to courses conducted.</li><li>iii) CCIM did not recognise the courses.</li></ul>	2000-01 to 2004- 05	2.45

The Ministry stated (September 2005) that:

- out of 17 posts of teachers in NIH sanctioned in April 2004, 11 had since been filled and the Institute was in the process of filling the remaining 6 posts. It was also stated that NIH had engaged part-time teachers to overcome the shortages,
- NIH had undertaken measures to upgrade the bed strength from 60 to 100,
- the Staff Inspection Unit of the Ministry of Finance in April 2005 had recommended reduction in the staff strength of NIA and thus there was no need to augment the staff strength. The reply is not tenable as teaching and paramedical staff were to be provided as per norms prescribed by regulatory Councils,
- the bed occupancy in NIA had declined as the hospital building was under repair and maintenance,
- the decrease in number of patients in IPGTRA was due to the decrease in the number of doctors as some of the posts had been abolished and new appointments were not made,
- NIUM had started functioning only from the academic year 2004-05 and the
  posts of teachers could not be filled due to non-availability of suitable
  candidates and that the PG courses were being managed by three Professors on
  contract basis, and
- the courses offered by RAV were to enhance the knowledge of students and not for according any recognition. The reply is inconsistent with the recommendations made by the Committee constituted by the Ministry in May 2000 according to which the courses run by RAV should be recognised as M.Phil degree and PG Diploma in Ayurveda.

# **5.2.17** Development of infrastructural facilities in educational institutions:

Ministry launched (1990-91) a centrally sponsored scheme for development of infrastructure for AYUSH medical institutions, which had six components. Table 8 below indicates year-wise position of grants released to the States under each component during 2000-01 to 2004-05.

Table 8 Year-wise and component-wise position of grant-in-aid released

(Rupees in lakh)

Sl. No.	Period	Develo- pment of U.G.	Assistance for P.G. education	Reorienta- tion training	Renovation and strengthening of hospital wards	State model institutes	Establish- ment of computer	Total
		colleges	education	ti aiiiiig	nospitai wai us	mstitutes	laboratory	
1.	2000-01	815.00	204.93	36.11			110.00	1166.04
2.	2001-02	684.46	256.07	40.47			40.00	1021.00
3.	2002-03	403.90	213.24	19.96			-	637.10
4.	2003-04	653.79	119.78	71.08	269.61	1286.00	50.00	2450.26
5.	2004-05*	721.95	150.88	31.46	77.59	1317.00	70.00	2368.88
	Total	3279.10	944.90	199.08	347.20	2603.00	270.00	7643.28

<sup>\*</sup>position as of December 2004

**5.2.18** Audit noticed that out of the total allotment of grants of Rs. 76.43 crore between 2000-01 and 2004-05 (till December 2004) as much as Rs. 32.80 crore (43%) was released for development of under graduate colleges and Rs. 26.03 crore (34%) was released for development of State Model institutes, indicating the priority that the Ministry accorded to the two areas. The Ministry, however, did not maintain consolidated record of utilisation of grants, thus adversely affecting monitoring of actual utilisation. Ministry did not receive utilisation certificates (UCs) that were mandatory, from the States in 263 cases till February 2005 involving Rs. 28.44 crore representing grants released during 1997-98 to 2001-02. State-wise position of grants-in-aid released under different components of the scheme during 2000-05 is given in Annex-5.

The Ministry stated (September 2005) that the need for submission of UCs in respect of funds released to the states was regularly being emphasised in the meetings with State Health Secretaries who were also asked to furnish progress of scheme-wise utilisation of funds on monthly basis.

- **5.2.19** Audit scrutiny further revealed that Goa and Jharkhand were not considered for financial assistance under any of the components of the scheme during the last 5 years. No grant was released to Arunachal Pradesh, Chandigarh, Jammu & Kashmir and Tamil Nadu under the components 'Assistance for Post Graduate medical education', 'Re-orientation training programme' and 'Renovation and strengthening of hospitals wards.' Bihar, Chandigarh, Haryana, Jammu & Kashmir, Punjab and Tamil Nadu were not considered for assistance under the component 'Upgradation of colleges into Model institutes', and grant under 'Establishment of Computer laboratory' was not released to Arunachal Pradesh, Chandigarh, Haryana and Jammu & Kashmir.
- **5.2.20** Table 9 contains a gist of irregularities that audit noticed in the utilisation of grants received by the States, which adversely impacted the development of undergraduate, post graduate colleges and also in the upgradation of colleges as model institutes.

Table 9: Gist of irregularities noticed in development of colleges

Sl. No.	Name of programme	Irregularities/deficiencies noticed
1	Development of undergraduate colleges (Records of 42 out of 157 colleges were test checked involving grant of Rs. 32.79 crore in Assam, Andhra Pradesh, Bihar, Haryana, Himachal Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal)	i) Financial assistance was released to 5 colleges though UCs of earlier years were not submitted. ii) 7 colleges did not furnish sufficient justification for or details of equipment to be purchased in the proposal for grant iii) 25 colleges did not furnish NOC from local Municipal bodies in support of construction plan iv) Status of fulfillment of prescribed conditions was not verifiable from the inspection reports of 41 colleges v) Advance payment of Rs. 93.50 lakh was made for building construction which should have been reimbursed. vi) Out of Rs. 298.20 lakh, grants amounting to Rs. 117.44 lakh were lying unspent with the governments of Andhra Pradesh, Bihar, Haryana, Orissa, Punjab, Rajasthan, Uttar Pradesh and West Bengal. vii) Grants amounting to Rs. 65.20 lakh were released with delays ranging from 6 to 39 months in Andhra Pradesh, Arunachal Pradesh, J&K & Uttar Pradesh. viii) Civil works involving Rs. 53.94 lakh were incomplete in Assam, Bihar and West Bengal, and ix) Grant of Rs. 20 lakh was irregularly released to two private colleges in Maharashtra.
2	Development of Post-graduate medical education (Records of 12 out of 31 institutions were test checked involving grant of Rs. 9.46 crore in Andhra Pradesh, Himachal Pradesh, Orissa and Rajasthan)	<ul> <li>i) Assistance was released to 3 colleges though infrastructural requirements as laid down in the guidelines were not met.</li> <li>ii) In 5 cases, permission of regulatory bodies was not verifiable from records.</li> <li>iii) 8 institutions did not furnish the undertaking as required under the scheme guidelines.</li> <li>iv) In Orissa grant of Rs.83.28 lakh was released upto March 2002 but no admissions were made between 2001-2003.</li> <li>v) Out of Rs.59.91 lakh released to Andhra Pradesh, Orissa and Rajasthan, Rs.36.58 lakh, remained unutilised.</li> </ul>
3	Reorientation training programme for AYUSH personnel (Records of 20 out of 73 institutions were test checked involving grant of Rs. 1.99 crore in Chhatisgarh, Haryana, Uttar Pradesh and West Bengal)	i) 19 institutions did not submit feedback of training programme. ii) In 20 cases, UCs were not furnished. iii) Out of the grant of Rs.15.10 lakh released to colleges in Chhatisgarh, Uttar Pradesh and West Bengal, during the period 1996 and 2004, Rs.11.42 lakh remained unutilised.
4	Renovation and strengthening of teaching hospitals (Records of 6 out of 18 colleges were test checked involving grant of Rs. 3.47 crore in Andhra Pradesh)	<ul> <li>i) In 2 cases, copies of inspection reports of Regulatory bodies were not found.</li> <li>ii) In one case, justification or estimate seeking grant was not submitted.</li> <li>iii) Ministry released Rs.20 lakh to a college in Andhra Pradesh without an attached hospital.</li> </ul>

5	Establishment of computer	i) Four institutions purchased inadmissible items or items in		
	laboratory	excess of the prescribed quantities.		
	(Records of 15 out of 27	ii) Though the scheme provided for regular monitoring,		
	colleges involving grant of	Ministry or regional units of Central Research Councils did		
	Rs. 2.70 crore test checked in	not monitor in five cases,		
	Bihar, Delhi and Madhya	iii) Out of the grant of Rs. 20 lakh released to Bihar and		
	Pradesh )	Delhi, Rs.2.14 lakh remained unspent.		
6	State Model institute of	i) Two colleges did not meet the prescribed norm of 50% of		
	Ayurveda/Siddha/Unani/	the teaching staff in position as posts of Professors and		
	Homoeopathy	Readers were lying vacant.		
	(Records of 7 out of 19 colleges	ii) Andhra Pradesh government released grant of Rs. 100		
	involving grant of Rs. 26.03	lakh only out of Rs.150 lakh, after a delay of 11 months.		
	crore were test checked in	ii) Maharashtra government had not released grant of		
	Andhra Pradesh and	Rs.171 lakh (December 2004), sanctioned by the Ministry in		
	Maharashtra)	September 2003.		

**5.2.21** Audit examination revealed that the Ministry needed to refine and improve the existing system of release of grants for development of under graduate, post graduate colleges, model institutes and computer laboratories.

#### 5.2.22 Recommendations

# Ministry may ensure that

- permission to open new colleges, to start post graduate courses and to increase admission capacity is accorded only after minimum standards of infrastructure prescribed by the Regulatory Councils are achieved,
- autonomy and independence of the Regulatory Councils are maintained for promoting transparency and accountability,
- Central Registers of practitioners are updated covering all the States/UTs,
- adequate measures are taken in accordance with a time bound programme for removing disparity in medical education across the country and infrastructure in apex level institutes is strengthened so as to enable them to function as Centres of excellence and
- a computer based tracking system for released grants is introduced so that utilisation of funds improves significantly.

#### 5.3 Achievement of Research Activities

# 5.3.1 Formulation of aims and pattern of research on scientific lines

Ministry established the Central Council for Research in Indian Medicine and Homoeopathy (CCRIM&H) in 1969 to formulate aims and pattern of research on scientific lines with a view to increasing their popularity and acceptance by enabling scientific research in different aspects of respective systems through apex research bodies. The Council was split in 1978 into four separate Research Councils to afford each system maximum opportunity and freedom to develop in consonance with the fundamentals of the respective systems, as follows

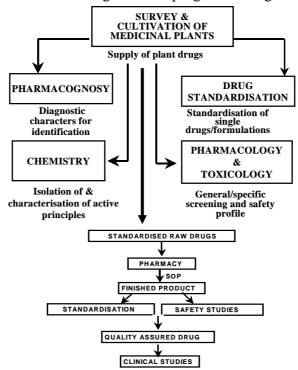
- Central Council for Research in Ayurveda and Siddha (CCRAS),
- Central Council for Research in Unani Medicine (CCRUM),
- Central Council for Research in Homoeopathy (CCRH) and
- Central Council for Research in Yoga and Naturopathy (CCRYN).

Audit examination revealed that Rs.278.44 crore were allocated to the three councils (CCRAS, CCRUM and CCRH) selected for examination between 2000-01 and 2004-05 for undertaking various research activities, clinical trials, family welfare, reproductive and child health research and tribal health care research programme. The overall shortage of staff in the these Councils ranged between 5 *per cent* and 40 *per cent*; while 40 per cent shortage existed in CCRAS which stated (July 2005) that action for filling up the vacant posts was underway.

The Ministry stated (September 2005) that the regional units of the Councils were being run without sufficient number of pharmacists, compounders, technicians, etc. and the Councils were making efforts for filling the vacant posts.

# 5.3.2 Drug Research

Drug research consisted of drug standardisation research programme, pharmacological/toxicological studies and medico-ethno-botanical surveys. A flow chart of various activities of the drug research programme is given below:



**5.3.3** Drug standardisation was a pre-requisite for manufacture of quality drugs and involved evolving standards of single and compound drugs (for both Ayurvedic and Unani medicines) and mother tinctures (for homoeopathic medicines) in order to establish various qualitative characteristics of drugs. Table 10 indicates the details of drug standardisation work undertaken by each Council.

	· ·	· ·			O 1
Name of the Council (1)	No. of drug standardisation units (2)	Drugs standardised since inception (3)		Monographs published (4)	Percentage col (4) to (3) (5)
CCRAS	18	Single	500	259	ì
		Compound	500	496	76%
CCRUM	6	Single	277	150	68%
		Compound	385	300	08%
CCRH	2	Single	122	19	16%

Table 10: Council-wise drugs standardised, monographs and research findings published

5.3.4 Audit examination revealed that, 76, 68 and 16 per cent of single and compound drugs standardised under Ayurveda, Unani and Homoeopathy systems respectively had been documented in the form of monographs as of March 2005. The progress in this regard after 1999 was insignificant, as 11 monographs of homoeopathic drugs had been published, only in 2004-05. Further, the Ministry did not find the standards for single drugs developed by CCRAS suitable for inclusion in the Ayurvedic Pharmacopoeia of India due to large variations in the data and absence of Standard Operating Procedures (SOPs). The standards published by the Research Councils on the basis of research conducted from time to time did not also conform to the quality and standards prescribed by Government's Pharmacopoeia Committees. The Ministry did not effectively guide, monitor and coordinate the work of its Research Councils, which continued with their work regardless of its acceptance by Pharmacopoeia Committees.

The Ministry stated (September 2005) that the standards had not been published by CCRUM as these required further modification.

# 5.3.5 Drug proving and clinical verification of homoeopathic drugs

Unlike conventional medicines, where animal experimentation formed the basis of evolution of drug pathogenesis, homoeopathic medicines were proved on healthy human volunteers. Drug standardisation was followed by proving the drug and finally by clinical verification. Audit examination revealed that out of 122 drugs standardised, 64 were proved and 75 were clinically verified. There was no correlation between the drugs standardised, drugs proved and drugs clinically verified. Forty-four drugs were taken up for proving and 47 for clinical verification without having been standardised. Further, 45 drugs were taken up for clinical verification without proving.

**5.3.6** There was, therefore, an unsystematic approach to drug proving and clinical verification. The Ministry did not ensure that only those drugs which had been standardised by the Council were taken up for proving and clinical verification, which was the course of action supported by the special committee on clinical research of the Council in its report of February 2003. WHO guidelines also reiterated that only standardised drugs should be taken up for proving and clinical verification.

The Ministry stated (September 2005) that on the advice of the Scientific Advisory Committee, it was decided to focus on 35 drugs proved by the Council and the drug-proving programme had been revised from 2005-06.

#### 5.3.7 Clinical Research

Clinical research facilitated assessment of therapeutic utility of a drug in specific disease conditions and was expected to aid in establishing economically cheap and

effective remedies for common as well as chronic ailments. The Councils undertook clinical studies in Tribal Health Care, Family Welfare and Reproductive and Child Health Programmes, details of which are in Table 11.

Table 11: Council-wise position of clinical trials taken up, completed, continued and monographs published

Name of the Research Council	Clinical trials taken up since inception		Clinical trials abandoned		Clinical trials completed		Clinical trials continued		Number of drugs for which
	No. of diseases	No. of drugs	No. of diseases	No. of drugs	No. of diseases	No. of drugs	No. of diseases	No. of drugs	Monographs published
CCRAS	28	217	1	1	27	164	22*	52	36
CCRUM	30	120	20	65	11	31	18*	50	12
CCRH	97	-	-	-	56	-	41	-	-

further trials continued with new drug

- **5.3.8** Audit noticed that there was a large gap between the number of clinical trials completed and documented as well as the dissemination of the research findings for the benefit of various stakeholders such as educationists, researchers, physicians, manufacturers and the common man.
- **5.3.9** CCRAS had initiated a study (1986-87) of three oral and local ayurvedic contraceptives under the Family Welfare Research Programme. Though some drugs showed encouraging results their trial was postponed due to variation in composition of drugs. Drug standardisation studies were eventually assigned to National Institute of Pharmaceutical Education and Research, Mumbai. The study on Neem Oil, introduced in 1988-89 indicated encouraging results but due to its bad odour, was not popular among the women volunteers. The trial was re-initiated by adding lemon grass oil to improve the odour of the drug. The study was still continuing.
- **5.3.10** CCRUM undertook a research project on clinical screening of contraceptive agents in Unani medicine in 1969 in Hyderabad, which was extended to another unit in Mumbai in 1981. Clinical trials of 18 drugs were conducted but none of the drugs was found to be *cent per cent* safe. Further, during 1994-99, the council undertook trials of a new coded contraceptive drug but discontinued the project (1999-00) on which an expenditure of Rs. 88.50 lakh was incurred, on the grounds that none of the drug trials could provide 100 *per cent* contraceptive assurance. There were, therefore, no concrete research results even after 20 years of initiation.

#### 5.3.11 HIV infection Research programme through Homoeopathy

CCRH undertook studies at the Regional Research Institutes in Mumbai, Chennai and New Delhi (1989, 1991 and 1998 respectively) for evaluating the role of homoeopathic therapy in HIV infection. In 690 cases, the study indicated the role of homoeopathic drugs in inhibiting and delaying progression of infection and improving the quality of life of HIV infected individuals and was extended to seven centres (2003). However, no common protocol for the study and laboratory investigations were planned and carried out. The Council decided only in 2005 to take up the study afresh with a common protocol and laboratory investigations and therefore ended up duplicating the efforts, which meant unproductive expenditure and wasteful deployment of human resources during the last 15 years.

#### 5.3.12 Extra Mural Research

Research in AYUSH sector was limited to the efforts made by Central Research Councils and was largely in the nature of clinical research. Ministry, therefore, conceived of research in collaboration with reputed research institutions and Universities (called Extra Mural research) in order to generate scientifically acceptable outcomes and launched a Centrally Sponsored Scheme (1997-98) for undertaking time-bound research projects of one to three years duration whose final outcomes were to be evaluated by an expert group. Ministry revised the scheme in 2001 as the response was not encouraging and sought to restrict research only to areas where studies could result in quicker documentation and dissemination.

**5.3.13** Audit noticed that 59 out of 66 research projects had remained incomplete and though the Ministry had accepted only seven research projects during 2001-05, their results had not been published or disseminated, as of March 2005. The Ministry did not obtain any value for the expenditure of Rs. 7.13 crore incurred on the 66 projects even after 7 years, which deprived the public of the benefits accruing out of research.

**5.3.14** Audit examination revealed that the Ministry allowed research activities to be undertaken by Research councils and external research agencies without fixed parameters and specific time frame. Findings were not disseminated for the benefit of researchers, manufacturers and the common man.

The Ministry stated (September 2005) that in order to disseminate the research findings, specific provision for mandatory publication of the findings had since been made in the scheme. During the discussions in the Exit Conference (October 2005), the Ministry stated that the possibility of getting the research activities reviewed and assessed by a peer group of eminent scientists for identifying such research activities, which were not promising and could be substituted by other activities, would be explored.

# 5.3.15 Patenting of drugs

The number of medicines patented is an indicator of the overall achievement of Research Councils in clinical research. Table 12 indicates the position of drugs patented or under process.

System of Medicine	No. of drugs patented/	Name of drug	Year of patent	Therapeutic use	
	under process				
Ayurveda	5	Ayush-56	1976	Anti-epileptic	
		Ayush-64	1980	Anti-malaria	
		Kshar Sutra	2002	Medicinal thread for ano-rectal	
				diseases	
		Ayush Ghutti	Under process	Cough, cold, fever, diarrhoea in	
			_	children	
		Bal Rasayan	Under process	General resistance in children	
Unani	3	UNIM-352	Under process	Bronchial asthma (semi solid)	
		UNIM-301	Under process	Rheumatoid arthritis	
		UNIM-354	Under Process	Bronchial asthma (capsules)	

Table 12: System-wise position of drugs patented

The position of Ayurvedic and Unani medicines patented by the councils was not encouraging as patents for only three drugs had been obtained and five were under process. It was stated in the Exit Conference (October 2005) that it had been decided to patent all the drugs that would be developed. It was further stated that since National Research Development Corporation (NRDC), which had been assigned the task of patenting of drugs, was not very active, alternative methods would be explored to overcome the problem.

#### **5.3.16 Recommendations**

# Ministry may ensure that

- the aims and patterns of research are formulated on scientific lines,
- the standards for drugs are in conformity with the quality prescribed by the Pharmacopoeial committees,
- the approach to drug proving and clinical verification is systematic, and
- the appropriate guidelines are drawn up for taking up research activities under fixed parameters in a time bound manner. The ongoing projects would need to be completed at the earliest and findings disseminated to stakeholders i.e. educationists, researchers, manufacturers and Government institutions.

# 5.4 Drug standardisation and quality control of AYUSH Drugs

**5.4.1** The Ministry through its enforcement and regulatory mechanism planned drug standardisation, regulation, enforcement and adherence to GMPs through regulatory councils and national level laboratories.

# 5.4.2 Pharmacopoeial standards of AYUSH drugs

The Drugs and Cosmetics Act of 1940 and the rules framed there under, enacted for regulating the standards of allopathic drugs, were amended in 1964 to include Ayurveda, Unani and Siddha medicines under its enforcement and regulatory mechanism. Homoeopathy system was also brought under the ambit of the Act in 1978 through an amendment. The Ministry established Pharmacopoeia Committees between 1962 and 1964 for developing Pharmacopoeial standards in Ayurveda, Unani and Homoeopathy systems. The main function of Pharmacopoeia Committees was to prepare and publish official formularies<sup>4</sup> and pharmacopoeia<sup>5</sup> under the respective systems for evolving uniform standards in preparation of AYUSH drugs and prescribe working standards for single drugs and compound formulations. Development of pharmacopoeial standards was primarily the responsibility of two national level laboratories viz., Pharmacopoeial Laboratory for Indian Medicine, Ghaziabad (PLIM) and Homoeopathic Pharmacopoeial Laboratory, Ghaziabad (HPL), which were set up as standard setting-cum-drug testing laboratories. Standard Operating Procedures (SOPs) were essential for ensuring uniformity in terms of taste, colour and consistency in the formulations and also in analysing the effects of the drugs. The laboratories did

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<sup>&</sup>lt;sup>4</sup> Formulary is a list of compound drugs prepared from classical texts and other sources. Formulary also includes list of single drugs used in the preparation of compound drugs.

<sup>&</sup>lt;sup>5</sup> Pharmacopoeia is the official compilation of the pharmacopoeial standards finalised by the Pharmacopoeia Committees.

not finalise pharmacopoeial standards in respect of compound formulations of Ayurveda and Unani for want of SOPs. The Ministry had published standards for only 916 out of 1500 mother tinctures of Homoeopathy. Table 13 indicates the status of the preparation of official formularies in pharmacopoeia of India and number of single drugs and formulations included therein as of March 2005:

Sl.	Name of committee and	Formulations included in formularies						
No.	date of first setting-up	No. of formulations/ Year of publication		Single	Year of			
		compound drugs			publication			
1.	Ayurvedic	635	April, 1978 (444)	326	1986 (80)			
	Pharmacopoeia		January 2000 (191)		1999 (78)			
	Committee (APC)				2001 (100)			
	(Sept. 1962)				2004 (68)			
2.	Unani Pharmacopoeia	912	1981 (441)	150	1997 (45)			
	Committee (UPC)		1998 (202)		Under			
	(March 1964)		1999 (103)		publication			
			Under publication (166)		(105)			
3.	Homoepathic	1500*	-	916	1971-2000			
	Pharmacopoeia							
	Committee (HPC) (1962)							
	Total	3047		1392				

Table 13: Status of preparation of formularies and pharmacopoeia

**5.4.3** Performance of pharmacopoeia committees set up by the Ministry during 1962-64 for developing pharmacopoeial standards for ensuring safety, quality, purity and efficacy of drugs was far from satisfactory. While standards for 916 mother tinctures (61 *per cent*) in Homoeopathy had been published as of March 2005, pharmocopoeial standards had not been finalised in respect of compound formulations in Ayurveda and Unani even though the Committees were set up more than 40 years back.

The Ministry stated (September 2005) that the development of pharmacopoeial standards required basic R&D and that it took time to design formats and undertake testing. It added that the activity has been accelerated after creation of a separate Department of AYUSH in 1995. It was further stated in the Exit Conference (October 2005) that the Ministry was also considering ways to use the standardisation work being done in the private sector in developing pharmacopeial standards.

# 5.4.4 Drug standardisation

The Central Research Councils had developed their own standards for single and compound drugs in Ayurveda, Unani and Homoeopathy systems over the years. However, the Ayurveda Pharmacopoeia Committee did not accept the standards for Ayurvedic drugs developed and published by Ayurveda Research Council, as there was large-scale variation in data. Similarly, the standards developed by Unani research Council were not being published in the Unani Pharmacopoeia of India as the mandate for publishing the standards lay with the Pharmacopoeia Committee.

**5.4.5** The Ministry separately launched a Central Scheme in 1997 in order to expedite the work of development of pharmacopoeial standards. Though Ministry identified 921 formulations including 427 single and 494 compound drugs, for development of standards and also awarded the work to 32 laboratories in 1997-98 involving an

<sup>\*</sup>Indicates the estimated number of mother tinctures in Homoeopathy, as no compound drugs exist in this system. No formulary of Homoeopathy had been published.

expenditure of Rs. 5.26 crore, the laboratories did not develop pharmacopoeial standards for compound drugs. Ministry thereafter assigned the work of development of SOPs to 16 laboratories for 225 drugs in 2002 and released grant-in-aid of Rs. 2.01 crore between 2002-2005. The final report was awaited (October 2005).

**5.4.6** Coming to single drugs, standards in 120 (38 per cent) out of 315 of Ayurveda/Siddha and 51 (46 per cent) out of 112 in the case of Unani drugs were approved by the pharmacopoeia committees. Table 14 contains the status of single drugs standardised by these laboratories upto March 2005.

System	No. of drugs allotted	Cases in which work could not be taken up due to non- availability of plants	Standards approved by Pharmacopoeia committee and under publication	Standards ready for placing before Pharmacopoeia Committees	Standards under evaluation
Ayurveda	315	17	120	37	141
/Siddha					
Unani	112	14	51	24	23

Table 14: System-wise position of standardisation of drugs

**5.4.7** Thus, there was a duplication of efforts and wastage of resources by the Central Research Councils and Pharmacopoeia Committees in the field of standardisation of drugs. The Ministry did not ensure finalisation and publication of standards for formulation of compound drugs in particular, even after incurring an expenditure of Rs. 7.85 crore on the committees between 2000 and 2005 and when more than forty years had passed since the establishment of Pharmacopoeia Committees.

# 5.4.8 Quality control of AYUSH drugs

With a view to restoring public faith in AYUSH systems, ensuring availability of quality AYUSH drugs in conformity with the Drugs and Cosmetics Act, 1940 and eliminating the possibility of production and marketing of sub-standard drugs, the Ministry launched a Centrally Sponsored Scheme -'Quality control of AYUSH drugs' in 2000-01. Table 15 contains the component wise details of grants released and the number of units assisted during 2000-05.

Table 15: Number of units assisted and grants released

(Rupees in crore)

Sl. No.	Name of the component	Purpose	Number of units assisted	Amount released during 2000-05
1.	Strengthening of State Government AYUSH Drug Testing Laboratories and Pharmacies. Assistance limited to Rs. one crore per unit	Renovation of building, equipment and strengthening of human resource	61	50.09
2.	Strengthening of State Drug Controllers of AYUSH:	Setting up an exclusive office for State AYUSH Drug Controller to help undertake quality control implementation.	11	0.81
3.	Assistance upto a maximum of Rs. 3 lakh per drug manufacturing unit to meet Good Manufacturing Practices (GMP) requirements	Improving the infrastructure of private drug manufacturers.	21	0.23

**5.4.9** Audit examination revealed that the scheme envisaged projects for strengthening 21 Drug Testing Laboratories (DTLs) and 40 pharmacies within 18 months of the release of the financial assistance. However, none of the DTLs and pharmacies had been able to utilise the entire grant-in-aid and make the facilities functional even after 5 years of implementation. This resulted in blocking of 'Plan' funds amounting to Rs. 25.31 crore. The State Governments either delayed release or did not release funds, which contributed to slow progress of capital work and delays in completion of procedural formalities. **Annex-6** contains the details of grants in aid of Rs. 51.13 crore released to 93 units in 23 States/UTs during 2000-05 under the scheme.

The Ministry stated (September 2005) that the State Governments were being reminded to complete the work and submit the utilisation certificates.

**5.4.10** Test check of records in the States revealed that the Ministry did not release any grant for establishing drug control mechanism to Haryana though it had 375 licenced pharmacies while Rs.1.07 crore was released to Tripura though it had only one private pharmacy in the state. Reasons for assisting the States on a selective basis were not on record. Funds amounting to Rs. 3.20 crore meant for purchase of machinery and equipment remained unutilised while the machinery and equipment valuing Rs. 4.89 crore though purchased, remained uninstalled in the states owing to non-completion of civil work and/or trained manpower.

# **5.4.11** Enforcement, regulation and adherence to Good Manufacturing Practices (GMP) standards by drug manufacturers

The Department of AYUSH issued a notification in June 2000 directing the drug manufacturers to mandatorily adhere to GMP standards as laid down in the Drugs and Cosmetics Rules, 1945, the time limit for which was extended up to June 2003 with a view to enabling the drug manufacturers to improve their infrastructure, comply with statutory requirements and obtain GMP certificates from the concerned State Drug Control authorities.

**5.4.12** Audit examination revealed that out of 7849 manufacturing units, only 707 pharmacies possessed GMP certificate (**Annex-7** refers). The respective state governments did not cancel the licences of non-GMP manufactures for not adhering to norms. Thirteen State governments did not carry out annual inspection of AYUSH manufacturing units and regular testing of drug samples for ensuring quality control under the Drugs and Cosmetics Act, 1940 because of shortage of manpower and non-availability of specified standards for testing AYUSH drugs. Thus, funds amounting to Rs. 51.13 crore earmarked by the Ministry for quality control during 2000-05 proved largely unfruitful as funds were blocked in incomplete projects or the State Governments released funds in unplanned and injudicious manner.

#### 5.4.13 Recommendations

#### Ministry may ensure that

- reasons for the slackness in development of pharmacopoeial standards are investigated and the specific bottlenecks for ensuring their expeditious publication in the respective pharmacopoeia are identified,
- result oriented supervision is carried out and drug standardisation work done by Research Councils in consultation with the pharmacopoeia

- committees is monitored by fixing clear areas of responsibility so that efforts are not duplicated and resources not wasted, and
- suitable penal measures are introduced and enforced so that the drug manufacturing units strictly adhere to GMPs.

The Ministry stated (September 2005) that the State Licencing Authorities were being pursued to implement GMP provisions. It was further stated in the Exit Conference (October 2005) that with a view to ensuring strict compliance to GMP provisions, a notification had been issued according to which the licences of non-compliant manufacturing units would not be renewed after 1 January 2006 and that the Ministry was emphasising on the States for strengthening the enforcement mechanism for GMP.

# 5.5 Production of raw material for AYUSH drugs

#### 5.5.1 Conservation and development of medicinal plants for AYUSH drugs

Medicinal plants constituted about 80 per cent of the raw materials required for manufacture of AYUSH drugs. Most of these plants grew in the wild as natural components of vegetation of a particular region. With a view to streamlining the medicinal plants sector and developing an appropriate mechanism for initiating and implementing the policies for conservation and development of medicinal plants at the National and State levels, the Ministry had set up a National Medicinal Plant Board (NMPB) in November 2000 for ensuring coordination of all matters relating to medicinal plants including drawing up of policies and strategies for conservation, proper harvesting, marketing of raw materials and protecting, sustaining and developing this sector.

**5.5.2** At the initiative of NMPB, State Medicinal Plant Boards (SMPB) were set up in all the States/UTs (except Delhi and Meghalaya) between 2001 and 2004 to assist NMPB in implementation of schemes and policies. With a view to achieving its goals, NMPB implemented various promotional and contractual farming schemes. Table 16 contains the year-wise position of projects sanctioned, amount paid and projects completed during 2000-2005 (upto December 2004).

Table 16: Year-wise and scheme-wise projects sanctioned, expenditure incurred and projects completed (Rupees in lakh)

	]	Promotional schen	ne	Contractual farming scheme			
Year	No. of projects sanctioned	No. of projects completed	Expenditure	No. of projects sanctioned	No. of projects completed	Expenditure	
2000-01	5	Not available	93.51	0	-	0	
2001-02	144	5	2404.26	0	-	0	
2002-03	101	1	995.76	79	36	422.50	
2003-04	66	Nil	755.10	687	Nil	1638.82	
2004-05	156	Nil	1688.20	623	Nil	1340.18	
Total	472	6	5936.83	1389	36	3401.50	

**5.5.3** A test-check of records revealed that out of 98 projects covering all the activities, in 51 cases applications were received directly by NMPB, which should have been routed through respective SMPBs/State Governments with their recommendations as per guidelines of the scheme. Himachal Pradesh and Orissa did not utilise funds

amounting to Rs. 12.45 lakh sanctioned by the Ministry for infrastructural development, standardisation of drying and storage, development of herbal gardens, and promotion of medicinal plants due to delay in granting administrative approval and other reasons. Further, out of 1077 projects in all, sanctioned under the promotional and contractual farming schemes during 2001-04 involving financial assistance of Rs.62.16 crore, only 210 projects were assigned by the State Medicinal Plant Board to the Indian Institute of Forest Management and Directorate of Research for monitoring and the remaining 867 projects were neither supervised nor monitored. The Ministry was, thus, not able to ascertain the status of utilisation of grants released and achievement of projected increase in production of medicinal plant material in these cases.

The Ministry stated (September 2005) that since SMPBs had not been formed in all the States upto 2003, some projects were considered without their recommendation and that now only the projects recommended by SMPBs were being considered. The reply is not tenable as in the absence of SMPBs, the project proposals should have been forwarded through the respective State Governments/ Directorates of AYUSH.

# 5.5.4 Cultivation of medicinal plants and development of agro-techniques

The Ministry launched (1990-91) an innovative scheme for development and cultivation of medicinal plants before NMPB was set up in November 2000 which aimed at enhancing the availability of medicinal raw material and provided grants in aid for the development of agro-techniques and cultivation of medicinal plants. This scheme continued to be implemented even after NMPB and SMPB were set up. Ministry provided financial assistance of Rs. 73.85 lakh during 2000-01 and 2002-03 to various institutions/State Governments under 18 projects for setting up *demonstration medicinal plant gardens*. The Boards did not, however, monitor the status of medicinal plant gardens set up under the scheme, such as details of production, survival/mortality of plants raised and utilisation of funds as of December 2004.

- **5.5.5** Audit examination revealed that 45 medicinal plants were identified for development of agro-techniques under the component *Development of agro-techniques*. An amount of Rs. 5.05 crore was released under 33 projects for development of agro-techniques for 133 plants. Audit noticed that out of 45 species identified for agro-techniques, projects in respect of 25 species only had been undertaken and no patents were obtained. The Board stated (December 2004) that the developed agro-techniques were being compiled for publication for dissemination of the research finding among the masses.
- **5.5.6** Absence of an authentic database of demand and supply of prioritised medicinal plants coupled with failure in monitoring and evaluation of various plantation schemes by the NMPB prevented the attainment of the objectives of increasing production of plant based quality raw material and conservation, marketing and export of AYUSH drugs.
- **5.5.7** An amount of Rs.7.10 lakh released to Madhya Pradesh and Orissa remained unutilised due to delay in granting administrative approval. Further, Rs. 25.48 lakh released to Rajasthan remained idle as the State Government did not provide a matching share.

**5.5.8** The Ministry failed in covering all the identified species for development of agro-techniques and the undue delay in completion of projects defeated the very purpose of the scheme. Ministry wound up the scheme for development of agro-techniques in 2001 rendering the entire expenditure of Rs 5.05 crore unproductive.

The Ministry stated (September 2005) that it had been decided in May 2005

- to conduct a study involving an agency of competent professionals for assessing demand and supply position of medicinal plants,
- to strengthen the NMPB and SMPBs and
- to constitute a committee to revise the operational guidelines for schemes run by NMPB and consider mechanism to involve SMPBs more actively in appraisal and implementation of the projects. It added that project reports on agrotechniques developed after experimental cultivation had been received from most of the organisations and an expert agency had been engaged for finalisation of manuscripts of agro-techniques developed for about 50-55 plants.

# 5.5.9 Contractual Farming Scheme

The contractual farming schemes run by NMPB aimed at expansion of area of cultivation on commercial scale with assured market for 32 identified species. The scheme provided financial assistance to cultivators of these identified medicinal plants in the form of grants in aid restricted to 30 per cent of the project cost subject to a ceiling of Rs.9 lakh. Audit noticed that out of 79 projects sanctioned by the Board during 2002-03, financial assistance of Rs. 59 lakh was paid in excess of the prescribed norms in 23 cases.

**5.5.10** Audit examination further revealed that the scheme was not being implemented under a proper plan of action for achieving uniform and balanced increase in the plantation and prioritisation of each of the 32 identified species. During the period 2002-05, the Ministry released total assistance of Rs.34.02 crore under the scheme, out of which as much as Rs.14.68 crore (43 per cent) was meant for cultivation of one species only namely Safed Musli which had a low gestation period but the highest input cost of Rs.2.25 lakh per acre. A similar imbalance in promoting production was found in 2002-03 when out of the total area of 3946 acres used for cultivation of 32 identified species as much as 2600 acres (66 per cent) was used for cultivation of only one species namely Senna. In the area of monitoring the actual production of crop also, there were deficiencies. The Ministry was not aware of the total quantity of production of these identified species not did it have any information on the actual marketing of the produce though as per the scheme guidelines, the farmers were expected to sell the produce only to pre-identified traders with whom they were to sign the Memorandum of Understanding (MOU). This aspect of the scheme was not monitored by the Ministry at all.

The Ministry stated (September 2005) that:

- (i) the projects were sanctioned as per the requirements of farmers and were recommended by a Project Screening Committee and approved by Standing Finance Committee,
- (ii) selection of species was always in the hands of farmers who cultivated only the profitable species of plants and that the species where profit margin was less were not taken up, and

(iii) though there was an MOU between the grower and the buyer, the farmers sold their produce in the open market as the market prices were higher than those agreed in the MOU.

The Ministry's reply clearly showed their lack of control over the implementation of the scheme.

#### 5.5.11 Recommendations

# Ministry may ensure that

- State Medicinal Plant Boards are entrusted with clear and direct responsibility of monitoring and evaluating various plantation schemes,
- research findings relating to development of agro-techniques are finalised, patented and disseminated among the stakeholders through a well planned and monitored action plan, and
- an authentic database in respect of prioritised medicinal plants is prepared.

# 5.6 Development of healthcare facilities, integration and expansion of outreach in healthcare under AYUSH

**5.6.1 Clinical treatment facilities:** The Research Councils provided IPD and OPD patient care facilities as a part of clinical research programmes and for creating awareness about preventive and promotive health care among the masses. While CCRAS and CCRH provided clinical treatment facilities in tribal areas through units specifically set up for the purpose, CCRUM also provided Medicare to the population in urban slums, rural areas and SC/ST pockets through mobile clinics. Table 17 indicates the position of patient care provided by the Councils between 2000-01 and 2003-04.

Table 17: System-wise number of clinical units, bed strength and number of patients treated

Name of the	Nature of sea	No. of	Bed	No. of patients				
System			units	strength	2000-01	2001-02	2002-03	2003-04
Ayurveda	Clinical Research	IPD	22	520	1465	1685	2201	2285
-		OPD	25	-	366377	379521	424344	467899
	Tribal Health Care	Door steps	6	-	8029	6636	7299	5668
	Clinical unit,	OPD	1	-	18136	18243	29303	32337
	Safdarjung Hospital							
Unani	Clinical Research	IPD	9	162	890	1032	932	714
		OPD	15	1	304354	338859	338547	329783
	Mobile Health Care	Door steps	13	-	60020	62666	35119	35855
	Services							
	School Health Care	Door steps/	10	-	1372	2556	3740	3984
	Services	Schools						
	Clinical Unit, RML	OPD	1	-	58553	66165	57288	48901
	Hospital							
Homoeopathy	Clinical Research	IPD	3	85	6840	7938	12102	9296
		OPD	21	1	243857	308506	321412	281780
	Tribal Health Care	Door steps	12	-	3273	3473	3425	2806
	Clinical Unit,	OPD	1	-	25002	25558	28174	30868
	Safdarjung Hospital							

Note: Up to date position for 2004-05 not available.

**5.6.2** Against the bed strength of 520 under Ayurveda, the number of patients per bed/annum ranged from 3 to 4 only while in the case of Unani, against the bed strength of 162 there were 4 to 6 patients per year. The number of patients treated by CCRUM through its mobile health care services in urban slums and SC/ST pockets was reduced to half the number during 2003-04 as compared to 2000-01. Test check of records in Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Orissa and Punjab revealed that trial medicines and IPD facilities were not available and bed occupancy declined due to withdrawal of free distribution of medicine and poor infrastructure.

The Ministry stated (September 2005) that decrease in flow of patients in Mobile Health Care Services covering SC/ST pockets had been due to non-availability of vehicles and action for replacement of old and condemned vehicles was being taken. It further stated that IPD Services in a number of centres could not function due to non-availability of functional accommodation, unsafe buildings and non-availability of staff.

# 5.6.3 Mainstreaming of 'AYUSH' in national healthcare

With a view to mainstreaming the Indian Systems of Medicine, the Ministry initiated a 'National Reproductive and Child Health Programme' at the Primary Health care Centre (PHC) level, in April 2001. The total estimated expenditure of Rs. 497.67 lakh was to be funded jointly and equally by the Departments of Ayush and Family Welfare. A total of 17 Ayurveda and 16 Siddha interventions were identified for 12 different conditions/diseases related to women and children. Ministry did not approve the drugs manufactured by the Council as SOPs were not followed, acute and sub-acute toxicity studies of drugs selected for the project were not made, and clearance from ethical committee was not obtained. Out of an amount of Rs. 149.50 lakh incurred by CCRAS, Rs. 104.81 lakh turned out to be unfruitful as Ministry did not approve the drugs manufactured by the Council.

# 5.6.4 Establishment of specialised therapy centers/specialty clinics

The Ministry introduced a Centrally Sponsored Scheme in 2002-03 for 'Promoting Development of Health Care Facilities' in AYUSH in order to make AYUSH systems available to the public at large and also to bridge the gaps between AYUSH and modern medicine. The scheme provided financial assistance to States for setting up specialised therapy centres with hospitalisation facility in AYUSH system, specialty clinics of AYUSH i.e. system specific outdoor treatment centres, an AYUSH wing in district allopathic hospitals with outdoor as well indoor facility in one or two systems of AYUSH and purchase of essential drugs for identified AYUSH dispensaries in rural and backward areas. Table 18 contains component-wise details of expenditure under the programme incurred between 2002-03 and 2004-05. **Annex-8** contains statewise details of funds released during the same period.

Table 18: Component-wise grant-in-aid released and number of units covered

(Rupees in crore)

Component	Amount paid and units covered						
	2002-03		2003-04		2004-05		
	Amount Units		Amount	Amount Units		Units	
		covered		covered		covered	
<b>Specialised Therapy Centre</b>	-	-	0	0	1.70	8	
Specialty Clinic	-	=	1.46	15	2.72	28	
ISM&H wing in District	-	-	4.32	18	1.68	5	
Allopathic Hospitals							
Supply of essential drugs	1.20	480	8.76	3504	11.90	4761	
Total	1.20	480	14.54	3537	18.00	4802	

**5.6.5** Audit scrutiny revealed that Ministry released grants in aid of Rs. 1.44 crore to Andhra Pradesh and Madhya Pradesh for setting up two specialised therapy centres and 10 speciality clinics although the State governments did not fulfil the essential conditions governing the scheme. Similarly, the Ministry also released Rs. 21.47 lakh to Kerala for setting up specialised therapy centres' though the proposal actually related to allopathic hospitals. No progress report had, however, been received from any of the units assisted through their respective State Governments, as required under the programme.

**5.6.6** Audit scrutiny further revealed that out of Rs. 494.94 lakh released by the Ministry during 2002-05 to Andhra Pradesh, Himachal Pradesh, Jammu and Kashmir, Manipur, Tripura and West Bengal, Rs. 490.38 lakh (99 per cent) remained unutilised as the State governments did not release the funds to implementing agencies. Besides, medicines costing Rs. 20.09 lakh were diverted to other hospitals in Tamil Nadu and essential medicines worth Rs. 5.58 lakh were supplied to dispensaries not covered under the proposals while medicines costing Rs. 8.61 lakh were lying unused in the Medical Store Depot as of January 2005 in Haryana.

#### 5.6.7 Promotion of AYUSH under Central Government Health Scheme (CGHS)

The Central Government Health Scheme (CGHS) network had 78 AYUSH (CGHS) dispensaries functioning at the end of the IXth Plan. During the Xth Plan (2002-07), 21 new AYUSH dispensaries were planned to be established in the premises of the existing allopathic dispensaries. Seven new dispensaries were approved in 2003-04 and the budget provision of Rs. 86 lakh was placed at the disposal of DGHS. As of June 2004, only 2 dispensaries had been opened. The Ministry sanctioned seven more dispensaries during 2004-05 at a cost of Rs. 1.30 crore but none of the sanctioned dispensaries was set-up during 2004-05 due to shortage of doctors and paramedical staff.

**5.6.8** In view of the declining trend in the attendance of patients in Ayurveda and Homoeopathy dispensaries from 1994-95 to 2001-02, the Ministry released Rs. 17.10 lakh in three instalments to the Indian Council for Medical Research (ICMR) between September 2002 and December 2004 for conducting a survey and submitting a report within one year from the release of first instalment. The survey aimed at assessing the acceptability/non-acceptability level of AYUSH facilities under CGHS, perception of CGHS beneficiaries about AYUSH, availability of AYUSH facilities under CGHS in the country and the level of availability of infrastructure and facilities in the selected

teaching hospitals of AYUSH. The survey report had not been received as of March 2005, 30 months after the release of the first instalment of the grant, which delayed implementation of the required policy initiatives based on the survey findings.

#### 5.6.9 Setting up health resort clinics for tourists

With a view to providing specialised facilities, available under the AYUSH to both domestic and foreign tourists, the Ministry initiated a scheme involving setting up of Health Resort Clinics with AYUSH component for tourists in 2001-02. Under the scheme, panchakarma centres were to be set up in the identified ITDC hotels of repute. Ministry released (March 2002) Rs.73.72 lakh to the Government of Himachal Pradesh, for setting up panchakarma centres in four identified hotels in the State. The grants in aid was to be utilised, within six months as a one time expenditure on purchase of equipment, training manpower, essential medicines and advertisements through newspapers. Audit examination revealed that Rs.53.19 lakh (72 %) out of the total grant of Rs. 73.72 lakh was lying unspent as of March 2005. Panchakarma centres were not made operational due to poor response from tourists. The Ministry was thus, not able to expand the outreach of healthcare under AYUSH and optimally utilise existing AYUSH facilities.

The Ministry stated (September 2005) that the scheme had since been wound up in consultation with the Ministry of Tourism and the Government of Himachal Pradesh had been asked to immediately refund the entire amount of Rs. 73.72 lakh released under the scheme.

#### 5.6.10 Recommendation

Ministry may critically review the status of expansion of the outreach of healthcare and put in place appropriate control mechanisms with clearly defined responsibility centres to monitor and ensure optimal utilisation of existing facilities.

During the discussions in the Exit Conference (October 2005), the Ministry stated that regular meetings were being held with the State Governments and that the States where the implementation of this scheme was weak, were being encouraged to visit the states, that were doing well to determine the rectificatory measures that could be adopted by the former.

#### 6. Conclusion

The main objectives of Department of AYUSH were to harness the Indian Systems of Medicine including Homoeopathy for promoting good health and augmenting the existing health care delivery system by ensuring availability of affordable and efficacious AYUSH medicines and services as well as by improving the standards of education in the Indian Systems of Medicine. Audit examination revealed that the Department attempted to implement a large number of schemes without adequate budgetary support, which resulted in dissipation of much of the efforts as well as lack of proper focus in the implementation of the schemes. The Ministry did not raise the budgetary allocation to the promised level of 10 per cent of the total health plan. There were problems of management like lack of coordination between the Ministry and the regulatory and research bodies,

absence of an effective monitoring and evaluation system and failure to remove different kinds of procedural hurdles. Educational institutions, hospitals and the apex research bodies suffered from poor infrastructural facilities including serious shortage of manpower even decades after they were set up. The regulatory bodies did not exercise their autonomy judiciously resulting in the Ministry curtailing their delegated authority in some cases. The quality control activities did not make any impact as the Pharmacopoeia Committees failed to finalise pharmacopoeial standards in respect of any of the compound formulations in the Ayurveda and Unani systems. Research activities undertaken by the Research Councils had not been taken up under any fixed parameters and within any specified time frame nor had research findings been disseminated for the benefit of stakeholders. Various promotional and contractual farming schemes were undertaken for increasing production of medicinal plants without any authentic database on the demand and supply position of prioritised medicinal plants. Poor supervision, monitoring and coordination among the functionaries only compounded the problems, as there was no perceptible impact on the production of medicinal plants. The Ministry did not succeed in achieving the objective of expanding the outreach of health care under AYUSH.

New Delhi (Dr. A.K. BANERJEE)

Dated: Director General of Audit,

Central Revenues

Countersigned

New Delhi (VIJAYENDRA N.KAUL)

Dated: Comptroller and Auditor General of India