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Preface

A policy initiative in the area of health and population has been decided upon by the Government of Uttaranchal in order to improve the health status of people of the state and to achieve the replacement level of fertility. To systematically address the health needs of the people in both hilly and plain areas, Uttaranchal needs a specific policy, implementation strategies, and operational plans. Formulating a people-oriented policy requires a series of consultative meetings with stakeholders. As part of this approach and effort, a workshop on Reproductive and Child Health and Population Policy Issues in Uttaranchal - the first in a series of proposed workshops and consultative meetings - was held in Dehradun on 2–3 May 2002.

The main objective of this workshop was to identify issues specific to the state and evolve strategies to attain replacement fertility and improve access to and quality of services. More than 60 participants from international organizations, national institutions, the health and family welfare department of Uttaranchal, other development departments of Uttaranchal, NGOs, and the private sector participated in this two-day workshop. The 25 papers presented in this workshop broadly dealt with various themes related to fertility and contraceptive behaviour, reproductive and child health, gender and empowerment of women, inter-sectoral coordination, partnership with NGOs, and programme management. This document provides the papers presented in the workshop and the policy issues that emerged out of the discussions.

I am grateful to all the authors, discussants, chairpersons, and participants for their active participation in the workshop. The discussions were informative, interactive, and, above all, enriching as most of the participants brought with them a great deal of expertise and experience.

I would also like to thank our technical collaborators, The POLICY Project, The Futures Group International, for their support and rich inputs and USAID for providing resources for the endeavour.

I am confident that this volume will be a useful base reference document for programme managers and policy-makers and will serve as a guide in formulating a need-based and focused health and population policy for Uttaranchal.

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# Glossary

## Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIIMS</td>
<td>All-India Institute of Medical Sciences</td>
<td></td>
</tr>
<tr>
<td>ANM</td>
<td>auxiliary nurse midwife</td>
<td></td>
</tr>
<tr>
<td>API</td>
<td>annual parasite incidence</td>
<td></td>
</tr>
<tr>
<td>ARI</td>
<td>acute respiratory infection</td>
<td></td>
</tr>
<tr>
<td>AWH</td>
<td>anganwadi helper</td>
<td></td>
</tr>
<tr>
<td>AWW</td>
<td>anganwadi worker</td>
<td></td>
</tr>
<tr>
<td>BF</td>
<td>breastfed</td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
<td></td>
</tr>
<tr>
<td>BoD</td>
<td>burden of disease</td>
<td></td>
</tr>
<tr>
<td>BSC</td>
<td>blood sample collection</td>
<td></td>
</tr>
<tr>
<td>BV</td>
<td>bacterial vaginosis</td>
<td></td>
</tr>
<tr>
<td>CBR</td>
<td>crude birth rate</td>
<td></td>
</tr>
<tr>
<td>CDHO</td>
<td>Chief District Health Officer</td>
<td></td>
</tr>
<tr>
<td>CDR</td>
<td>crude death rate</td>
<td></td>
</tr>
<tr>
<td>CHC</td>
<td>community health centre</td>
<td></td>
</tr>
<tr>
<td>CMI E</td>
<td>Centre for Monitoring Indian Economy</td>
<td></td>
</tr>
<tr>
<td>CMO</td>
<td>Chief Medical Officer</td>
<td></td>
</tr>
<tr>
<td>CMS</td>
<td>Chief Medical Superintendent</td>
<td></td>
</tr>
<tr>
<td>CED</td>
<td>chronic energy deficiency</td>
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<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
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<tr>
<td>CPR</td>
<td>contraceptive prevalence rate</td>
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<tr>
<td>CPR</td>
<td>couple protection rate</td>
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<tr>
<td>CSSM</td>
<td>Child Survival and Safe Motherhood (Programme)</td>
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<tr>
<td>CSW</td>
<td>commercial sex workers</td>
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<tr>
<td>DA</td>
<td>daily allowance</td>
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<tr>
<td>DAP</td>
<td>District Action Plan</td>
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<tr>
<td>DDC</td>
<td>drug distribution centre</td>
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</tr>
<tr>
<td>DGQA</td>
<td>Directorate-General for Quality Assurance</td>
<td></td>
</tr>
<tr>
<td>DHEIO</td>
<td>District Health Education &amp; Information Officer</td>
<td></td>
</tr>
<tr>
<td>DLES</td>
<td>District Leprosy Eradication Society</td>
<td></td>
</tr>
<tr>
<td>DLO</td>
<td>District Leprosy Officer</td>
<td></td>
</tr>
<tr>
<td>DM</td>
<td>District Magistrate</td>
<td></td>
</tr>
<tr>
<td>DMH&amp;FW</td>
<td>Department of Medical, Health, and Family Welfare</td>
<td></td>
</tr>
<tr>
<td>DM&amp;HO</td>
<td>District Medical and Health Officer</td>
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<td>DOTS</td>
<td>directly observed treatment short-course</td>
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<tr>
<td>DTC</td>
<td>District Tuberculosis Centre</td>
<td></td>
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<tr>
<td>DTO</td>
<td>District Tuberculosis Officer</td>
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<tr>
<td>ESI</td>
<td>Employees State Insurance</td>
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<tr>
<td>FHAC</td>
<td>Family Health Awareness Campaigns</td>
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<tr>
<td>FLE</td>
<td>family life education</td>
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</tr>
<tr>
<td>FP</td>
<td>family planning</td>
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<td>FRU</td>
<td>first referral unit</td>
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<td>FTDs</td>
<td>Fever Treatment Depot</td>
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<tr>
<td>FW</td>
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<td>gross domestic product</td>
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<td>HESA</td>
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<td>Health for All</td>
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<td>human resource institutional development</td>
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<td>Integrated Child Development Services</td>
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<td>Indian Council of Medical Research</td>
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<tr>
<td>ICPD</td>
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<td>iodine deficiency disorder</td>
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</tr>
<tr>
<td>IPC</td>
<td>interpersonal communication</td>
<td>NHP</td>
</tr>
<tr>
<td>ISM</td>
<td>Indian systems of medicine</td>
<td>NIDCP</td>
</tr>
<tr>
<td>IT</td>
<td>information technology</td>
<td>NIHF</td>
</tr>
<tr>
<td>IUCD/IUD</td>
<td>intra-uterine contraceptive device/intrauterine device</td>
<td>NLEP</td>
</tr>
<tr>
<td>KAP</td>
<td>knowledge, attitudes, and practice</td>
<td>NMI</td>
</tr>
<tr>
<td>LBW</td>
<td>low birth weight</td>
<td>NMA</td>
</tr>
<tr>
<td>LDC</td>
<td>Lower Division Clerk</td>
<td>NMEP</td>
</tr>
<tr>
<td>LFA</td>
<td>logical framework approach</td>
<td>NMS</td>
</tr>
<tr>
<td>LHV</td>
<td>lady health visitor</td>
<td>NNT</td>
</tr>
<tr>
<td>LI</td>
<td>Leprosy Inspector</td>
<td>NPP</td>
</tr>
<tr>
<td>LMS</td>
<td>logistics management information systems</td>
<td>NTP</td>
</tr>
<tr>
<td>MAP</td>
<td>Malaria Action Plan</td>
<td>NTC</td>
</tr>
<tr>
<td>MC</td>
<td>microscopy centre</td>
<td>NTI</td>
</tr>
<tr>
<td>MCH</td>
<td>maternal and child health</td>
<td>NTP</td>
</tr>
<tr>
<td>MDRTB</td>
<td>multi-drug resistant tuberculosis</td>
<td>OD</td>
</tr>
<tr>
<td>MDT</td>
<td>multi-drug therapy</td>
<td>OPD</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>monitoring and evaluation</td>
<td>OPV</td>
</tr>
<tr>
<td>MEP</td>
<td>Malaria Eradication Programme</td>
<td>ORS</td>
</tr>
<tr>
<td>MI</td>
<td>Medical Instructor</td>
<td>ORT</td>
</tr>
<tr>
<td>MIS</td>
<td>management information system</td>
<td>OT</td>
</tr>
<tr>
<td>MLA</td>
<td>Member of the Legislative Assembly</td>
<td>PCO</td>
</tr>
<tr>
<td>MMR</td>
<td>maternal mortality rate</td>
<td>PHC</td>
</tr>
<tr>
<td>MMR</td>
<td>measles, mumps, rubella</td>
<td>PLA</td>
</tr>
<tr>
<td>MMRC</td>
<td>Mass Media Resource Centre</td>
<td>PO</td>
</tr>
<tr>
<td>MO</td>
<td>Medical Officer</td>
<td>PoD</td>
</tr>
<tr>
<td>MOHFW</td>
<td>Ministry of Health and Family Welfare</td>
<td>PPC</td>
</tr>
<tr>
<td>MPO</td>
<td>modified plan of operations</td>
<td>PPI</td>
</tr>
<tr>
<td>MPW</td>
<td>multi-purpose worker</td>
<td>PRI</td>
</tr>
<tr>
<td>MRS</td>
<td>Medical Relief Society</td>
<td>PTT</td>
</tr>
<tr>
<td>MSM</td>
<td>men having sex with men</td>
<td>RCH</td>
</tr>
<tr>
<td>MSS</td>
<td>Mahila Swasthya Sangh</td>
<td>RFWTC</td>
</tr>
<tr>
<td>MTP</td>
<td>medical termination of pregnancy</td>
<td>RHS</td>
</tr>
<tr>
<td>NACO</td>
<td>National AIDS Control Organization</td>
<td>RNTCP</td>
</tr>
<tr>
<td>NACP</td>
<td>National AIDS Control Programme</td>
<td>Rs</td>
</tr>
<tr>
<td>NAMP</td>
<td>National Anti-Malaria Programme</td>
<td>RTI</td>
</tr>
<tr>
<td>NCAER</td>
<td>National Council of Applied Economic Research</td>
<td>SA</td>
</tr>
<tr>
<td>NCERT</td>
<td>National Council of Educational Research and Training</td>
<td>SACO</td>
</tr>
<tr>
<td>NGO</td>
<td>non-governmental organization</td>
<td>SAD</td>
</tr>
<tr>
<td>NFE</td>
<td>non-formal education</td>
<td>SCs</td>
</tr>
<tr>
<td>NFHS</td>
<td>National Family Health Survey</td>
<td>SC</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>SES</td>
<td>socio-economic status</td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>Sanitary Inspector</td>
<td></td>
</tr>
<tr>
<td>SMI</td>
<td>Senior Medical Instructor</td>
<td></td>
</tr>
<tr>
<td>SMO</td>
<td>Senior Medical Officer</td>
<td></td>
</tr>
<tr>
<td>SND</td>
<td>schedule for new demands</td>
<td></td>
</tr>
<tr>
<td>SPP</td>
<td>State Population Policy</td>
<td></td>
</tr>
<tr>
<td>SRS</td>
<td>Sample Registration System</td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>Scheduled Tribe</td>
<td></td>
</tr>
<tr>
<td>STDs</td>
<td>sexually transmitted disease</td>
<td></td>
</tr>
<tr>
<td>STDC</td>
<td>State Tuberculosis Training and Demonstration Centre</td>
<td></td>
</tr>
<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
<td></td>
</tr>
<tr>
<td>STO</td>
<td>State Tuberculosis Officer</td>
<td></td>
</tr>
<tr>
<td>TB</td>
<td>tuberculosis</td>
<td></td>
</tr>
<tr>
<td>TBA</td>
<td>traditional birth attendant</td>
<td></td>
</tr>
<tr>
<td>TFA</td>
<td>target-free approach</td>
<td></td>
</tr>
<tr>
<td>TFR</td>
<td>total fertility rate</td>
<td></td>
</tr>
<tr>
<td>THR</td>
<td>take-home ration</td>
<td></td>
</tr>
<tr>
<td>TRC</td>
<td>Tuberculosis Research Centre</td>
<td></td>
</tr>
<tr>
<td>TRIPs</td>
<td>Trade-related Intellectual Property Rights</td>
<td></td>
</tr>
<tr>
<td>TT</td>
<td>tetanus toxoid</td>
<td></td>
</tr>
<tr>
<td>TU</td>
<td>Tuberculosis Unit</td>
<td></td>
</tr>
<tr>
<td>UDC</td>
<td>Upper Division Clerk</td>
<td></td>
</tr>
<tr>
<td>UIP</td>
<td>Universal Immunization Programme</td>
<td></td>
</tr>
<tr>
<td>UP</td>
<td>Uttar Pradesh</td>
<td></td>
</tr>
<tr>
<td>U.T.</td>
<td>Union Territory</td>
<td></td>
</tr>
<tr>
<td>VCT</td>
<td>voluntary counselling and testing</td>
<td></td>
</tr>
<tr>
<td>VD</td>
<td>venereal disease</td>
<td></td>
</tr>
<tr>
<td>VHAI</td>
<td>Voluntary Health Association of India</td>
<td></td>
</tr>
<tr>
<td>VHO</td>
<td>voluntary health organization</td>
<td></td>
</tr>
<tr>
<td>VPDs</td>
<td>Vaccine-preventable disease</td>
<td></td>
</tr>
<tr>
<td>WDI</td>
<td>Women's Development Initiative</td>
<td></td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</tbody>
</table>

**Indian Terms**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhyaksha</td>
<td>head</td>
</tr>
<tr>
<td>Anganwadi</td>
<td>village-level centre</td>
</tr>
<tr>
<td>Crore</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Dai</td>
<td>traditional midwife</td>
</tr>
<tr>
<td>Gram</td>
<td>village-level local</td>
</tr>
<tr>
<td>Panchayat</td>
<td>government</td>
</tr>
<tr>
<td>Gram Pradhan</td>
<td>village headman</td>
</tr>
<tr>
<td>Gram Sabha</td>
<td>village committee</td>
</tr>
<tr>
<td>Gram Sarpanch</td>
<td>Chairperson of Gram Sabha</td>
</tr>
<tr>
<td>Kshetra</td>
<td>Head of Kshetra</td>
</tr>
<tr>
<td>Pramukh</td>
<td>Panchayat</td>
</tr>
<tr>
<td>Lakh</td>
<td>100,000</td>
</tr>
<tr>
<td>Mahila Swasthya Sangh</td>
<td>village-based health group</td>
</tr>
<tr>
<td>Mandal</td>
<td>administrative unit for a group of villages</td>
</tr>
<tr>
<td>Panchayat</td>
<td>local government body at village level</td>
</tr>
<tr>
<td>Pradhan</td>
<td>headman/village headman</td>
</tr>
<tr>
<td>Tehsil</td>
<td>administrative area below central level</td>
</tr>
<tr>
<td>Vidhan</td>
<td>Legislative Assembly</td>
</tr>
<tr>
<td>Sabha</td>
<td></td>
</tr>
<tr>
<td>Yatra</td>
<td>pilgrimage, journey</td>
</tr>
<tr>
<td>Zila</td>
<td>district-level local</td>
</tr>
<tr>
<td>Parishad</td>
<td>government</td>
</tr>
<tr>
<td>Zila Shiksha</td>
<td>District Literacy Committee</td>
</tr>
</tbody>
</table>
Specific Population and Reproductive and Child Health Policy Issues

Summary of Proceedings

Session 1: Fertility Behaviour in Uttarakhand

Session 2: Contraceptive Prevalence and Behaviour in Uttarakhand

Session 3: Reproductive and Child Health Issues

Session 4: Education, Gender Issues, and Empowerment of Women

Session 5: The Role of Agencies in Reproductive Health Services

Session 6: Other Reproductive and Child Health Issues

Session 7: Reproductive and Child Health Programme Management
percentage of villages having a population of less than 200 is 50%. Obviously, a lot of resources and manpower are required to reach out to such a scattered population. Regarding the literacy level, Uttaranchal has a comparative edge over other states; however, we are lagging behind in indicators relating to health because of problems of access. I would like to highlight a few figures based on the National Family Health Survey (NFHS) for 1998-99. Only 18% of pregnant women availed themselves of three antenatal check-ups in Uttaranchal. Only 54% of mothers received the tetanus toxoid vaccination. Only 21% of deliveries were made under medical care; the rate of safe deliveries was only 51%. Nearly 41% of mothers were affected with one or more problems related to reproductive health. The infant mortality rate is 52 per 1000 births; the rate of complete immunization of children, implying the complete course of vaccination, is 41%; and the unmet need in the field of family planning in the state is 21%, which is higher than in other states.

These are the adverse circumstances and challenging figures in front of this newly carved-out state, where people have high stakes in the outcome. In formulating the health policy, all these important aspects have to be addressed and their solutions brought out. We have to think of a strategy for the future.

I once again thank the Honourable Health Minister and participants, who have come from far-off places to attend the workshop. I am confident that they will make the workshop a real success.

J C Pant, Former Secretary, Government of India, and Chairman of the Disaster Management Cell

Keeping in view the perspective with which Mr Alok Kumar Jain has furnished the data before you, I think it would be a mere dream to expect that we could provide all the facilities and minimum levels of immunization in such a short time. I have quite often expressed the idea of a growth centre in a number of such forums. We should establish a growth centre in a cluster of 10–15 villages. This would comprise a health post, a public call office (PCO), and some other facilities so that emergent health services could be provided. If we pursue such a policy, it would entail the establishment of about 1000 health posts. We would not need a doctor at such health posts; a paramedic would be sufficient. However, this is a matter that needs thinking over because the use of paramedics attracts a number of views, especially with regard to their qualifications. I am hopeful that the challenges expressed by Mr Jain in his speech, and the ways to address them, will be duly considered at the two-day workshop.

K V Rao, Chief Director, Evaluation Division, Ministry of Health and Family Welfare, Government of India

Mr Pant is the architect of the Reproductive and Child Health (RCH) programme, and he is the one who introduced the community needs assessment approach. It is through his leadership that community involvement has become central to the programme. Earlier, everything was targeted; for example, births were targeted using a formula provided by demographers. At that time, involvement of the people was almost negligible. So, we
thought of a new approach, which is the community needs assessment approach. We go
to the community and ask those who live there exactly what their needs are in the RCH
programme. District planning, which is central to RCH, or to community needs
assessment at the district level, beginning at the lowest level, is the basis for all our
programmes. In going to the people, of course, counselling is important. Now, we take
the total life-cycle approach in RCH. We attend to the basic requirements. As part of
this, we first try to reduce infant mortality; automatically, the desire for children will be
reduced. As per the estimates given by experts, most of population growth (about 60%)
is attributed to population momentum. A large number of people waiting to get married
have to have their needs catered to. If infants die, there is uncertainty but couples
would like to have more children. Another issue is that of the unmet need for family
planning. As per NFHS-2, about 74% of couples with two children are either sterilized
or do not want any more children. That means in India as a whole, people want smaller
families. In reality, however, the total fertility rate is 3.2. So, we need to address the
issue of reducing the gap between desired and actual family size.

In Uttaranchal, more than 80% of villages have less than 500 inhabitants and
inadequate health infrastructure. Even so, if we involve people in programmes, then
there is some hope of getting a much faster reduction in the birth rate as compared to
Uttar Pradesh (UP). For instance, in Himachal, where the problems are similar but the
people are involved in programmes, the results are better. Despite all odds, there are
women’s organizations. We also introduced a new information system so that the
district and state administrations understand the requirements of communities and
address the issues related to them. The centre’s commitment is to make all
contraceptives and maternal and child health services available. It is not enough to talk
about a particular state; we must consider the district level. Even the district as a unit
is not manageable if we want to introduce each and every specific intervention.
Interventions should be introduced at the local level, particularly at the primary health
centre (PHC) level. We have different programmes and the state governments have been
requesting modifications to certain aspects of the programmes. We would definitely like
to support the efforts of state governments so that they cater to the specific needs of
people in the state. We would like to definitely see, as Mr Jain has just said, that in
three months a comprehensive Uttaranchal Health and Population Policy is approved
and implemented. Uttaranchal’s effort is a step in the right direction.

Gadde Narayana, Country Director, POLICY Project, The Futures
Group International
The POLICY Project provides technical assistance to various countries with funds made
available by USAID. We work in more than 40 countries around the world. Our work in
India is basically in the area of policy development. We have worked in states like
Andhra Pradesh, Maharashtra, Rajasthan, and, of course, UP. But when we were asked to
do the policy work in Uttaranchal, we knew it was a different state altogether. I mean,
compared to the states we worked in earlier, it is a small state, a new state, and with
practically no resources. Also, as Mr Jain mentioned, it has problems of access and
inadequate infrastructure, and it also has great variations in terms of plains and hill
When we discussed the request with Mr Jain, he suggested that we should not confine ourselves to population policy, as we did in the other states but we should develop an integrated Health and Population Policy, which includes national health, RCH, and population programmes. So, if this happens within a couple of months, Uttaranchal is going to be the first state in the country to have an integrated Health and Population Policy.

Keeping all these factors in view, we will be conducting two workshops, the first workshop being the one in Dehradun. Basically, this workshop deals with reproductive health and population issues. The second workshop, which we are going to organize in Mussoorie on 9 and 10 May, will deal with national health programmes, particularly malaria, tuberculosis (TB), and acquired immune deficiency syndrome (AIDS). We have around 25 papers for this workshop, and we have seven sessions to present them in. After presenting these papers, we have two more sessions for group discussions and presentation of group reports. The purpose of this workshop is to have people who are administering the programmes, scholars who are doing research on various themes, NGOs that are actively involved in the mobilization of people and communities and private sector participants discuss various aspects related to reproductive health and population issues specific to Uttaranchal, with the aim of improving the quality of life.

Policy formulation indeed presents a unique opportunity for Uttaranchal as, until recently, the programmatic thrust has largely been driven by the needs of its parent state, that is, Uttar Pradesh (UP). However, most of you will agree with me that the needs of Uttaranchal are very different from that of UP. On some of the key
socio-demographic indicators, Uttaranchal compares quite well with the national averages. In some areas, it is closer to the southern states than the northern states. For example, 60% of the women in Uttaranchal are literate. This differs significantly from the 40%-50% female literacy levels that are found in Madhya Pradesh, Rajasthan, and also in UP.

Today, a married woman of Uttaranchal gives birth to about three children—one child more than replacement-level fertility. Two out of five couples use any method of contraception. This is again quite comparable to the national averages. However, the available data also indicates that about one-third of the need for contraception is not being met by the programme. There are about 20% couples who either don't want any child altogether or want to wait for at least two years before having their next child, but are not practising any contraception. So there is a huge need for contraception, which is currently not being met by the programme in Uttaranchal. If this need was effectively tapped into, then Uttaranchal could very easily reach the replacement-level fertility where each couple would only have two children. I believe that all the ingredients that are necessary for accelerating the rate of fertility decline are present in Uttaranchal.

As Mr Jain had pointed out, the picture for antenatal care (ANC) services and delivery care services is different from what I have just talked about in terms of literacy rate and in terms of contraception. In the area of ANC, the picture is quite dismal; only 18% of the pregnant women get the three recommended check-ups during pregnancy. In the neighbouring state of Himachal Pradesh (HP), a significantly higher percentage receives antenatal check-ups, with over 60% women receiving the three recommended antenatal checkups. If we look at the provision of tetanus toxoid and of iron and folic acid supplements to pregnant women, again we find that in Uttaranchal, the rates don't compare very well either to national averages or to states like HP. The reason I draw your attention to HP is because it offers similar challenges related to access and provision of services in terms of geographical terrain. If HP can achieve a higher coverage of antenatal services, it is definitely within the realm of possibility for Uttaranchal to do so.

Moving on to child health, infant mortality in Uttaranchal is significantly lower than the national averages. It also compares very well with the southern states. However, if you look at the rural–urban differentials, you find that there is a huge gap between the infant mortality in rural and urban areas. Therefore, in the area of child survival it might perhaps make more sense to focus more on the rural areas of Uttaranchal rather than the urban areas.

Though Uttaranchal is a new state, it is fortunate to have experienced political and administrative leadership. It has a pragmatic and committed administration that cares for its people and that feeling is essential for achieving the desired health or social development outputs. The best of policies or plans cannot have the desired impact without the commitment of the state administration to put them into practice. What I
am really delighted to see here in Uttaranchal is that there is a strong determination on part of the political leadership and bureaucracy for making improvements to the lives of the people of Uttaranchal, so that Uttaranchal can indeed become a model Indian state. The task at hand is huge. The government alone cannot do it. I am really delighted to see members of the Indian Medical Association, non-government organizations, and other community-based networks in the audience with whom I think the government would need to build effective partnerships, so that together, along with the government, they could help improve the lives of the people of Uttaranchal.

Before concluding, I would once again like to congratulate the Government of Uttaranchal for initiating the process of development of the state health and population policy. Given that different Indian states have different cultures, religious, ethnic, and linguistic diversity, it is really very important that the states develop their own strategies so that the varying needs of the people can be met. USAID is indeed very honoured and delighted to be a partner in this very important endeavour by providing technical assistance through The POLICY Project and, as Dr Narayana had pointed out, the POLICY Project has considerable experience of helping formulate policies, not only in different states of India where they have helped, but also in other countries. I really look forward to the two days of deliberations and also to the follow-up workshop on health issues. I wish the Government of Uttaranchal the very best in this endeavour.

Tilak Raj Behad, Minister for Health and Family Welfare, Government of Uttaranchal

I welcome the national and international experts, representatives of voluntary organizations, and all other participants in the workshop. The workshop is being attended, in particular, by groups of experts, senior government officers, representatives of voluntary organizations, and the media. I fully believe that everyone has an important role in the formulation of the Health and Population Policy that is to emerge out of this workshop. The Government of India declared its health policy in the year 2002, but no state government has so far declared its health policy. The state of Uttaranchal was carved out of Uttar Pradesh, an interim government was later set up, and very recently we witnessed elections in the state. It is the first time that we have a duly established government elected by the people of Uttaranchal. Thereafter, His Highness, the Governor of Uttaranchal, during his inaugural address of the Legislature, committed that we would develop our own health policy within three months. What is the intention behind it? Why should we have our policy? Because of the geographical characteristics of the state. Uttaranchal was created because of its difficult terrain and its people who are scattered and devoid of means of transport, making it a challenge to provide health services in such difficult areas.

This workshop has been organized to enable us to develop our own health policy. The intention of the government is to solicit views of all the experts and representatives, and I am fully confident that the deliberations during the two days will culminate in some concrete, meaningful, and effective policy findings. We are also aware of the geographical features of this state and of its population that is less than one per cent of the
The objective of the Government of Uttaranchal is to bring about qualitative improvements in the health of the people by ensuring health services for all and making services accessible to each and every individual. Besides, services should be hassle-free, efficient, and of top quality. This is a priority of the state government. It is important that the state of Uttaranchal should have its own Health and Population Policy under which we shall have to develop strategies for the effective management of programmes and take steps to involve communities. For this purpose, we would need the effective support of voluntary organizations and women’s organizations.

With a view to ensuring easy and effective availability of medical facilities to the general public, we must have extensive deliberations for which we all have assembled here. Access to services is a major issue in Uttaranchal. People live in extremely remote villages in hilly areas; it is very difficult to visualize how one can live there. Health services constitute a fundamental right and should be accessible to all. Along with this, medical education must also be provided, which is again a challenge. I am confident that a number of issues, such as insufficient PHCs, manpower, qualitative medical and health services, lack of financial resources, and lack of health awareness, will be discussed here.

The real challenge before us is how to improve the health of the people, how to reach out to people living in remote and difficult terrain, what type of health policy to have to ensure that the poor receive benefits, and how to get rid of expensive medical facilities that people cannot afford. I am so happy to find so many national and international experts assembled here. I welcome you all and firmly hope that the two-day workshop will lead to a series of major policy decisions. The commitment of the government to have its own health policy within three months, which is also a part of the address of His Highness, the Governor of Uttaranchal, will be fulfilled in the Budget session to be held in June 2002. With this, I thank all the officers of the department and experts participating in the workshop.

**I S Pal, Director-General, Health and Family Welfare, Government of Uttaranchal**

I have been entrusted with the role of extending thanks. Before thanking the guests at the dais, I welcome and extend my heartfelt thanks to all the national and international participants who have made it to the workshop on such short notice and who have come to deliberate about the health policy of a new state. I welcome you all and convey my thanks. I also feel obliged to the Honourable Health Minister, under whose direction and guidance, the newly elected government declared that the Health and Population Policy of the state of Uttaranchal would be formulated within three months. I extend my thanks to the former Secretary to the Government of India, Mr Pant. He has been concerned about the health issues of Uttaranchal for some time. He makes a point to attend any workshop on health issues. He not only actively participates but also apprises the people of his views, and we very much need his direction and guidance today. I extend my thanks to him on behalf of the department. I am again thankful to Mr Rao, the representative of the Government of India, who is here to participate in the
workshop. The workshop will benefit from his observations and remarks; I heartily thank him. I extend my thanks to Dr. Narayana, who effectively designed the workshop at such a short notice and extended all help to our department. During his address, Prof. Narayana desired us to proceed. We have now reached a point where it has become important to have an independent Health and Population Policy for the state. Prof. Narayana gave it a practical shape by establishing contact between the Government of India and the funding agencies. It is Dr. Narayana who is behind these workshops; his role is like that of a prompter behind the screen of the drama. I heartily thank him for playing such a role. I am thankful to Sheena ji who, during a meeting with the Health Secretary, immediately responded to the call for the formulation of an independent state Health and Population Policy, as well as for the support she has extended all along. I thank our Health Secretary who, during a short period of a year and a quarter, came up with several innovative policies. I strongly feel that when we come up with an integrated and coordinated Health and Population Policy, the entire credit must go to our Health Secretary. I profoundly thank him on behalf of the department. Finally, I extend my thanks to all the guests, the Honourable Minister, and other distinguished guests present on the dais, with the hope that your vision of providing us with a health policy will become a reality.
Session 1
Fertility Behaviour in Uttaranchal

Chairperson: T K Roy

Population Profile of Uttaranchal
G Narayana

District-level Fertility Estimates for Uttaranchal
S Irudaya Rajan

Fertility Levels and Changes in Uttaranchal
F Ram

Fertility and RCH Status in Uttaranchal and Uttar Pradesh: District-level Analysis
S C Gulati & Suresh Sharma

Discussant
K V Rao
Introduction
Uttaranchal has a rich, ancient, religious and cultural heritage. Many of its locations and districts are associated with the Vedas, the Puranas, rishis (ascetics), and sages (wise men). For instance, in ancient scriptures, Hardwar is known as Mayapur; Ram Rai, Guru of the Udaseen Sikhs, pitched his tents in Dun; Dehra is a corrupt variation of Dera; and Tehri is a corrupt variation of Trihari, which signifies a place that washes away all three types of sins. Uttaranchal has three distinct geographical zones: upper Himalayas, middle Himalayas, and the plains and doons (valleys).

Decadal Growth and Density
According to the 2001 census, the population of Uttaranchal is 8.5 million. The decadal population growth rate was 19.2% from 1991-2001, lower than the 24.2% recorded from 1981-91 (Table 1). During 1991-2001, the decadal growth rate declined by 5 percentage points compared to the growth rate from 1981-91. Among the districts, Nainital recorded the highest growth rate of 32.9% during 1991-2001, and it was also the only district that had a higher growth rate for 1991-2001, compared with 1981-91. Growth rates in all other districts declined. Almora district had the lowest decadal growth rate (3.1%). The decadal growth rate declined by a maximum of 16 percentage points in Udham Singh Nagar district and by a minimum of 0.4 percentage point in Tehri Garhwal. The decline in growth rates could be attributed to the decline in the total fertility rate or increased out-migration or a combination of both.

The population of the districts in Uttaranchal varied considerably. The population size of Hardwar was 1.4 million followed by Dehradun with 1.3 million. In contrast,
Champawat had only 224,461 people, and Rudraprayag had 227,461. Four of the 13 districts—Dehradun, Hardwar, Udham Singh Nagar, and Nainital—accounted for more than half of the total state population.

The density of population in Uttaranchal was 159 persons per square kilometre in 2001, which marginally increased from 133 recorded in 1991 (Table 2). The density of population was high in Hardwar district, with 612 persons per square kilometre, while the density was low in Uttarkashi, with only 37 persons per square kilometre. In general, Uttarkashi, Chamoli and Pithoragarh are low-density districts while Dehradun, Udham Singh Nagar and Hardwar are high-density districts.

### Rural Settlements

Uttaranchal is predominantly a rural state, with about 15,117 rural settlements (excluding Hardwar district). Of the total village settlements, 13,388 (or 88.6%), have populations of less than 500 persons. In the districts of Garhwal, Pithoragarh, Chamoli, Tehri Garhwal and Almora, more than 90% of rural settlements have populations of less than 500 persons (Table 3). Only 11% of total rural settlements have a population of 500 to 1999. Villages with more than 2000 are rare (0.5%).
Scattered small-sized settlements in hill regions offer a formidable challenge, particularly to improving access to reproductive and child health services. Access to services, therefore, is undoubtedly a major issue in the state of Uttaranchal.

**Sex Ratio**

In 2001, the sex ratio, measured in terms of the number of females per 1000 males, was 964, which constituted a marginal improvement from 936 in 1991. Inter-district variations were very high (Table 2). There were only 868 females per 1,000 males in Hardwar district in 2001 compared to 1147 females in Almora district. In 1991, Rudraprayag, Tehri Garhwal, Garhwal, Almora, and Bageshwar had more females than males. The number of districts having more females to males increased from five districts in 1991 to eight districts in 2001. All districts have also recorded more numbers of females in 2001 compared to 1991. Districts with a lower female population are in the plains while districts with a higher female population are in the hills. The female population in the hills, in general, enjoys a better status compared to its counterparts in the plains, which could be the reason for the higher female sex ratio in hill districts.

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**Table 2. Population Distribution, Population Density and Sex Ratios, Uttaranchal**

<table>
<thead>
<tr>
<th>District/State</th>
<th>Population 2001</th>
<th>Geographical Area (sq. kms.)</th>
<th>Population of Total Population of the State</th>
<th>Sex Ratios**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarkashi</td>
<td>294,179</td>
<td>8,016.0</td>
<td>3.5</td>
<td>37</td>
</tr>
<tr>
<td>Chamoli</td>
<td>369,198</td>
<td>7,613.8</td>
<td>4.4</td>
<td>43</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>227,461</td>
<td>1,890.6</td>
<td>2.7</td>
<td>106</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>604,608</td>
<td>4,080.0</td>
<td>7.1</td>
<td>128</td>
</tr>
<tr>
<td>Dehradun</td>
<td>1,279,083</td>
<td>3,088.0</td>
<td>15.1</td>
<td>332</td>
</tr>
<tr>
<td>Garhwal</td>
<td>696,851</td>
<td>5,399.6</td>
<td>8.2</td>
<td>124</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>462,149</td>
<td>7,100.0</td>
<td>5.5</td>
<td>59</td>
</tr>
<tr>
<td>Champawat</td>
<td>224,461</td>
<td>1,781.0</td>
<td>2.7</td>
<td>107</td>
</tr>
<tr>
<td>Almora</td>
<td>630,446</td>
<td>3,082.8</td>
<td>7.4</td>
<td>198</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>249,453</td>
<td>2,302.5</td>
<td>2.9</td>
<td>99</td>
</tr>
<tr>
<td>Nainital</td>
<td>762,912</td>
<td>3,860.4</td>
<td>9.0</td>
<td>149</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>1,234,548</td>
<td>2,908.4</td>
<td>14.6</td>
<td>332</td>
</tr>
<tr>
<td>Hardwar</td>
<td>1,444,213</td>
<td>2,360.0</td>
<td>17.0</td>
<td>485</td>
</tr>
<tr>
<td>Uttaranchal</td>
<td>8,479,562</td>
<td>53,331.0</td>
<td>100.0</td>
<td>133</td>
</tr>
</tbody>
</table>

* Census of India. 2001. Provisional Population Totals, Series 1-India  
** Number of females per 1,000 males  
Source: Census of India, 2001. Provisional Population Totals of Uttaranchal

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**Table 3. Percentage of Villages with Population less than 500 in Districts of Uttaranchal**

<table>
<thead>
<tr>
<th>Districts*</th>
<th>Total Villages</th>
<th>Total Villages with &lt;500 Population</th>
<th>Villages with &lt;500 Population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nainital</td>
<td>1,806</td>
<td>1,303</td>
<td>72.1</td>
</tr>
<tr>
<td>Almora</td>
<td>3,019</td>
<td>2,708</td>
<td>89.7</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>2,174</td>
<td>1,989</td>
<td>91.5</td>
</tr>
<tr>
<td>Dehradun</td>
<td>743</td>
<td>567</td>
<td>76.3</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>1,953</td>
<td>1,762</td>
<td>90.2</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>669</td>
<td>591</td>
<td>88.3</td>
</tr>
<tr>
<td>Garhwal</td>
<td>3,237</td>
<td>3,083</td>
<td>95.2</td>
</tr>
<tr>
<td>Chamoli</td>
<td>1,516</td>
<td>1,385</td>
<td>91.4</td>
</tr>
<tr>
<td>Uttaranchal</td>
<td>15,117</td>
<td>13,388</td>
<td>88.6</td>
</tr>
</tbody>
</table>

* Undivided districts of Uttaranchal  
Social Groups
The scheduled castes population, the socially and economically deprived section of society, constitutes more than 20% of the total population in the districts of Uttarkashi, Pithoragarh, Almora, and Hardwar (Table 4). In other districts, the proportion of the scheduled castes population varies from 13%–17%. In Uttaranchal, an insignificant proportion of the population belongs to the scheduled tribes. Only in Dehradun and Nainital districts do they have some presence; of the total population in Dehradun and Nainital districts, 8.2% and 5.8% respectively were the scheduled tribes. The Muslim population has a significant presence only in Dehradun, Nainital and Hardwar. Of the total population, Hardwar has 30% Muslims; Nainital, 15%; and Dehradun, 10%. The proportion of the population that is Christian in all districts is less than 1%.

Literacy
The literacy rate in Uttaranchal is among the highest in the country. Of the total population, 73% are literate. The literacy rate improved by 15 percentage points between 1991–2001 (Table 5). Male literacy during this period improved by 11 percentage points and female literacy by 19 percentage points. The gap between male and female literacy rates was 31 percentage points in 1991, which narrowed to 24 percentage points in 2001. Still the difference in male (84%) and female (60%) literacy is very high.

There are significant inter-district variations in literacy rates. Nainital, followed by Dehradun, has the highest literacy rate, and Hardwar, followed by Udham Singh Nagar, the lowest. In terms of male literacy, five districts have a male literacy rate of more than 90%; six districts have a literacy rate ranging from 84%–87%; and only two districts have a male literacy rate below
80%. Inter-district variations with regard to the female literacy rate are also high. There are only two districts with a female literacy rate of 70% or higher. In five districts, female literacy is between 60%–70%. In the remaining six districts, the female literacy is below 60%. In Uttarkashi, female literacy is as low as 48%—12 percentage points lower than the state average and 23 percentage points lower than the district with the highest female literacy rate, Dehradun.

**Conclusion**

Uttaranchal is a small state with a scattered population in small rural settlements. This situation could pose a major problem in the provision of health services. In terms of the population growth rate, there has been a decline in the growth rate from 1991-2001 compared with the previous decade. However, population density has marginally
increased during this period. There is a significant improvement in the sex ratio in favour of females. The scheduled castes constitute nearly one-fifth of the total population in the state, and the population of the scheduled tribes is insignificant in almost all districts. Muslims have a significant presence in only three districts. The literacy rate improved considerably from 1991-2001, with the gap between male and female literacy narrowing considerably. There are major inter-district variations in male and female literacy rates. With declining population growth rates, improved sex ratio for females, and high literacy rates, Uttaranchal has the necessary conditions for rapid social development.

Table 5. Literacy Rates by Sex, Uttaranchal

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarkashi</td>
<td>47.2</td>
<td>66.6</td>
<td>68.7</td>
<td>84.5</td>
<td>23.6</td>
<td>47.5</td>
</tr>
<tr>
<td>Chamoli</td>
<td>60.4</td>
<td>76.2</td>
<td>80.9</td>
<td>89.9</td>
<td>39.7</td>
<td>63.0</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>57.5</td>
<td>74.2</td>
<td>80.4</td>
<td>90.7</td>
<td>37.1</td>
<td>59.9</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>48.5</td>
<td>67.0</td>
<td>72.1</td>
<td>85.6</td>
<td>26.3</td>
<td>49.8</td>
</tr>
<tr>
<td>Dehradun</td>
<td>69.5</td>
<td>78.9</td>
<td>77.9</td>
<td>85.9</td>
<td>59.3</td>
<td>71.2</td>
</tr>
<tr>
<td>Garhwal</td>
<td>65.5</td>
<td>77.9</td>
<td>82.6</td>
<td>91.5</td>
<td>49.7</td>
<td>66.1</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>61.4</td>
<td>76.5</td>
<td>80.3</td>
<td>90.6</td>
<td>42.4</td>
<td>63.1</td>
</tr>
<tr>
<td>Champawat</td>
<td>55.8</td>
<td>71.1</td>
<td>77.6</td>
<td>88.1</td>
<td>32.6</td>
<td>54.8</td>
</tr>
<tr>
<td>Almora</td>
<td>59.8</td>
<td>74.5</td>
<td>80.8</td>
<td>90.2</td>
<td>41.3</td>
<td>61.4</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>54.5</td>
<td>71.9</td>
<td>76.5</td>
<td>88.6</td>
<td>34.2</td>
<td>57.5</td>
</tr>
<tr>
<td>Nainital</td>
<td>68.4</td>
<td>79.6</td>
<td>80.4</td>
<td>87.4</td>
<td>54.5</td>
<td>70.9</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>49.3</td>
<td>65.8</td>
<td>60.5</td>
<td>76.2</td>
<td>36.0</td>
<td>54.2</td>
</tr>
<tr>
<td>Hardwar</td>
<td>47.9</td>
<td>64.6</td>
<td>59.3</td>
<td>75.1</td>
<td>34.4</td>
<td>52.6</td>
</tr>
<tr>
<td>Uttaranchal</td>
<td>57.8</td>
<td>72.3</td>
<td>72.8</td>
<td>84.0</td>
<td>41.6</td>
<td>60.3</td>
</tr>
</tbody>
</table>

Source: Census of India. 2001. Provisional Population Totals of Uttaranchal
The state of Uttaranchal was formed on 9 November 2000 by combining the territories of Uttarkashi, Chamoli, Rudraprayag, Tehri Garhwal, Dehradun, Garhwal, Pithoragarh, Bageshwar, Almora, Champawat, Nainital, Udham Singh Nagar, and Hardwar districts, formerly of Uttar Pradesh. Uttaranchal accounts for 1.6% of India’s land area. However, it supports only 0.82% of the country’s population. The population of Uttaranchal was enumerated at 8.5 million in 2001.

Although Uttaranchal was formed from Uttar Pradesh, the demographic profile of Uttaranchal compared with its neighbours reveals a slightly different story. Among its

Table 1. Demographic Profile of Uttaranchal and its Neighbours, 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttaranchal</td>
<td>8,479,562</td>
<td>1.8</td>
<td>964</td>
<td>906</td>
<td>84.01</td>
<td>60.26</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>6,077,248</td>
<td>1.6</td>
<td>970</td>
<td>897</td>
<td>86.02</td>
<td>68.08</td>
</tr>
<tr>
<td>Punjab</td>
<td>24,289,296</td>
<td>1.8</td>
<td>874</td>
<td>793</td>
<td>75.63</td>
<td>63.55</td>
</tr>
<tr>
<td>Haryana</td>
<td>21,082,989</td>
<td>2.5</td>
<td>861</td>
<td>820</td>
<td>79.25</td>
<td>56.31</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>166,052,859</td>
<td>2.3</td>
<td>898</td>
<td>916</td>
<td>70.23</td>
<td>42.98</td>
</tr>
<tr>
<td>India</td>
<td>1,027,015,247</td>
<td>1.9</td>
<td>933</td>
<td>927</td>
<td>75.85</td>
<td>54.16</td>
</tr>
</tbody>
</table>

Note: Compiled by the author.
four neighbouring states, Uttaranchal’s population growth rate is not only lower than the country’s, but also than that of Uttar Pradesh and Haryana. The growth rate of Uttaranchal is just 1.8% per annum. Among its neighbours, only Himachal Pradesh has a lower population density than Uttaranchal. Similarly, the overall sex ratio of the population is much more favourable to females here as compared to other neighbours, except Himachal Pradesh. In terms of the sex ratio among children from birth to age six, the scenario is much worse among neighbours than in Uttaranchal. For male literacy, Uttaranchal has the second highest rate compared with its neighbours; however, in female literacy, it lags behind other states under comparison. Most of the indicators presented in Table 1 indicate that Uttaranchal is ahead of Uttar Pradesh.

Table 2. District Profile of Uttaranchal as of 2001 Census

<table>
<thead>
<tr>
<th>State/District</th>
<th>Population</th>
<th>Growth Rate (exponential) 1991–2001</th>
<th>Sex Ratio (females per 1000 males)</th>
<th>Sex Ratio Among Ages 0–6</th>
<th>Literacy Rate</th>
<th>Population Density sq. km.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttaranchal</td>
<td>8,479,562</td>
<td>1.8</td>
<td>964</td>
<td>906</td>
<td>84.01</td>
<td>60.26</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>294,179</td>
<td>2.0</td>
<td>941</td>
<td>945</td>
<td>84.52</td>
<td>47.48</td>
</tr>
<tr>
<td>Chamoli</td>
<td>369,198</td>
<td>1.3</td>
<td>1,017</td>
<td>935</td>
<td>89.89</td>
<td>63.00</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>227,461</td>
<td>1.3</td>
<td>1,117</td>
<td>924</td>
<td>90.73</td>
<td>59.98</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>604,608</td>
<td>1.5</td>
<td>1,051</td>
<td>931</td>
<td>85.62</td>
<td>49.76</td>
</tr>
<tr>
<td>Dehradun</td>
<td>1,279,083</td>
<td>2.3</td>
<td>893</td>
<td>903</td>
<td>85.87</td>
<td>71.22</td>
</tr>
<tr>
<td>Garhwal</td>
<td>696,851</td>
<td>0.4</td>
<td>1,104</td>
<td>925</td>
<td>91.47</td>
<td>66.14</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>462,149</td>
<td>1.0</td>
<td>1,031</td>
<td>901</td>
<td>90.57</td>
<td>63.14</td>
</tr>
<tr>
<td>Champawat</td>
<td>224,461</td>
<td>1.6</td>
<td>1,024</td>
<td>946</td>
<td>88.13</td>
<td>54.75</td>
</tr>
<tr>
<td>Almora</td>
<td>630,446</td>
<td>0.3</td>
<td>1,147</td>
<td>926</td>
<td>90.15</td>
<td>61.43</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>249,453</td>
<td>0.9</td>
<td>1,110</td>
<td>939</td>
<td>88.56</td>
<td>57.45</td>
</tr>
<tr>
<td>Nainital</td>
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<td>906</td>
<td>908</td>
<td>87.39</td>
<td>70.98</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>1,234,548</td>
<td>2.5</td>
<td>902</td>
<td>912</td>
<td>76.20</td>
<td>54.16</td>
</tr>
<tr>
<td>Hardwar</td>
<td>1,444,213</td>
<td>2.3</td>
<td>868</td>
<td>852</td>
<td>75.06</td>
<td>52.60</td>
</tr>
</tbody>
</table>

Note: Compiled by the author

Table 2 provides few demographic and social characteristics at the district level. Nevertheless, the growth rate, the product of birth and mortality rates at the district level, is examined here. During the last few decades, both fertility and mortality rates were falling, but the decline in the mortality rate was strong enough to offset the decline in fertility. However, the 2001 census provides a clear indication that Uttaranchal is passing through the last phase of fertility transition, towards moderate to low fertility. As a result, the decline in birth rate is now faster that the parallel decline in mortality rate. Among the 13 districts of Uttaranchal, eight have registered their growth rates, which were lower than the state’s as a whole. Is the decline in growth rates due to fertility and mortality decline? We have no data to estimate infant and child mortality at the district level from the 2001 census. However, 1991 data clearly indicates that the districts of Uttaranchal (except for Uttarkashi) were far ahead of other districts of Uttar Pradesh (Table 3).
Fertility Estimates at the State Level

In the last 30 years, the Sample Registration System (SRS) has emerged as the main source of fertility estimates at the state level, and various agencies in India and abroad use their estimates for various planning and monitoring purposes. The SRS provides an estimate of the crude birth rate (CBR) as 19.6 per 1000 live births; 24.5 for rural areas and 16.1 for urban areas (SRS Newsletter, Volume 35, No. 2, October 2001). Even the recently published UNICEF Multiple Indicator Survey (2000) mentions nothing about the level of fertility in Uttaranchal.

Indirect Estimates of Fertility at State and District Levels Based on the 2001 Census

Planning and interventions to reduce fertility at the district level were hampered due to lack of data. To fulfil this lacuna, the 1981 Census of India canvassed information for the first time on children ever born and surviving among women of different age groups at the district level. The Registrar-General of India, using indirect techniques, provided district-level estimates of fertility for the first time in independent India (Registrar-General of India, 1988; 1989). Some researchers have used the district-level information and offered constructive policy suggestions to reduce fertility (Kishor, 1991; Malhotra, Vanneman, and Kishor, 1995; Murthi, Guio, and Drèze, 1995). The same questions were canvassed in the 1991 census and the Registrar-General published comparable estimates of fertility and mortality at the district level from the two censuses (Registrar-General of India, 1997), while other independent researchers provided further demographic estimates (Bhat, 1996; Irudaya Rajan and Mohanachandran, 1998). The 1991 district-level data sets on fertility and morality also led to a few recent studies (e.g., Drèze and Murthi, 2001; Guilmoto and Irudaya Rajan, 2001).

The 1991 census released for the first time data on children below age six to compute literacy rates for the population ages seven and above. Bhat (1996) used this information and, utilizing the “reverse-survival technique,” produced fertility estimates at the district level for the 1980s and 1990s. We have repeated the same exercise and,

<table>
<thead>
<tr>
<th>District</th>
<th>Infant Mortality (Q1)</th>
<th>Child Mortality (Q5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Male</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>98</td>
<td>109</td>
</tr>
<tr>
<td>Chamoli</td>
<td>66</td>
<td>75</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>73</td>
<td>80</td>
</tr>
<tr>
<td>Dehradun</td>
<td>59</td>
<td>64</td>
</tr>
<tr>
<td>Garhwal</td>
<td>48</td>
<td>39</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>Almora</td>
<td>63</td>
<td>62</td>
</tr>
<tr>
<td>Nainital</td>
<td>85</td>
<td>79</td>
</tr>
<tr>
<td>Hardwar</td>
<td>73</td>
<td>72</td>
</tr>
</tbody>
</table>

Source: Irudaya Rajan and Mohanachandran, 1998
using a slightly modified methodology, estimated the birth rates at the end of the 1990s at the district level using the recently released 2001 census results. Fertility estimates are mapped to highlight the regional differentials, and the results are also compared with the most recent fertility estimates available from various sources.

**Methodology**

The method used here is based on the provisional birth to age six population available from the census and follows the “reverse-survival technique”, as was done by Bhat for his estimation from the 1991 census. (For details see Guilmoto and Irudaya Rajan, 2002.) The first step consists of computing the CBRs (births/population), followed by the indirect estimation of the total fertility rates (TFRs) (children per woman). These results correspond to the 1994-2001 period and are centred on the year 1997.

The quality of child mortality and fertility estimates used here has a minor impact on the final results of the reverse-survival technique. However, this estimation procedure is directly vulnerable to the level of age mis-statement of children under age seven. Any inaccuracy in the child population as recorded in the census will have a symmetrical consequence on the birth and fertility estimates. Fortunately, the birth-to-six age segment is probably quite accurately recorded by the census and is not subject to severe age heaping as are the birth-to-four and five-to-nine age groups. Previous estimates by Bhat that followed a similar methodology with 1991 census data are quite satisfactory. Moreover, with rapidly improving literacy levels, there is no doubt that the level of age mis-statements in India is decreasing rapidly and that the quality of census age figures has most probably improved in 2001 compared with previous census years.

There remains an unknown factor that might disrupt our calculation, since some children might have been actually enumerated during the census in different districts than their parents. For instance, in urban areas, where there is a large floating population of adult migrants, some of these migrants may reside without their children, while migrants’ children stay in their parents’ native locality, sometimes with their mothers. For instance, the examination of the age and sex structure from previous censuses shows a real deficit of adult men in traditional out-migration areas, such as Kerala, south Tamil Nadu, eastern Uttar Pradesh and Bihar and Uttaranchal. In other areas, such as the million-plus cities, the proportion of adult men is very high. In these cases, the enumerated number of children under age seven may not exactly tally with the actual fertility of the adult population. Fertility may therefore be underestimated in some in-migration areas. While our estimation procedure takes into account the specific age structure of each district when converting CBRs into TFRs, there is simply no way we can assess the actual impact of such a phenomenon on our estimate of the CBR.

Comparable estimates of CBRs and TFRs for Uttaranchal among its close neighbours from three sources that refer to the same period are presented in Table 4. They are SRS, NFHS-2, and indirect estimates based on the number of children under age seven.
Because of incomplete data, comparable figures are available from all three sources only for 21 states and union territories. In terms of both fertility indices, estimates lie somewhere between NFHS-2 and SRS figures (Guilmoto and Irudaya Rajan, 2002).

The NFHS definitely underestimated fertility rates at the country level. In this respect, Bhat (2001) indicated that the sharp declines in fertility noted in the surveys in Bihar and Rajasthan are largely spurious. They are most probably outcomes of the greater exaggeration of young children in the second survey compared to the first survey (Bhat, 2001). Our census-based estimates of CBR and TFR are almost identical with the SRS in Rajasthan and very close in Bihar. The TFR of 3.2 for India is very close to the SRS figure of 3.3.

Table 4. Estimates of Total Fertility Rate (TFR) for States in 1995–2001

<table>
<thead>
<tr>
<th>Estimates Reference period</th>
<th>Census 1994–2001</th>
<th>Crude Birth Rate</th>
<th>Total Fertility Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>25.9</td>
<td>24.8</td>
<td>27.1</td>
</tr>
<tr>
<td>Haryana</td>
<td>25.9</td>
<td>23.1</td>
<td>28.2</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>20.5</td>
<td>19.9</td>
<td>22.7</td>
</tr>
<tr>
<td>Punjab</td>
<td>20.1</td>
<td>19.1</td>
<td>23.2</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>31.4</td>
<td>31.1</td>
<td>33.3</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>26.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Separate data for Uttarakhand is not available from the NFHS-2 and SRS.
Sources: SRS data is compiled from various reports of the SRS; NFHS data is compiled from NFHS-2 India report; other estimates come from Guilmoto and Irudaya Rajan, 2002.

A few more observations can be made from Table 4 using the TFR estimates. In Uttarakhand, the TFR is 3.6; however, we have no estimates either from SRS and NFHS-2 for comparison. Compared with its neighbours, Uttarakhand’s birth and fertility rates are high. The difference, however, between Uttarakhand and Uttar Pradesh is 0.8 children per woman.

Detailed district-level estimates for all of India are provided in Guilmoto and Rajan (2002). In this paper, we provide CBR and TFR estimates of all the districts of Uttarakhand (Table 5). Only the districts of Champawat, Hardwar, and Udham Singh Nagar registered a TFR above the national average. The lowest TFR of 2.6 is reported for Dehradun.

Table 5. Estimates of Birth Rate and Total Fertility Rate for Districts of Uttarakhand in 2001

<table>
<thead>
<tr>
<th>Districts</th>
<th>Crude Birth Rate</th>
<th>Total Fertility Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarakhand</td>
<td>26.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Almora</td>
<td>23.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>25.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Chamoli</td>
<td>23.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Champawat</td>
<td>29.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Dehradun</td>
<td>20.9</td>
<td>2.6</td>
</tr>
<tr>
<td>Garhwal</td>
<td>21.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Hardwar</td>
<td>29.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Nainital</td>
<td>25.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>24.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>24.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>26.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>29.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>28.5</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Source: Guilmoto and Irudaya Rajan, 2002
References


Introduction

According to the provisional results of the 2001 census, the population of Uttaranchal on 1 March 2001, was 8,479,562, including 4,316,401 males and 4,163,161 females, or an addition of about 14 lakhs during 1991–2001. The average annual exponential growth rate declined from about 2.17% during 1981–91 to 1.76% during 1991–2001. This is the first time that the growth rate declined below 2% since 1951, probably because mortality has already reached a low, stagnant level, and recently, fertility has rapidly declined.

To assess the level of fertility and changes therein, we need reliable data from the civil registration system; however, in India, and in Uttaranchal, data from civil registration cannot be used because of the data’s poor coverage and incompleteness. The Sample Registration System (SRS) does provide reliable state information; however, for newly created states, we have no information thus far from this system. Therefore, one has to rely on indirect estimates of the crude birth rate (CBR) and the total fertility rate (TFR). At the state level, this is also difficult and time consuming, since the age distribution has to be reconstructed by adding together district information.

Presently, we have used the modified Rele’s Method to estimate the CBR and TFR up to 1981. From the 1991 and 2001 censuses, we used the reverse survival method to estimate the CBR. For all the years, state-level estimates are obtained by taking the weighted average of the district-level estimate. To get TFR for 1984–91 and 1994–2001, we regress TFR on CBR with state-level data from SRS, and then this regression is used. We have also used the information from the National Family Health Survey (NFHS-2),
conducted during 1998–99, and from the Rapid Household Survey (RHS) under the Reproductive and Child Health (RCH) Project, conducted during the same time period. Since the RHS does not give an estimate of TFR, we estimated the TFR using a regression line of TFR with the contraceptive prevalence rate (CPR) from NFHS-2 and then used the CPR from RHS at the district level to estimate the TFR.

Analysis and Discussion

Table 1 presents some selected indicators for 1991 and 2001, guided by the availability of data from the 2001 census. However, this data only provides a broad spectrum of the background of states and their districts. A great deal of diversity exists within the state, and any population policy framework designed to affect fertility and future changes must take this diversity into account. Uttaranchal is still largely rural, and has low population density, which makes outreach services difficult. Female literacy has increased from about 42% in 1991 to 60% in 2001. The overall sex ratio of the population (females per 1000 males population) has increased by 28 points; however, the juvenile sex ratio (sex ratio of children ages 0–6) declined by 43 points during 1991-2001, reasons for which must be examined. It becomes important at this stage because empirical evidence suggests that it may widen with further fertility decline.

There is a great deal of variation across the districts with respect to all variables selected here. There are a number of districts that have experienced a growth rate below one percent during 1991-2001, and many of these districts also experienced a rapid decline from 1981–91. The exponential growth rate, measured as low as 0.31% and 0.38% in some districts, should be of serious concern to policy-makers. Such a low growth rate may have developed because of high net out-migration, high mortality, or a combination of both.

<table>
<thead>
<tr>
<th>State/ District</th>
<th>Exp. Annual Growth rate</th>
<th>Sex Ratio</th>
<th>Sex Ratio 0-6</th>
<th>Female Literacy Rate (7+)</th>
<th>Percentage</th>
<th>Density</th>
<th>Share in State Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttaranchal</td>
<td>2.17 1.76</td>
<td>936 964</td>
<td>949 906</td>
<td>41.6 60.3</td>
<td>23.0 25.6</td>
<td>133 159</td>
<td>100 100</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>2.20 2.05</td>
<td>918 941</td>
<td>957 945</td>
<td>23.6 47.5</td>
<td>7.2 7.8</td>
<td>30 37</td>
<td>3.37 3.47</td>
</tr>
<tr>
<td>Chamoli</td>
<td>1.99 1.27</td>
<td>982 1,017</td>
<td>968 935</td>
<td>39.7 63.0</td>
<td>11.9 13.4</td>
<td>43 48</td>
<td>4.57 4.35</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>1.77 1.27</td>
<td>1,094 1,117</td>
<td>924 924</td>
<td>37.1 60.0</td>
<td>0.9 1.2</td>
<td>106 120</td>
<td>2.82 2.68</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>1.53 1.26</td>
<td>1,048 1,051</td>
<td>970 931</td>
<td>26.3 49.8</td>
<td>6.3 9.7</td>
<td>128 148</td>
<td>7.32 7.13</td>
</tr>
<tr>
<td>Dehradun</td>
<td>2.69 2.21</td>
<td>843 893</td>
<td>944 903</td>
<td>59.3 71.2</td>
<td>50.3 53.0</td>
<td>332 424</td>
<td>14.42 15.08</td>
</tr>
<tr>
<td>Garhwal</td>
<td>0.87 0.38</td>
<td>1,058 1,104</td>
<td>984 925</td>
<td>49.7 66.1</td>
<td>12.1 13.0</td>
<td>124 129</td>
<td>9.43 8.22</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>1.32 1.04</td>
<td>992 1,031</td>
<td>964 901</td>
<td>42.4 63.1</td>
<td>8.6 12.1</td>
<td>59 65</td>
<td>5.86 5.45</td>
</tr>
<tr>
<td>Champawat</td>
<td>2.34 1.62</td>
<td>945 1,024</td>
<td>946 939</td>
<td>32.6 54.8</td>
<td>13.7 3.1</td>
<td>107 126</td>
<td>2.68 2.65</td>
</tr>
<tr>
<td>Almora</td>
<td>0.90 0.31</td>
<td>1,099 1,147</td>
<td>961 926</td>
<td>41.3 61.4</td>
<td>7.8 8.6</td>
<td>198 205</td>
<td>8.59 7.43</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>1.44 0.88</td>
<td>1,055 1,110</td>
<td>939 946</td>
<td>34.2 57.5</td>
<td>2.5 14.6</td>
<td>99 108</td>
<td>3.21 2.94</td>
</tr>
<tr>
<td>Nainital</td>
<td>2.61 2.84</td>
<td>881 906</td>
<td>944 908</td>
<td>54.5 71.0</td>
<td>26.8 35.4</td>
<td>149 198</td>
<td>8.07 9.00</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>3.67 2.45</td>
<td>863 902</td>
<td>912 912</td>
<td>36.0 54.2</td>
<td>34.1 32.7</td>
<td>332 424</td>
<td>13.58 14.56</td>
</tr>
<tr>
<td>Hardwar</td>
<td>2.50 2.34</td>
<td>846 868</td>
<td>908 852</td>
<td>34.4 52.6</td>
<td>30.5 30.9</td>
<td>485 612</td>
<td>16.07 17.03</td>
</tr>
</tbody>
</table>

Tables 2 and 3 present the estimated CBR and TFR for the state and districts with data from earlier censuses. Estimates were not obtained for the new districts; however, they may not be very different from the respective parent district. Figure 1 and 2 show the changes that have taken place in CBR and TFR in Uttaranchal. Under natural fertility conditions (i.e., fertility before 1961 or before 1971), fertility was not very high. It fluctuated around 5.3 until 1971-76, compared with other states in the region where TFR was, on average, more than 6 per woman. Fertility transition in the states began in the early 1970s, declining from that point substantially. During 1971-76 and to 1998, TFR declined by about 2.1 children per woman (i.e., by 40%, which was only 27% for undivided Uttar Pradesh [UP]). It seems, therefore, that fertility in Uttaranchal has declined substantially during the last 25 years, but that there is a long way to go to reach replacement fertility.

The linear trend that has been observed in TFR in the last 25 years (see Figure), if extrapolated for the near future, finds that Uttaranchal may reach a TFR of 2.1 by 2010. This trend provides a TFR of 2.8 for 2001. However, once fertility decline reaches below the level of 3 per woman, it becomes extremely difficult to maintain the pace observed as when TFR declined from 4 to 3 children per woman. The decline in TFR from 3 to 2.5, and then from 2.5 to 2.1, may not only take longer; there may be other social issues emerging that have to be addressed by the policy and programme. Aware of what has been going on in Maharashtra, we conclude that preference may emerge as a strong barrier in promoting contraception that cannot be weakened by population policy alone. Along with a population policy, effective social engineering and policy that gives more economic opportunities to women may be needed.
The TFR for 1996–98, estimated from the NFHS-2, is 2.61 per woman, which seems to be low. In the context of the debate on TFR for UP from NFHS-2, the TFR estimated from a regression between TFR and CPR (any method) is 3.02 using the NFHS-2 regression and 3.29 based on the NFHS-1 regression. The estimate based on the relationship between TFR and CBR also is 3.1 per woman. The best estimate, therefore, based on a CPR (i.e., the most recent estimate of TFR) would be 3 if the CPR is taken from NFHS-2; and 3.1 if the CPR is taken from the RHS (see Table 4).

Tables 2 and 3 provide CBR and TFR estimates, from which we will discuss the TFR. During the pretransitional period of 1966–71, the TFR varied from a low of 4.1 in Uttarkashi to a high of 6.3 in Nainital. In fact, the TFR in Nainital has always been on the higher side. By observing the last column of Table 5, we observe that the TFR has declined in most of the districts, varying from a low of 2.7 in Chamoli to a high of 3.3 in Hardwar. In fact, by 1998, there was a convergence in the level of the TFR. Uttarkashi, Chamoli, Dehradun, and Garhwal districts, which contain about 31% of the population of Uttaranchal, have TFRs of less than 3 per woman, with other districts having TFRs between 3 and 3.3. These are the districts that have comparatively lower female literacy and programme coverage in terms of antenatal care (ANC) and immunization, thus indicating that policy formulation must take care of local needs and social economic context.

Tables 4 and 5 provide data related to reproductive behaviour from NFHS-2 and RHS, respectively. At the outset, definitions of unmet need in NFHS-2 and RHS are different and therefore not comparable. However, the urban population of Uttaranchal, which is
25% of the total population, has almost reached replacement level fertility, as per NFHS-2. As mentioned, the estimated TFR from the CPR would be about 2.5 per woman, and about 3.3 for rural areas. Nevertheless, there is a wide differential in rural-urban fertility.

There is also variation in TFRs by education and the standard-of-living index (SLI). In fact, women who have a higher SLI have already achieved replacement fertility. Table 4 indicates that the unmet need is about 21%; however, if we take the RHS definition, then the unmet need is almost 34%. Therefore, there is demand for contraceptives in the population, and it may be possible through effective outreach and good quality services for a large proportion of this unmet need to be converted to users in the near future. In the event that the unmet need of about 21% declines linearly in the next 10 years to a low of about 8%, then the TFR could reach 2.2.

Table 4. Estimate of Fertility from National Family Health Survey-2, Uttaranchal

<table>
<thead>
<tr>
<th>Indicators</th>
<th>TFR</th>
<th>Birth Order</th>
<th>Want No More After Two Living Children</th>
<th>CPR Any</th>
<th>Unmet Need Sp*</th>
<th>Unmet Need Lim**</th>
<th>Unmet Need Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>2.76</td>
<td>46.8</td>
<td>87</td>
<td>39.3</td>
<td>11.3</td>
<td>10.7</td>
<td>22</td>
</tr>
<tr>
<td>Urban</td>
<td>2.14</td>
<td>44.9</td>
<td>65.7</td>
<td>56.5</td>
<td>7.7</td>
<td>9.7</td>
<td>17.4</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>3.27</td>
<td>62.6</td>
<td>59.2</td>
<td>42.7</td>
<td>9.3</td>
<td>12.6</td>
<td>21.8</td>
</tr>
<tr>
<td>Literate, middle school not completed</td>
<td>2.12</td>
<td>50</td>
<td>-74.6</td>
<td>45.8</td>
<td>6.8</td>
<td>8.2</td>
<td>15</td>
</tr>
<tr>
<td>Middle school completed</td>
<td>2.4</td>
<td>-34.8</td>
<td>81.2</td>
<td>28.3</td>
<td>11.2</td>
<td>13</td>
<td>24.2</td>
</tr>
<tr>
<td>High school or more completed</td>
<td>1.92</td>
<td>13.4</td>
<td>77.2</td>
<td>48</td>
<td>14.9</td>
<td>6.4</td>
<td>21.3</td>
</tr>
<tr>
<td>Standard-of-living</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>3.64</td>
<td>68.4</td>
<td>-60.6</td>
<td>12</td>
<td>16.2</td>
<td>28.3</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>2.67</td>
<td>46.7</td>
<td>70.4</td>
<td>9.7</td>
<td>9.8</td>
<td>19.5</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1.91</td>
<td>21.4</td>
<td>77.2</td>
<td>10.5</td>
<td>8</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.61</td>
<td>46.8</td>
<td>71.8</td>
<td>43.1</td>
<td>10.5</td>
<td>10.5</td>
<td>21</td>
</tr>
</tbody>
</table>

Numbers in parentheses are based on 25–49 unweighted cases

* Unmet need for spacing includes
1. pregnant women whose pregnancy was mistimed,
2. amenorrheic women whose last birth was mistimed,
3. women who are neither pregnant nor amenorrheic and who are not using any method and who say they want to wait two or more years for their next child birth, and
4. also women who are unsure whether they want another child or who want another child but are unsure of when to have that birth.

** Unmet need for limiting includes
1. pregnant women whose pregnancy was unwanted,
2. amenorrheic women whose last child was unwanted, and
3. women who are neither pregnant nor amenorrheic and who are not using any method and want no more children.

The sum of these two values gives total unmet need.

Source: NFHS 1998–99, Uttaranchal
although that may depend on the composition of the unmet need and desired number of children with least preference for sex composition. This data also indicates that in Uttarakhand almost 72% of women with two living children do not want any more, suggesting the latent desire for a two-child family and that it may be possible to move toward replacement fertility with an effective and high-quality programme.

Table 5 again indicates unmet need by district from the RHS. This table also indicates the proportion of girls marrying below age 18. For the state overall, this is not a major problem; however, in districts such as Pithoragarh and Udham Singh Nagar, there is a need to look into this matter. Unmet need across the districts varies from 30%–37%.

Table 5. Indicators from Reproductive and Child Health and Estimated Total Fertility Rate, 1998–99

<table>
<thead>
<tr>
<th>State/District</th>
<th>% of Girls Marrying Below Age 18</th>
<th>Birth Order 3+</th>
<th>CPR Any</th>
<th>Total Unmet Need</th>
<th>Limiting***</th>
<th>Spacing*</th>
<th>CBR (EST)***</th>
<th>TFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarakhand</td>
<td>15.2</td>
<td>51.4</td>
<td>42.1</td>
<td>33.8</td>
<td>20.7</td>
<td>13.1</td>
<td>25.8</td>
<td>3.06</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>17.1</td>
<td>54.8</td>
<td>46</td>
<td>29.7</td>
<td>16.1</td>
<td>13.6</td>
<td>21.6</td>
<td>2.9</td>
</tr>
<tr>
<td>Chamoli</td>
<td>7.8</td>
<td>50.6</td>
<td>51.1</td>
<td>29.6</td>
<td>17.1</td>
<td>12.4</td>
<td>22.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>13.1</td>
<td>50.4</td>
<td>38.2</td>
<td>32.9</td>
<td>19.6</td>
<td>13.3</td>
<td>24.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Dehradun</td>
<td>14.2</td>
<td>49.1</td>
<td>47.3</td>
<td>33.3</td>
<td>23</td>
<td>10.4</td>
<td>24.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Pauri Garhwal</td>
<td>6.7</td>
<td>50.8</td>
<td>48.4</td>
<td>33.2</td>
<td>20.3</td>
<td>12.9</td>
<td>19.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>22.8</td>
<td>47.6</td>
<td>43.4</td>
<td>34.9</td>
<td>21.1</td>
<td>13.9</td>
<td>24.6</td>
<td>3</td>
</tr>
<tr>
<td>Almora</td>
<td>14</td>
<td>46.4</td>
<td>41.3</td>
<td>36.3</td>
<td>19.4</td>
<td>16.9</td>
<td>23.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Nainital</td>
<td>9.5</td>
<td>50.9</td>
<td>39.2</td>
<td>36.5</td>
<td>22.5</td>
<td>14.1</td>
<td>26.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>28.2</td>
<td>53.9</td>
<td>39.2</td>
<td>30.6</td>
<td>18</td>
<td>12.6</td>
<td>32.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Hardwar</td>
<td>12.5</td>
<td>56.5</td>
<td>35.2</td>
<td>36.6</td>
<td>23.7</td>
<td>12.9</td>
<td>29.5</td>
<td>3.3</td>
</tr>
</tbody>
</table>

* Unmet need for spacing includes women who are neither in menopause nor have had hysterectomy nor currently pregnant and do not want any child for the next two years and are not using any contraceptive method.

(Women who are unsure whether they want another child or who want another child but are unsure of when to give birth are excluded.)

** Unmet need for limiting includes women who are neither in menopause nor have had hysterectomy nor currently pregnant and do not want any child and are not using any contraceptive method.

The sum of these two values gives total unmet need.

*** TFR = 4.62 - 0.0371*CPR (any) NFHS-2

Source: RCH/NHS, 1998

Concluding Remarks

In this paper, we have made an attempt to provide estimates of the CBR and the TFR over a period of time for Uttarakhand and its districts using the indirect method. These estimates indicate the time trend in the TFR and provide some idea about the prospects of fertility decline in the future. It should be noted that for 1998, TFR for Uttarakhand may be around 3.1, not

![Total Fertility Rate 1998](image-url)
2.6 as reported in NFHS-2. Looking at the potential demand for contraception and social development, the state may reach a TFR of 2.1 by 2010; however, in view of the empirical evidence that fertility decline below a TFR of 3 per woman is heavily dependent on social change, such as a preference for sons, it may take longer. If we follow the method of fertility projection suggested by the Technical Group on Population Projection, constituted by the Planning Commission, replacement fertility in Uttaranchal may not be reached before 2021.

As far as fertility by the districts is concerned, there seems to be a great deal of convergence. Uttarkashi, Chamoli, Dehradun, and Garhwal districts, containing about 31% of the population of Uttaranchal, have TFRs less than 3 per woman, with other districts having TFRs between 3 and 3.3. Analysis presented here clearly indicates the high demand for family planning in the state. In view of the hilly terrain and low density of population, it may be essential to establish specific planning for outreach services in each district that could provide reproductive health services to everyone and information on contraceptives to those who do not want children for a while or any longer. This will go a long way in reducing the unmet need and helping reduce fertility.
Introduction
Paradigm shifts in India’s population policies—from a contraceptive method mix, target-oriented approach to a target-free approach in April 1996, then to a client-centred, demand-driven community needs assessment (CNA) approach in late 1997—have brought more attention to the reproductive and child health (RCH) services package. A comprehensive definition of RCH was adopted at the 1994 International Conference on Population and Development (ICPD) in Cairo. The comprehensive definition of ‘reproductive health’ implies a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes.

The RCH package comprises several key components, such as contraception, basically meant for a safe and satisfying sex life; treatment of infertility; prenatal, natal, and postpartum care for the mother; psychological preparation of adolescents through information, education, and communication (IEC) for their sexual and reproductive careers; control and treatment of reproductive tract infections (RTIs), HIV/AIDS; and so forth—all of which have reproductive morbidity and mortality implications. These components matter for the reproductive system and its functions and processes for both men and women and depict strong inter-linkages with fertility behaviour.

The National Health Policy of 1983 laid down specific targets from national fertility reduction to replacement-level fertility by 2000. Despite concerted efforts, the national
programmes on family planning, child survival and safe motherhood, mother and child health, and universal immunization of children, which were intended to have an impact on fertility through crucial determinants, have not borne fruit in decreasing fertility to replacement levels for India. However, replacement-level fertility has been achieved in some larger states, such as Kerala and Tamil Nadu, and in smaller territories, such as Goa, Delhi, Chandigarh, Nagaland, and Pondichery. Problems in fertility reduction in some of the larger states, including the former Uttar Pradesh (UP), have often been emphasized in the past. Nevertheless, the medium-term objective enshrined in the National Population Policy (NPP) of March 2000 clearly specifies an aim to decrease fertility to replacement level by 2010 through vigorous implementation of inter-sectoral operational strategies.

UP was the largest state in terms of population and had the highest fertility among the larger states of India. Being the most demographically backward, it had always been under scrutiny toward the realization of NPP goals. The demographic backwardness of UP is characterized by the demographic parameters of high fertility, high mortality, lower use of contraception, lower age at marriage, lower utilization of reproductive and child health care, lower levels of literacy and so forth.

However, the state of Uttaranchal depicts a much better situation in relation to socio-demographic advancement than UP. Uttaranchal was created out of UP on 9 November 2000, by combining the hilly districts of Uttarkashi, Chamoli, Rudraprayag, Tehri Garhwal, Dehradun, Garhwal, Pithoragarh, Bageshwar, Almora, Champawat, and Nainital with the districts of Udham Singh Nagar in the Terai region and Hardwar in the UP foothills. After the restructuring of administrative boundaries, the state of Uttaranchal has 13 districts, 49 tehsils, 95 blocks, and 16,414 villages (NFHS-2, 1999). Uttaranchal has a population of approximately 8.5 million and a total geographical area of 53,483 square kilometres (Census of India, 2001), of which approximately 60% is under forest cover.

The National Family Health Survey of 1998–99 (NFHS-2) furnished state-level estimates for the total fertility rate and other demographic and health care utilization characteristics. Women in Uttaranchal have on average 2.6 children throughout their reproductive span, which is approximately 1.4 children less than the average woman in UP. Most of the social and demographic parameters of Uttaranchal depict a much better situation than in UP—higher age at marriage, lower fertility, greater use of contraception, greater use of public health institutions and an impressive role of trained birth attendants in safe deliveries.

Thus, the state of Uttaranchal certainly seems to have a distinct culture, topography, social customs, and values, which have contributed to a greater performance in socio-demographic parameters than UP. Still, fertility in Uttaranchal is above replacement level and much higher than most southern states, such as Kerala, Tamil Nadu, and Andhra Pradesh. Therefore, efforts to lower fertility in Uttaranchal necessitate the identification of areas and groups within the state that have higher fertility than average.
Objective of the Study
This study purports to highlight inter-linkages between fertility, RCH care utilization indices and socio-economic parameters based on a district-level, econometric base for Uttaranchal and UP. The study intends to elicit district-level, RCH-status indices in order to highlight districts that are lagging within Uttaranchal on RCH-package quality services. The study is also intended to prioritize these areas or districts to bring about faster population stabilization and improvements in health status, social development, and quality of life of people and thus quicken the process of demographic transition in Uttaranchal. Furthermore, the study purports to analyse crucial determinants of fertility behaviour and prioritize key factors to quicken the process of demographic transition and population stabilization. District-level multivariate analysis would be carried out based on data for all districts of Uttaranchal and UP, to obviate the problem of degrees of freedom for multivariate analytical techniques, basically because of the smaller number of districts in Uttaranchal.

Methodology
The study attempts to highlight inter-linkages between fertility (characterized by percentage of higher order (3+) births, RCH components, namely antenatal and natal care, contraceptive usage, age at cohabitation with husband, etc.) and socio-economic and demographic parameters at the district level. Investigations provide semi-quantitative insights into structural linkages and also facilitate the selection of relevant predictors of fertility in the multiple structural relationship. The analysis facilitates the formulation and estimation of the structural equation; thus, the estimated structural parameters facilitate prioritization of policy and programme interventions for fertility control and population stabilization in UP. The highest levels of fertility in UP have often been of serious concern to policy-makers, policy implementers, and population scientists.

Crucial components of RCH-reproductive mortality and morbidity, mother and child health that comprises antenatal, confinement and postnatal care, infant mortality, marital patterns, and contraception–have often been viewed as interconnected. Several socioeconomic and demographic factors have also been viewed to influence fertility.

Econometric Base of the Study
The district-level database for various reproductive health parameters, including crude birth rates for UP, have been elicited from the Rapid Household Survey (RHS), under the RCH Project, conducted during 1998–99. The RCH Project elicited district-level parameters from the household-level primary data collected during 1998–99.

Socio-economic and demographic profiles of the districts in Uttaranchal and UP have also been appended from alternative sources, such as the censuses, the Planning Commission, and Centre for Monitoring the Indian Economy (CMIE), the details of which have been furnished here. Although district-level development indices, based on factor analysis, have been borrowed from the author’s earlier publications, the basic data on RCH components have come from the RCH survey reports.
Basic Socio-demographic Features of Uttaranchal

Uttaranchal depicts much lower fertility than UP and India as a whole. Table 1 reveals that the crude birth rate (CBR) in Uttaranchal (19.6) is much lower than that of UP (32.8) and India (26.0) (SRS, 2001). Fertility levels seem to be quite close to those of southern states such as Kerala (18.0). Further, the total fertility rate (TFR) in Uttaranchal (2.6) is much lower than that of UP (4.0) and India (2.85) (NFHS-2, India and Uttaranchal). Percentage of higher order (3+) births over three years prior to the RHS-RCH district-level surveys in 1998–99 is 51% compared with 60% in UP. Thus, fertility levels in Uttaranchal seem to be much lower than those of UP.

Mortality in Uttaranchal is also much lower than for UP and India. The crude death rate (CDR) in Uttaranchal (6.5) is almost half that of UP (10.5) and is much closer to that of Kerala (6.4). The infant mortality rate in Uttaranchal is 52 per 1000 live births compared with 84 for UP. However, the level of infant mortality is still much higher than that of Kerala (14) and other southern states.

Use of contraceptive methods is greater in Uttaranchal than in UP. The percentage of women surveyed in RCH district-level surveys indicate that 43% of them are using some contraceptive method compared with only 28% in UP. However, use is much less in Uttaranchal than in Kerala (64%). Still, we have unmet need of family planning methods in Uttaranchal of about 21% compared with India's total unmet need of 16%. Thus, the potential exists for increased contraceptive use and consequent fertility reduction in Uttaranchal.

Further, Uttaranchal’s performance in relation to indicators of RCH care utilization, such as complete antenatal care comprising at least three antenatal check-ups, two tetanus toxoid injections, and iron and folic acid supplementation, is 20% compared with 11% in UP, but much lower than for India (32%) and Kerala (86%). Further, health institution deliveries in Uttaranchal are only 18% compared with India’s 34% and Kerala’s 97%. Still, the percentage of safe deliveries attended by trained professionals in Uttaranchal is only 24% compared with 40% in India and 97% in Kerala. These maternal care parameters depict low use of resources, which could possibly be because of lesser road connectivity in Uttaranchal and cultural constraints, which cause pregnant women not to use maternal care facilities. The important role of traditional birth attendants for the majority of births that occur at home has been noteworthy in enhancing safe deliveries.

Approximately 41% of currently married women aged 15–49 years, who were surveyed in Uttaranchal, report some type of reproductive health problem, including abnormal vaginal discharge, excessive bleeding, symptoms of RTIs, pain or bleeding associated with intercourse and so forth. The situation is similar to UP (38%) and Kerala (42%). However, advice and treatment sought by women suffering from RTIs is also very low in Uttaranchal, suggesting that reproductive health services and IEC programmes need to be encouraged to reduce RTIs in Uttaranchal.
Immunization of children aged 12–23 months against six serious but preventable diseases—tuberculosis, diphtheria, pertussis, tetanus, polio, and measles—is 41% in Uttaranchal, which is much higher than in UP (21%), but much lower when compared with Kerala (80% coverage).

However, the population growth rate of Uttaranchal was only 19.2% during 1991-2001 compared with 24.2% during 1981-2001. The population growth rate of Uttaranchal was much lower than that of UP during the period. Uttaranchal has a much higher female-to-male sex ratio of 964 than UP with 898 and all of India with 933. Perennial excessive out-migration from Uttaranchal, especially from some of its hilly districts, seems to be responsible for increasing Uttaranchal's sex ratio from 936 in 1991 to 964 in 2001. However, Uttaranchal, with 72% of its population being literate, ranks much higher than UP (57%) and India (65%).

Higher Order Births in Uttaranchal and UP by Districts
A district-level profile of the percentage of higher order births (PBO3P) among currently married women aged 15–44 years from RCH surveys in 1998–99 is presented in Map 1 to highlight the regional configuration of fertility in Uttaranchal and UP. Most of the fertility indicators, namely higher order births, child-woman ratio, CBR, TFR, and so forth, depict strong linkages, and the rank order correlations among them are highly

| Table 1. Socio-demographic Characteristics for Uttaranchal, UP, Kerala and India |
|-------------------------------------------------|----------|----------|----------|----------|
| **Fertility**                                   | Uttaranchal | UP       | Kerala   | India    |
| CBR: crude birth rate                          | 19.6      | 32.8     | 18.0     | 26.0     |
| TFR: total fertility rate                      | 2.60      | 3.99     | 1.96     | 2.85     |
| PBO3+: % births of order 3+                    | 51.1      | 59.9     | 17.1     | 45.8     |
| WFR: wanted fertility rate                     | 2.7       | 2.83     | 1.81     | 2.13     |

| **Mortality**                                   |           |          |          |          |
| CDR: crude death rate                          | 6.5       | 10.5     | 6.4      | 8.6      |
| IMR: infant mortality rate                     | 52        | 84       | 14       | 70       |

| **Marriage**                                    |           |          |          |          |
| PGMB18: % girls married <18                     | 14.6      | 49.8     | 9.1      | 36.9     |

| **Contraception**                               |           |          |          |          |
| Usage of contraception                          | 43.1      | 28.1     | 63.7     | 48.2     |
| Total unmet need (UN)                           | 21.0      | 25.1     | 11.7     | 15.8     |
| UN for spacing methods                          | 10.5      | 11.8     | 6.9      | 8.3      |
| UN for limiting methods                         | 10.5      | 13.4     | 4.9      | 7.5      |

| **Reproductive Health Care**                    |           |          |          |          |
| % mothers with full antenatal care              | 20.2      | 11.2     | 86.1     | 31.8     |
| % deliveries in health institutions             | 18.1      | 16.2     | 97.0     | 34.0     |
| % safe deliveries                               | 24.2      | 20.8     | 97.4     | 40.2     |
| % women reporting reproductive health problems  | 41.2      | 38.1     | 42.4     | 39.2     |

| **Child Health Care**                           |           |          |          |          |
| % children with complete immunization           | 40.9      | 21.2     | 79.7     | 42.0     |
significant. Use of these alternative fertility indicators has often been found in official documentation to highlight fertility variations. Regional configuration of the extent of higher order births is presented in Map 1.

Map 1 clearly reveals that most of the districts in Uttaranchal depict much lower levels of fertility than UP districts. Further, in Uttaranchal, hilly districts like Almora (46.4) and Pithoragarh (47.6) depict low levels of fertility along with Dehradun over the foothills of Himalayas. We were able to map only 10 original districts of the 13 that were delineated because data was unavailable from the survey reports. However, data for the three newly delineated districts—Bageshwar, Champawat, and Rudraprayag—would be available from the present RCH surveys, which are being carried out in Round II of the RCH district-level surveys.

Interestingly, there are only two districts—Jhansi and Kanpur Nagar—out of the original 58 districts in UP that depict lower fertility than the three districts in the low-fertility category in Uttaranchal.

Inter-district Variations in Fertility in Uttaranchal
The district-level percentage of births of higher order (3+) are presented in Figure 1. Figure 1 shows that the high-fertility districts within Uttaranchal are Hardwar, Uttarkashi, and Udham Singh Nagar. Low-fertility districts within Uttaranchal are Almora, Pithoragarh, and Dehradun. Other districts fall in the medium-fertility category. In order to achieve faster fertility reduction, efforts need to be concentrated in high-fertility districts more than in medium or lower fertility districts.
Structural Linkages among Selected Variables

Semi-quantitative insights into the inter-linkages between fertility and other selected socio-demographic and RCH uses will be highlighted through the factorial investigations. A list of the selected variables and some descriptive statistics are provided in Appendix Tables 1 and 2. Only three factors are retained in the analysis as per Kaiser's criterion of Eigen values greater than unity (Harman, 1960). The varimax rotated factor structure is presented in Table 2.

Perusal of the factor matrix reveals that most of the variables under the purview of the present study were duly represented in the structure. The extent of communalities varies between 0.57 for higher order births (PBO3P) and 0.88 for the child-woman ratio (CWR). For other underlying RCH characteristics, socio-economic characteristics are duly represented in the form of three elicited factors. The inter-linkages and identification of the elicited factors are briefly discussed as follows.

Identification of the Factor Structure and Linkages

The underlying or predominant constituents of the first factor (F-I) are fertility, marriage-age patterns, contraception, delivery care utilization and children's immunization characteristics. All the predominant constituents depict consistent linkages; for instance, fertility (PBO3P and CWR) depicts an inverse association with marriage-age patterns. Alternatively, districts with a lower age at marriage or higher percentage of girls marrying under 18 (PGMB18) depict an inverse association with fertility. Furthermore, higher usage of contraception (PCUFPM) depicts a negative association with fertility and a positive association with contraception. Higher use of delivery care and children's immunization depicts a negative association with fertility. In addition, delivery care and children's immunization affecting neonatal and post-neonatal components of infant mortality, respectively, and thus an overall reduction in infant and maternal mortality, depicts a negative association with fertility characteristics.

The underlying constituent of the second factor (F-II) depicts female's work participation rate (FWPR) and overall economic development (DDIO) as strongly linked. Districts with a higher percentage of Muslims (PMUS) depict lower participation of women in the workforce. The extent of urbanization (PURB) depicts a positive association with the use of delivery care or extent of safe deliveries (PDS). Lack of road connectivity (PVNCPR) depicts an inverse association with overall economic

<table>
<thead>
<tr>
<th>Variable</th>
<th>F-I</th>
<th>F-II</th>
<th>F-III</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PBO3P</td>
<td>-0.74</td>
<td>0.02</td>
<td>-0.16</td>
<td>0.57</td>
</tr>
<tr>
<td>2. CWR</td>
<td>-0.92</td>
<td>0.08</td>
<td>-0.18</td>
<td>0.88</td>
</tr>
<tr>
<td>3. PGMB18</td>
<td>-0.78</td>
<td>-0.24</td>
<td>0.38</td>
<td>0.82</td>
</tr>
<tr>
<td>4. PCUFPM</td>
<td>0.87</td>
<td>0.01</td>
<td>0.14</td>
<td>0.77</td>
</tr>
<tr>
<td>5. RCANC</td>
<td>0.20</td>
<td>-0.07</td>
<td>0.86</td>
<td>0.79</td>
</tr>
<tr>
<td>6. PDS</td>
<td>0.56</td>
<td>0.38</td>
<td>0.57</td>
<td>0.79</td>
</tr>
<tr>
<td>7. PCWCI</td>
<td>0.69</td>
<td>-0.38</td>
<td>0.07</td>
<td>0.63</td>
</tr>
<tr>
<td>8. PFSRTI</td>
<td>0.01</td>
<td>0.17</td>
<td>-0.79</td>
<td>0.65</td>
</tr>
<tr>
<td>9. FLR</td>
<td>0.78</td>
<td>0.09</td>
<td>0.12</td>
<td>0.64</td>
</tr>
<tr>
<td>10. FWPR</td>
<td>0.43</td>
<td>-0.73</td>
<td>0.08</td>
<td>0.72</td>
</tr>
<tr>
<td>11. PURB</td>
<td>0.42</td>
<td>0.79</td>
<td>0.09</td>
<td>0.81</td>
</tr>
<tr>
<td>12. PMUS</td>
<td>-0.34</td>
<td>0.64</td>
<td>-0.25</td>
<td>0.59</td>
</tr>
<tr>
<td>13. DDIO</td>
<td>0.30</td>
<td>0.87</td>
<td>0.04</td>
<td>0.86</td>
</tr>
<tr>
<td>14. PVNCPR</td>
<td>0.01</td>
<td>-0.83</td>
<td>0.13</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Eigen-Values: 5.05 3.49 1.68
development, and the development of road infrastructure in the districts in the erstwhile UP, especially those in what is now Uttarakhand, can lead to greater economic development and higher use of delivery care.

The main constituents of the third factor (F-III) turn out to be the utilization of maternal care, namely antenatal (RCANC), delivery care (PDS), and incidence of RTIs among women. Districts depicting higher use of antenatal and delivery care depict a lower incidence of RTIs (PFSRTI) among women.

The exact nature of linkages, the magnitude of effects and the relative significance of different socio-economic, demographic, and RCH components on fertility levels is explored in the next section through parametric estimation of multiple linear structural relations.

**District-level Reproductive Child Health Status Indices**

The factor analytical approach has been utilized for constructing the RCH-status composite indices for all 63 districts of UP, all of which were covered under the RHS-RCH Project sponsored by the Ministry of Health and Family Welfare (MoHFW). Six district-level key underlying RCH characteristics, along with demographic variables, were selected for eliciting the composite indices. The selected variables are (1) child–woman ratio (CWR); (2) percentage of births in the last three years of birth order (3+) (PBO3P); (3) percentage of couples using any contraceptive method (CUAM); (4) percentage of girls married under 18 years (PGMB18); (5) percentage of safe deliveries during the three years prior to the survey (PDS) and (6) percentage of children born in the last three years, who are currently over one year of age and have been fully immunized (PCWCI). Summary indices of the selected variables are provided in Appendix Table 2.

The six indicators are closely inter-linked and fall within the purview of the MoHFW. Composite indices would facilitate the identification of districts, which are demographically backward or sensitive and need special attention for the attainment of the national objectives of fertility control and early population stabilization.

**Factor Structure of the Six Selected Indicators**

The evolved factor structure of the seven inter-connected variables based on the Kaiser criterion of Eigen values greater than unity is presented in Table 3. Interestingly, the selection of six RCH indicators and demographic variables was such that all of them seem to depict a strong inter-connectivity, and the number of retained factors turns out to be just one. The Eigen roots of the correlation matrix of the six variables show that only the first Eigen value turned out to be 3.52, and all others were less than unity, resulting in the retention of just one factor, which accounts for almost 59% of the inter-district variations in the selected indicators. The elicited factor structure or component matrix is presented in Table 3.

The linkages among the six selected variables are consistent with general expectations. Districts with a higher use of contraception depict lower fertility characterized by the
child–woman ratio as well as by the percentage of births of order (3+). Further, lower age at marriage depicted by the higher percentage of girls marrying under age 18 depicts the promotive impact on fertility and the inhibitive impact on usage of contraception. Further, districts with a higher proportion of safe deliveries depict relatively stronger linkages with fertility, contraception, and age at marriage.

Factorial investigations do not presume any cause-and-effect relationship. It is possible that a higher use of delivery care facilities helps lower infant and maternal mortality, which, in turn, motivates couples to use contraception to control fertility because of the sense of confidence about the survivability of children and mothers. Thus, districts with higher factor scores based on the elicited factor structure or factor loadings depict better performance on the RCH care utilization front as well as demographic advancement. Alternatively, districts with higher factor scores depict a better status than districts with lower scores, and thus lower RCH status. The elicited factor score coefficients for all the districts in Uttaranchal and UP are presented in Appendix Table 3. The scores depicting the RCH status of the districts will have characteristics built within, having zero mean and unit variance. Interestingly, the factor solution entailing just one factor also depicts that the factor structure is not subjected to any orthogonal or oblique rotation, and thus the elicited factor solution turns out to be unique.

**RCH Status Indices for Districts in Uttaranchal**

Figure 2 depicts RCH status in different districts in Uttaranchal. Since fertility, contraception, marriage-age patterns, delivery care, and children’s immunization are the main constituents of the elicited first principal component solution, the elicited factor scores for each district rightly depicts the RCH status. Figure 2 reveals that to improve the quality of health care, we need to focus on districts lagging on the RCH-status front. Thus, Hardwar, Uttarkashi, Udham Singh Nagar, and Tehri Garhwal are lagging behind other districts in Uttaranchal. However, as per general expectations, there is a close linkage between fertility and RCH status in the districts in Uttaranchal.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Component</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Child–Woman Ratio (CWR)</td>
<td>-0.923</td>
<td>0.853</td>
</tr>
<tr>
<td>2. Percentage of Births of Order 3+ (PBO3+)</td>
<td>-0.782</td>
<td>0.611</td>
</tr>
<tr>
<td>3. Percentage of Couples Using Any Method (CUAM)</td>
<td>0.734</td>
<td>0.539</td>
</tr>
<tr>
<td>4. Percentage of Girls Marrying Below 18 (PGMB18)</td>
<td>-0.738</td>
<td>0.544</td>
</tr>
<tr>
<td>5. Percentage Safe Deliveries (PSD)</td>
<td>0.638</td>
<td>0.407</td>
</tr>
<tr>
<td>6. Percentage of Children with Complete Immunization (PCWCI)</td>
<td>0.758</td>
<td>0.574</td>
</tr>
<tr>
<td><strong>Eigen Value</strong></td>
<td></td>
<td>3.528</td>
</tr>
</tbody>
</table>

---

**Table 3. Factor Structure of Six Selected RCH Indicators for RCH-Status Index**

![RCH Status in Uttaranchal's Districts](image)
Parametric Estimates of the PBO3P Structural Equation

Parametric estimates of the multiple regression equation of the CBR are presented in Table 4. Selection of the explanatory variables was partly facilitated through scanning the correlation matrix among the variables and through examination of the factor structure, which helps in accounting for the problem of multi-collinearity.

The structural analysis through the parametric estimates highlights the exact nature of linkage and the magnitudes of effects of different explanatory variables under consideration.

Among demographic and reproductive health components, use of contraceptive methods depicts a significant and negative impact on fertility. Further, the percentage of safe deliveries that signify the attendance of a professional care-giver at the time of birth, whether in a health institution or home, depicts a significant and negative impact on fertility. Here, the role of trained birth attendants during home deliveries, possibly due to cultural considerations, has often been highlighted as an enhancement in safe deliveries, which contributes to reduced maternal mortality. Also, immunization among children predominantly affecting the post-neonatal component of infant mortality also depicts a significant and inhibitive impact on fertility.

Women’s participation in the workforce depicts a significant and inhibitive impact on fertility. Thus, gainful employment of women, which helps towards their empowerment, seems to be an important factor in increasing their autonomy and thus lowering fertility.

Districts with higher proportions of Muslim population depict higher fertility, possibly because of religiosity or lack of socio-economic development, which is an interesting issue for further investigation. Nevertheless, focused efforts in such districts could bring about a faster decline in fertility.

Summary and Policy Imperatives

The state of Uttarakhand, which was recently carved out of UP, depicts a much better situation in relation to socio-demographic advancement than UP. Levels of fertility in Uttarakhand are much lower in UP; however, they are above replacement levels and much higher than in the state of Kerala. However, infant and maternal mortality ratios in Uttarakhand are lower than in UP, but are still much higher than southern states such as Kerala. Safe deliveries, characterized by the attendance of professional caregivers at the time of delivery, seems to be much greater in Uttarakhand; and the role of

<table>
<thead>
<tr>
<th>Variable</th>
<th>B-Coeff.</th>
<th>Beta Coeff.</th>
<th>T-Value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGMB18</td>
<td>-0.003</td>
<td>-0.001</td>
<td>-0.08</td>
<td>0.94</td>
</tr>
<tr>
<td>PCUFPM</td>
<td>-0.258</td>
<td>-0.426</td>
<td>-3.23</td>
<td>0.00</td>
</tr>
<tr>
<td>PPANC</td>
<td>0.013</td>
<td>0.035</td>
<td>0.25</td>
<td>0.80</td>
</tr>
<tr>
<td>PDS</td>
<td>-0.190</td>
<td>-0.270</td>
<td>-1.95</td>
<td>0.06</td>
</tr>
<tr>
<td>PCWCI</td>
<td>-0.106</td>
<td>-0.259</td>
<td>-2.25</td>
<td>0.03</td>
</tr>
<tr>
<td>CFLR</td>
<td>0.003</td>
<td>0.058</td>
<td>0.48</td>
<td>0.63</td>
</tr>
<tr>
<td>FWPR</td>
<td>-0.109</td>
<td>-0.222</td>
<td>-1.82</td>
<td>0.07</td>
</tr>
<tr>
<td>PMUS</td>
<td>0.192</td>
<td>0.328</td>
<td>2.75</td>
<td>0.01</td>
</tr>
<tr>
<td>PVNCPR</td>
<td>-0.019</td>
<td>-0.067</td>
<td>-0.53</td>
<td>0.59</td>
</tr>
<tr>
<td>CONSTANT</td>
<td>78.717</td>
<td>14.84</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

R-Square = 0.59, N = 67
traditional birth attendants seems to be quite important in the hilly districts, where roads to villages are difficult to travel because of the hostile terrain, thereby contributing to under-utilization of health care facilities. Use of antenatal and delivery care also helps in the containment of reproductive health problems.

Factorial investigations highlighted strong inter-connections among fertility, marriage-age patterns, use of contraception, antenatal care, safe deliveries, female literacy and other components of RCH care, such as children’s immunization. Further, linkages between fertility and other socio-economic and demographic factors were also highlighted.

Infrastructure variables, such as road connectivity between villages, depict higher overall economic development and higher urbanization. However, Muslim-dominant districts depict lower participation of women in the workforce. Further, utilization of antenatal and delivery care depicts a significant and inhibitive impact of RTIs.

The multiple structural equation of fertility (PBNO3+), with selected explanatory variables, that shows that use of contraception depicts a significant and inhibitive impact on fertility. Reproductive health care characteristics, such as safe deliveries and children’s immunization, depict a significant and inhibitive impact on fertility. Possibly the reproductive health characteristics showing lower levels of neonatal and post-neonatal mortality depict a stronger impact on fertility behaviour. Women’s empowerment, characterized by gainful employment, also depicts a significant and inhibitive impact on fertility. Interestingly, Muslim-dominated districts depict higher levels of fertility, either because of religiosity or the lack of socio-economic development.

The relative significance of alternative predictors of fertility, adjudged by standardized regression coefficients, reveals that the use of contraception plays a significant role in containing fertility. Unmet need for both spacing and limiting family planning methods in Uttaranchal depicts the scope for family planning programme strategies to increase contraceptive use in order to facilitate further reduction in fertility. Further, the provision of better reproductive health care, such as safe deliveries and children’s immunization, plays an important role in fertility reduction. The provision of quality RCH-care services to improve quality of life has been one of the most important components of the Family Welfare Programme, especially after the ICPD. The results suggest that expanding RCH services and focusing on the IEC component would encourage women to make more use of RCH services for better quality of life and fertility reduction. The role of trained birth attendants or auxiliary nurse midwives can be noteworthy for further improving safe deliveries and reducing RTIs in Uttaranchal. However, Muslim-dominated districts should receive special attention for containing RTIs and reducing fertility faster.
References


SRS (Sample Registration Survey). 2001. Provisional Estimates of Birth Rate, Death Rate, Natural Growth Rate, and Infant Mortality Rate, 2000.
APPENDIX

Table 1. List of the Selected Variables

<table>
<thead>
<tr>
<th>No.</th>
<th>Abbreviation</th>
<th>Description of the Variable</th>
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<tbody>
<tr>
<td>1</td>
<td>PBO3P</td>
<td>% Births of Order 3+</td>
</tr>
<tr>
<td>2</td>
<td>CWR</td>
<td>Child–woman ratio</td>
</tr>
<tr>
<td>3</td>
<td>PGMB18</td>
<td>% Girls Married Below 18 Years of Age</td>
</tr>
<tr>
<td>4</td>
<td>PCUFPM</td>
<td>% Couples Using Family Planning Methods</td>
</tr>
<tr>
<td>5</td>
<td>RCANC</td>
<td>% Mothers Received Complete Antenatal Care</td>
</tr>
<tr>
<td>6</td>
<td>PDS</td>
<td>% Deliveries Safe</td>
</tr>
<tr>
<td>7</td>
<td>PCWCI</td>
<td>% Children (12–23) With Complete Immunization</td>
</tr>
<tr>
<td>8</td>
<td>PFSRTI</td>
<td>% Women Suffering From RTIs</td>
</tr>
<tr>
<td>9</td>
<td>FLR</td>
<td>% Females Literate</td>
</tr>
<tr>
<td>10</td>
<td>FWPR</td>
<td>Female Work Participation Rate</td>
</tr>
<tr>
<td>11</td>
<td>PURB</td>
<td>Percent Urban Population</td>
</tr>
<tr>
<td>12</td>
<td>PMUS</td>
<td>% Muslim Population</td>
</tr>
<tr>
<td>13</td>
<td>DDIO</td>
<td>District’s Development Index</td>
</tr>
<tr>
<td>14</td>
<td>PVNCPR</td>
<td>% Villages Not Connected By Pucca Road</td>
</tr>
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Table 2. Summary Statistics for the Selected Variables

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
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<th>Std Dev</th>
<th>Minimum</th>
<th>Maximum</th>
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<td>CWR</td>
<td>462.42</td>
<td>61.87</td>
<td>309.28</td>
<td>567.42</td>
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<tr>
<td>3</td>
<td>PGMB18</td>
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<td>21.32</td>
<td>5.6</td>
<td>83.80</td>
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<tr>
<td>4</td>
<td>PCUFPM</td>
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<td>10.01</td>
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<td>5</td>
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<td>PVNCPR</td>
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<td>20.77</td>
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Table 3. Selected Characteristics of Districts in Uttaranchal and Uttar Pradesh

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<tr>
<th>DISTRICT</th>
<th>UPRCHNB</th>
<th>PBOBP</th>
<th>CWR</th>
<th>PEMB1B</th>
<th>KUMFR</th>
<th>PWNC</th>
<th>PSD</th>
<th>PVO</th>
<th>PSPTMI</th>
<th>FLR</th>
<th>FWPR</th>
<th>PURB</th>
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<th>PMUS</th>
<th>DIO</th>
<th>ANM</th>
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</table>
44

31
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Farrukhabad
Bijnor
Mahoba
Pratapgarh
Rampur
Mau
Sultanpur
Ghazipur
Rae Bareli
Saharanpur
Azamgarh
Gorakhpur
Faizabad
Etawah
Bulands hahar
Muzaffar Nagar
Deoria
Jaunpur
Agra
Meerut
Jalaun
Unnao
Kanpur Dehat
Ballia
Lucknow
Ghaziabad
Jhansi
Kanpur Nagar

DISTRICT

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0.72197
0.93585
1.18572
1.21394
2.23554

UPRCHINB
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59.9
58.7
61.7
36.2
57.1
58.7
57.5
62.6
59.8
58.0
57.6
58.0
58.6
60.2
58.1
55.7
53.7
60.6
52.8
57.3
62.3
57.9
54.5
54.4
51.5
41.0
44.5

PBO3P

CWR
457.44
499.79
498.55
446.01
542.86
502.71
456.76
481.74
446.96
461.90
468.41
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486.57
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55.2
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65.5
61.0
45.9
18.6
64.1
66.2
64.9
44.7
27.2
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34.5
53.6
35.3
19.3
42.4
5.6

PGMB18
28.7
23.0
37.1
24.2
25.6
26.3
19.0
28.3
20.8
29.4
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27.7
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53.1

PCUFPM
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39.3
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24.2
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41.1
57.1
61.8
80.0
47.7
67.7
77.0

PPANC

PSD
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24.3
28.6
31.2
30.1
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27.0
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32.8
23.9
24.9
16.0
35.6
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24.2
32.1
37.2
88.8
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21.7
16.4
35.2
42.0
59.5
36.3
56.3

46.9
32.9
43.2
39.0
41.2
40.6
56.5
45.8
47.1
36.4
61.5
52.7
45.8
42.6
54.8
36.1
55.6
54.3
42.0
30.8
39.9
74.1
62.8
71.5
51.9
51.4
56.7
41.9

PCWCI
49.7
23.0
32.7
37.1
43.8
40.2
22.7
28.7
48.9
22.4
22.0
28.4
25.8
35.7
42.8
42.8
36.6
22.5
41.0
21.5
34.5
19.7
30.8
27.6
31.6
39.4
23.9
44.6

PFSRTI

FLR
50.35
47.28
39.57
42.63
27.87
50.86
41.81
44.39
40.44
51.42
42.44
44.48
43.35
58.49
42.82
48.63
43.56
43.53
48.15
54.12
50.66
42.40
54.49
43.92
61.22
59.12
51.21
72.50

18.6
25.1
5.5
26.1
16.9
4.5
7.4
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25.5
7.2
18.8
11.7
15.7
20.8
24.6
7.4
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40.4
37.0
22.1
13.6
5.7
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46.2
39.6
84.2

17.81
5.66
20.74
13.39
13.77
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3.81
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7.42
12.33
15.53
12.81
3.63
8.00
14.65
11.55
4.71
11.91
7.68
8.58
18.91
2.88

36.53
23.95
37.71
45.52
14.16
44.33
36.40
55.76
39.78
7.46
50.97
62.96
42.91
44.08
10.34
.00
39.20
50.90
19.09
.00
21.04
60.96
40.11
45.78
54.45
.00
57.33
.00

PURB PVNCPR

4.13
3.57

FWPR

13.25
47.95
17.91
12.94
10.07
11.35
36.12
13.01
8.09
13.39
6.63
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10.66
6.91
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19.66
21.16
8.42
17.80

14.17
40.35

PMUS

DDIO

-0.46
0.91
0.85
-0.23
0.60

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0.23
0.41
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-0.44
0.26
0.74
-0.19
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-0.11
-0.06

ANM

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52.78
54.53
49.45
39.40
23.06
29.48
105.51
49.67
70.01
51.81

43.89
39.76

WORKSHOP ON REPRODUCTIVE AND CHILD HEALTH AND POPULATION POLICY ISSUES IN UTTARANCHAL


Session 2
Contraceptive Prevalence and Behaviour in Uttaranchal

Chairperson: Alok Kumar Jain

Contraceptive Prevalence in Uttaranchal
K M Sathyanarayana

Family Planning in Uttaranchal: Some Findings from NFHS
T K Roy & Rajib Acharya

Unmet need for Family Planning Contraception in Uttaranchal - Evidence from the NFHS-2 and RCH Survey
P M Kulkarni

Discussant
R S Goyal
Contraceptive Prevalence in Uttarakhand

K M Sathyanarayana
Senior Programme Specialist
POLICY Project
The Futures Group International
New Delhi

Background
Contraceptive use is one of the most important proximate determinants of the fertility behaviour of a population. Many of the states in India, such as Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, Maharashtra, Gujarat, and Himachal Pradesh, have been able to reduce fertility to either replacement or close to replacement levels. These states have demonstrated high and sustained levels of contraceptive use, especially modern methods. Although each state exhibits different patterns of fertility decline in relation to modern contraceptive use, the influence of contraceptive use on fertility reduction cannot be underestimated.

Despite to high parity acceptance and overemphasis on sterilization, a commensurate decline in fertility has not been witnessed in many states of the country, and the northern states are no exception. Nevertheless, in this entire effort of increasing contraceptive prevalence, the public health system has played an important role. This is primarily because sterilization, largely female sterilization, accounts for three-fourths of all contraceptive use and the public sector is the predominant source for these services. The modern contraceptive method that was identified with the sterilization programme, became a more client-centered one with the introduction of the Community Needs Assessment Approach (CNAA) in 1995-96. Since then, performance of the family planning programme has declined to a great extent in many states and especially so in the northern states (POLICY Project, April 2001). These states are yet to reach the performance level that they had attained before the introduction of CNAA.
Given this context, the purpose of this paper is to understand, by analysing the trends in contraceptive use, how Uttaranchal has moved through this phase of transition from a target-oriented approach to a target-free one.

Data Sources

The BSUP survey conducted in 1993 covered three districts of Uttaranchal, namely, Tehri Garhwal, Nainital, and Pithoragarh. The PERFORM survey that was carried out in 1995 covered four districts—Dehradun, Nainital, Almora, and Tehri Garhwal. State-level estimates are calculated using regional weights. The NFHS-2, Uttar Pradesh (1998–99), covering a sample of over 1000 households, provides regional estimates for Uttaranchal. The RCHS of the Government of India, conducted in 1998–99, covered all the districts of the state. District-level estimates are available for the old districts, with the exception of Udham Singh Nagar that has been carved out of Nainital. The sampling methodology adopted by these various studies enables comparison. The state-level comparison has been made using currently married women between aged 15 and 49 years, while the district-level comparison is based on currently married women aged 15–44 years because the RCHS results are available only for 15–44 years.

Findings
Modern Contraceptive Prevalence among Currently Married Women between the ages of 15 and 49 Years
The PERFORM survey that was conducted in 1995 indicates that the modern contraceptive prevalence rate among currently married women aged between 15 and 49 years was 45% and according to NFHS-2 1999, the prevalence was 41%—down by five percentage points. On an average, the state witnessed an annual decline of one percentage point in modern contraceptive use. The extent of decline was more profound in rural areas compared with urban areas. While urban areas witnessed a decline of four percentage points, it was around six percentage points in rural areas.

Method-wise, there was a decline in prevalence of all four modern methods. Sterilization prevalence was 33% in 1995 and 31% in 1999. Likewise, the trend was observed for all spacing methods and the decline during the reference period varied from a minimum of 0.5 percentage points for condoms to a maximum of 1.4 percentage points for intra-uterine contraception devices (IUCDs). Because of the
decline in spacing methods, sterilization occupied an even larger proportion of the overall method mix, increasing from 73% to 76%.

In urban areas, a major decline was observed in the case of sterilization (a drop of about six percentage points) from 32% to 26%, while prevalence due to spacing methods increased marginally and the maximum increase was in the case of condoms (two percentage points). However, the overall increase in spacing method use was not commensurate with the decline in sterilization, and hence, the overall prevalence rate dropped.

In rural areas, a consistent pattern of decline was observed for all the methods though the extent of decline varied by method. This clearly implies that the state’s performance in contraceptive use had dropped substantially following the introduction and implementation of the CNAA.

Another statistic, not presented in the graph, indicates a large difference between ever- and current-use of spacing methods. The NFHS-2 revealed that 26% of currently married women had ever used a spacing method while only 9% were currently using a spacing method. The maximum difference between ever and current use was observed for the oral pill. This observation was similar in both urban and rural areas, but the extent of the drop was higher in urban areas.

In addition to survey data, the service statistics compiled by the state were reviewed. As sterilization data is more reliable than spacing methods, the data was analysed. Results of sterilization data reinforce the findings from the survey that sterilization performance in the state has come down considerably and is presently performing 20% lower than what it was in 1994-95.

This apart, the sterilization performance was standardized against the estimated population of each year to enable better comparison. It was
found that Uttaranchal in 1994–95 was conducting 42 sterilizations per 10,000 persons. In the following year (1995–96), it increased to 43 sterilizations. With the implementation of CNAA, the performance in subsequent years came down and is at present around 30 sterilizations per 10,000. All these findings clearly demonstrate that the contraceptive prevalence in the state has dropped substantially.

While these trends suggest a decline in contraceptive prevalence, it will be worthwhile to analyze district-wise trends compiled from various surveys and service statistics. As mentioned earlier, the BSUP provides district estimates for three districts, the PERFORM for four districts, and the RCH survey for all the undivided districts with the exception of Nainital. In all, five undivided districts of Uttaranchal have been covered either in BSUP or PERFORM surveys enabling comparison with the RCH survey. The findings of these studies have been collated and are discussed in the following section.

### District-level Contraceptive Prevalence

The five undivided districts of Uttaranchal that allow for comparison are Tehri Garhwal, Dehradun, Almora, Nainital, and Pithoragarh. It is to be noted here that Udham Singh Nagar that was earlier part of Nainital District was covered separately in the RCH survey. However, as the contraceptive prevalence of Nainital is slightly better than Udham Singh Nagar, the result of Nainital has been used and comparisons among the three independent surveys have been carried out.

The BSUP survey estimated that the contraceptive prevalence of Tehri Garhwal was 33% in 1993 and increased to 35% at the time of the 1995 survey. Since then, contraceptive prevalence increased at the rate of one percentage point per annum and was estimated to be 38% at the time of the RCH survey in 1999. This is also true in the case of Dehradun which witnessed an increase of four percentage points from 43% in 1995 to 47% in 1998. In the case of Pithoragarh, contraceptive prevalence between 1993 and 1999 had hardly changed, while it had drastically declined in Nainital from 52% in 1993 to 39% in 1999—a decline of over one-third of the 1993 prevalence.
value. Thus, among the five districts, the contraceptive prevalence of two districts had increased considerably, one had sustained itself, and in the remaining two districts the prevalence had dropped, one marginally and the other substantially.

The RCH data related to Nainital district is questionable. Logically, one cannot expect a decline to such an extent, even if we were to assume that the health system had stopped providing services. Also, between BSUP and PERFORM, the level of contraceptive use remained unchanged and an annual decline of over two percentage points is beyond contemplation.

In urban areas, the contraceptive prevalence in all the districts, barring Almora, experienced a decline, the extent varying by district. The minimum decline was found in Tehri Garhwal while the maximum decline was in Nainital, followed by Pithoragarh and Dehradun in that order. For instance, in Tehri Garhwal, contraceptive use increased from 58% in 1993 to 59% in 1995 and, thereafter, declined to 56% in 1999. While the urban prevalence declined in all these districts, the prevalence, surprisingly, increased in Almora from 63% in 1995 to 65% in 1999.

The rural areas presented a better picture than urban areas. In three of five districts, namely, Tehri Garhwal, Dehradun, and Pithoragarh, contraceptive prevalence increased while it declined in Nainital and Almora. Nainital is one district that has experienced decline in both urban and rural areas, whereas, at the other end, a huge annual increase of three percentage points was observed in rural Dehradun. It increased from 33% in 1995 to 46% in 1999. In rural areas of Tehri Garhwal and Pithoragarh, the increase in contraceptive prevalence was marginal.

Having observed these trends in contraceptive use in urban and rural areas, trends in limiting and spacing methods in Uttaranchal have been
In regard to limiting method use, all the districts performed better than the earlier surveys except Nainital. Between 1993 and 1995, the limiting method use in Nainital had remained at the same level of 33% and declined to 28% in 1999, a decline of five percentage points in four years time, while Dehradun remained more or less at the same level. Among other districts, Tehri Garhwal witnessed an increase of four percentage points, or 11%, between 1993 and 1999, and was followed by Pithoragarh, up about three percentage points.

The trends presented through survey data analyses corroborate the sterilization service statistics data compiled between 1994 and 2001 at the state level, but do not gel well at the district level, specifically for the districts of Tehri Garhwal and Dehradun. Both these districts have a significant proportion of eligible women obtaining services from defence hospitals as their spouses are working with various defence establishments. These defence hospitals have their own reporting systems that district service statistics normally do not capture. Hence, this could be one of the reasons for the discrepancy between survey and service statistics.

If one were to compare the percentage increase/decrease in performance of each of the districts in the state over the reference period, then it becomes apparent that the performance in relation to contraceptive prevalence for limiting methods has declined and is yet to reach the level of performance of 1994. The extent of decline varied from a minimum of 10% in Chamoli to a maximum of 41% in Hardwar.

With respect to spacing methods, three of five districts witnessed a decline between 1993 and 1999. The districts that experienced a decline were Nainital, Almora, and Pithoragarh. The extent of decline in terms of percentage points was largest in Nainital, from 18% in 1993 to 11% in 1999, followed by Almora (down 6 percentage points) and Pithoragarh districts (down 2 percentage points). While this scenario prevailed in the three districts, the remaining two districts, Dehradun and Tehri Garhwal, showed an increase in spacing method prevalence mainly because of increased use of condoms and oral pills. Dehradun increased its prevalence due to spacing methods from 17% in

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Table 3. District-wise Sterilization Performance (1994–2001) in Uttaranchal

<table>
<thead>
<tr>
<th>District</th>
<th>% increase/ decrease between 1994 and 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
<td>32.0</td>
</tr>
<tr>
<td>Dehradun</td>
<td>28.8</td>
</tr>
<tr>
<td>Almora</td>
<td>25.4</td>
</tr>
<tr>
<td>Nainital</td>
<td>19.1</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>51.3</td>
</tr>
<tr>
<td>Chamoli</td>
<td>9.5</td>
</tr>
<tr>
<td>Pauri Garhwal</td>
<td>38.1</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>27.2</td>
</tr>
<tr>
<td>Hardwar</td>
<td>40.7</td>
</tr>
<tr>
<td>State Average</td>
<td>20.5</td>
</tr>
</tbody>
</table>

Source: Service Statistics from the Government of Uttar Pradesh and Uttaranchal
1995 to 22%, whereas, in Tehri Garhwal, the prevalence had actually come down if one were to compare the 1999 results with those of 1995. However, between 1993 and 1999, Tehri Garhwal registered a marginal increase in prevalence rate. Based on these findings it can be inferred that only Dehradun and Tehri Garhwal have been able to increase their prevalence due to spacing methods, but the increase in Dehradun is noteworthy.

Conclusion

Trends in contraceptive prevalence since 1993 in Uttaranchal state reveal an annual decline of one percentage point in modern contraceptive use. The pace of decline in contraceptive use was more rapid and pronounced in rural areas. While urban areas witnessed a decline only in sterilization, the decline was uniform across all the spacing methods in rural areas. Two of the five districts, namely, Tehri Garhwal and Dehradun, indicated an increase in prevalence. While the increase in Tehri Garhwal came from limiting methods, it was from spacing methods in the case of Dehradun. However, an analysis of sterilization service statistics and a comparison with survey results revealed contradictory findings for these two districts. This implies that other districts in the state, barring Uttarkashi, might have performed very badly during the reference period. Nevertheless, the important issue is that contraceptive prevalence in the state has declined, and this decline coincides with the introduction and implementation of CNAA. Following the implementation of CNAA, it seems that the state has not made efforts to review its performance. Seven years have elapsed since the CNAA and it is high time that the state addresses district-specific, micro-level issues, both in urban and rural areas, in terms of availability and accessibility of services and whether the services address the needs of the population. It is also important to look into the qualitative aspects of contraceptive users in terms of continuity of use of spacing methods and analyses of age and parity of both current and potential users. If all these issues are addressed, then the pace of contraceptive prevalence, which has been declining, can be reversed.

Bibliography


Annex

Table 1. Modern Contraceptive Prevalence Among Currently Married Women Aged Between 15 and 49 years in Uttaranchal

<table>
<thead>
<tr>
<th>Methods</th>
<th>Urban</th>
<th>PERFORM 1995 Rural</th>
<th>Total</th>
<th>Urban</th>
<th>NFHS-2 Rural</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Sterilization</td>
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<td>33.4</td>
<td>33.1</td>
<td>25.7</td>
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<td>31.1</td>
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<tr>
<td>IUCD</td>
<td>4.7</td>
<td>2.7</td>
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<td>4.9</td>
<td>0.7</td>
<td>1.6</td>
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<td>Oral Pill</td>
<td>2.6</td>
<td>2.6</td>
<td>2.6</td>
<td>2.8</td>
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<td>Condoms</td>
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<td>6.7</td>
<td>18.2</td>
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<td>6.2</td>
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<tr>
<td>Total CPR</td>
<td>55.5</td>
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<td>45.4</td>
<td>51.6</td>
<td>37.3</td>
<td>40.7</td>
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### Table 2. Sterilization Performance in Uttaranchal

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<tr>
<td>1 Tehri Garhwal</td>
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<td>3,147</td>
<td>8.52</td>
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<td>1,848</td>
<td>-10.81</td>
<td>2,015</td>
<td>-4.04</td>
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<tr>
<td>2 Dehradun</td>
<td>4,549</td>
<td>4,570</td>
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<td>-24.60</td>
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<td>7.86</td>
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<td>3 Almora</td>
<td>3,785</td>
<td>4,151</td>
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<td>8.79</td>
<td>3,003</td>
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<td>-29.38</td>
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<td>9 Hardwar</td>
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<td>7.19</td>
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Inc. = Increase; Dec. = Decrease
Table 3. **Number of Sterilizations Performed per 10,000 Persons in Uttaranchal**

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<td>34</td>
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<td>Almora</td>
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<td>48</td>
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<td>45</td>
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<td>53</td>
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<td>Hardwar</td>
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<td>18</td>
<td>19</td>
<td>18</td>
<td>17</td>
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<td>31</td>
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<td>31</td>
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<td>30</td>
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Table 4. **Modern Contraceptive Prevalence Among Currently Married Women Aged Between 15 and 44 Years in Uttaranchal**

<table>
<thead>
<tr>
<th>District</th>
<th>BSUP Urban</th>
<th>BSUP Rural</th>
<th>PERFORM Urban</th>
<th>PERFORM Rural</th>
<th>RCH Urban</th>
<th>RCH Rural</th>
<th>RCH Total</th>
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<tr>
<td>Tehri Garhwal</td>
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<td>58.5</td>
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<td>NS</td>
<td>NS</td>
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<td>NS</td>
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<td>NS</td>
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<td>64.0</td>
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<td>42.4</td>
<td>NS</td>
<td>NS</td>
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<td>49.4</td>
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</table>
Table 5. Modern Contraceptive Prevalence Among Currently Married Women in Uttaranchal

<table>
<thead>
<tr>
<th>District</th>
<th>CPR due to Sterilization Among Eligible Women Aged Between 15 and 44 years</th>
<th>BSUP-1994-95</th>
<th>PERFORM-1995</th>
<th>RCH-1998-99</th>
<th>% increase/decrease between PERFORM &amp; BSUP</th>
<th>% increase/decrease between RCH &amp; PERFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
<td></td>
<td>27.9</td>
<td>27.8</td>
<td>31.5</td>
<td>-0.4</td>
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</tr>
<tr>
<td>Dehradun</td>
<td></td>
<td>NS</td>
<td>25.4</td>
<td>25.6</td>
<td>XXX</td>
<td>0.8</td>
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<tr>
<td>Almora</td>
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<table>
<thead>
<tr>
<th>District</th>
<th>CPR due to Spacing Among Eligible Women Aged Between 15 and 44 years</th>
<th>BSUP-1994-95</th>
<th>PERFORM-1995</th>
<th>RCH-1998-99</th>
<th>% increase/decrease between PERFORM &amp; BSUP</th>
<th>% increase/decrease between RCH &amp; PERFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
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<td>6.9</td>
<td>6.7</td>
<td>23.2</td>
<td>-3.0</td>
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<td>Dehradun</td>
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<td>Almora</td>
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<td>NS</td>
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<td>5.2</td>
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<td>-121.2</td>
</tr>
<tr>
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<td>18.4</td>
<td>11.4</td>
<td>-1.1</td>
<td>-61.4</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td></td>
<td>7.0</td>
<td>NS</td>
<td>5.1</td>
<td>XXX</td>
<td>XXX</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>District</th>
<th>CPR due to Modern Methods Among Eligible Women Aged Between 15 and 44 years</th>
<th>BSUP-1994-95</th>
<th>PERFORM-1995</th>
<th>RCH-1998-99</th>
<th>% increase/decrease between PERFORM &amp; BSUP</th>
<th>% increase/decrease between RCH &amp; PERFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
<td></td>
<td>33.2</td>
<td>34.7</td>
<td>38.1</td>
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</tr>
<tr>
<td>Dehradun</td>
<td></td>
<td>NS</td>
<td>42.8</td>
<td>47.1</td>
<td>XXX</td>
<td>9.1</td>
</tr>
<tr>
<td>Almora</td>
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<td>NS</td>
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<td>41.1</td>
<td>XXX</td>
<td>-13.6</td>
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<tr>
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<td>51.5</td>
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<td>Pithoragarh</td>
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<td>42.4</td>
<td>NS</td>
<td>43.1</td>
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<table>
<thead>
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<th>District</th>
<th>CPR due to IUCD Among Eligible Women Aged Between 15 and 44 years</th>
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<th>PERFORM-1995</th>
<th>RCH-1998-99</th>
<th>% increase/decrease between PERFORM &amp; BSUP</th>
<th>% increase/decrease between RCH &amp; PERFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
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<td>2.0</td>
<td>2.4</td>
<td>1.3</td>
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<td>-84.6</td>
</tr>
<tr>
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<td>NS</td>
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<td>4.2</td>
<td>XXX</td>
<td>-7.1</td>
</tr>
<tr>
<td>Almora</td>
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<td>NS</td>
<td>2.8</td>
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<td>XXX</td>
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<tr>
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<td>3.7</td>
<td>2.1</td>
<td>-5.4</td>
<td>-76.2</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td></td>
<td>1.7</td>
<td>NS</td>
<td>1.5</td>
<td>XXX</td>
<td>XXX</td>
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</table>
## CPR due to Oral Pills Among Eligible Women Aged Between 15 and 44 years

<table>
<thead>
<tr>
<th>District</th>
<th>BSUP-1994-95</th>
<th>PERFORM-1995</th>
<th>RCH-1998-99</th>
<th>% increase/decrease between PERFORM &amp; BSUP</th>
<th>% increase/decrease between RCH &amp; PERFORM</th>
<th>% increase/decrease between RCH &amp; BSUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
<td>1.4</td>
<td>2.4</td>
<td>2.3</td>
<td>41.7</td>
<td>-4.3</td>
<td>39.1</td>
</tr>
<tr>
<td>Dehradun</td>
<td>NS</td>
<td>2.1</td>
<td>5.2</td>
<td>XXX</td>
<td>59.6</td>
<td>XXX</td>
</tr>
<tr>
<td>Almora</td>
<td>NS</td>
<td>3.4</td>
<td>1.0</td>
<td>XXX</td>
<td>-240.0</td>
<td>XXX</td>
</tr>
<tr>
<td>Nainital</td>
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<td>3.2</td>
<td>2.6</td>
<td>-28.1</td>
<td>-23.1</td>
<td>-57.7</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>2.0</td>
<td>NS</td>
<td>1.5</td>
<td>XXX</td>
<td>XXX</td>
<td>-33.3</td>
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## CPR due to Condoms Among Eligible Women Aged Between 15 and 44 years

<table>
<thead>
<tr>
<th>District</th>
<th>BSUP-1994-95</th>
<th>PERFORM-1995</th>
<th>RCH-1998-99</th>
<th>% increase/decrease between PERFORM &amp; BSUP</th>
<th>% increase/decrease between RCH &amp; PERFORM</th>
<th>% increase/decrease between RCH &amp; BSUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehri Garhwal</td>
<td>1.9</td>
<td>2.1</td>
<td>3.0</td>
<td>9.5</td>
<td>30.0</td>
<td>36.7</td>
</tr>
<tr>
<td>Dehradun</td>
<td>NS</td>
<td>10.8</td>
<td>12.1</td>
<td>XXX</td>
<td>10.7</td>
<td>XXX</td>
</tr>
<tr>
<td>Almora</td>
<td>NS</td>
<td>5.3</td>
<td>3.4</td>
<td>XXX</td>
<td>-55.9</td>
<td>XXX</td>
</tr>
<tr>
<td>Nainital</td>
<td>10.6</td>
<td>11.6</td>
<td>6.5</td>
<td>8.6</td>
<td>-78.5</td>
<td>-63.1</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>3.3</td>
<td>NS</td>
<td>1.9</td>
<td>XXX</td>
<td>XXX</td>
<td>-73.7</td>
</tr>
</tbody>
</table>

NS: District not covered in the survey
Family Planning in Uttaranchal: Some Findings from NFHS

Rajib Acharya
T K Roy
International Institute for Population Sciences
Mumbai

This paper’s discussion of family planning practices in the newly-formed state of Uttaranchal is based on data collected in the two rounds (1992–93 and 1998–99) of the National Family Health Survey (NFHS). Both surveys were conducted before the formation of the state of Uttaranchal and therefore pertain to the undivided state of Uttar Pradesh. However, the surveys’ sample design was such that the samples were spread throughout the undivided state of Uttar Pradesh. Because “region” was one of the core variables for stratification, adequate samples could be obtained from the northern part of the state, from which the new state of Uttaranchal was created. In Uttaranchal, 975 currently married women aged 15–49 years were interviewed for NFHS-1; 1027 such women were interviewed for NFHS-2.

Knowledge of Family Planning Methods
Lack of knowledge of contraceptive methods can be a major obstacle to their use. Table 1 shows the extent of such knowledge among currently married women according to specific method. The NFHS-2 results show that knowledge of contraceptive methods is nearly universal in Uttaranchal; 98% of currently married women recognize at least one method of contraception and, more specifically, at least one modern method of contraception (use of the pill, intrauterine devices [IUDs], condoms, or sterilization).

Female sterilization is the most widely known method of contraception in Uttaranchal, followed by male sterilization. Overall, 97% of currently married women know about female sterilization and 92% know about male sterilization. Knowledge of the officially sponsored spacing methods (use of the pill, IUDs, and condoms) is less widespread. The best-known spacing methods are pills (77%) and condoms (78%). Only 68% of currently
married women know about IUDs. Although knowledge of these spacing methods remains less prevalent than knowledge of sterilization, knowledge of spacing methods has increased substantially since NFHS-1. At the time of NFHS-1, only 66% of currently married women knew about pills, 60% knew about condoms, and 59% knew about IUDs. In Uttaranchal, 56% of currently married women now know about at least one traditional method, up from 29% in NFHS-1. The rhythm/safe-period method and withdrawal are known to the same extent (42%).

**Current Use of Family Planning Methods**

Table 2 provides information on the current use of family planning methods for currently married women in Uttaranchal, according to their age and the survey round. The contraceptive prevalence rate (CPR) in Uttaranchal is 43%—just below the national average (48%). The CPR has increased by about 30% in the six years since NFHS-1, when the CPR was 33%.

### Table 1. Knowledge of Contraceptive Methods

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Any method</td>
<td>93.7</td>
<td>98.0</td>
</tr>
<tr>
<td>Any modern method</td>
<td>93.0</td>
<td>98.0</td>
</tr>
<tr>
<td>Pill</td>
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<td>76.6</td>
</tr>
<tr>
<td>Intra-urine device</td>
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<td>68.2</td>
</tr>
<tr>
<td>Condom</td>
<td>59.8</td>
<td>78.0</td>
</tr>
<tr>
<td>Female sterilization</td>
<td>91.7</td>
<td>96.5</td>
</tr>
<tr>
<td>Male sterilization</td>
<td>85.7</td>
<td>91.6</td>
</tr>
<tr>
<td>Any traditional method</td>
<td>29.3</td>
<td>55.9</td>
</tr>
<tr>
<td>Rhythm/safe period</td>
<td>27.0</td>
<td>41.5</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>10.4</td>
<td>41.9</td>
</tr>
<tr>
<td>Other method†</td>
<td>0.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Number of women</td>
<td>975</td>
<td>1,027</td>
</tr>
</tbody>
</table>

† Includes both modern and traditional methods that are not listed separately

### Table 2. Current Use of Contraception

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Any method</th>
<th>Any modern method</th>
<th>Pill</th>
<th>IUD</th>
<th>Condom</th>
<th>Female sterilization</th>
<th>Male sterilization</th>
<th>Any traditional method</th>
<th>Rhythm/safe period</th>
<th>Withdrawal</th>
<th>Other method†</th>
<th>Not using any method</th>
<th>Total percent</th>
<th>Number of women</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>2.6</td>
<td>1.3</td>
<td>0</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>97.4</td>
<td>100</td>
</tr>
<tr>
<td>20-24</td>
<td>9</td>
<td>8.5</td>
<td>1</td>
<td>2.5</td>
<td>4</td>
<td>1</td>
<td>0.5</td>
<td>0</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>25-29</td>
<td>32.6</td>
<td>31</td>
<td>3.8</td>
<td>6.5</td>
<td>16.3</td>
<td>1.1</td>
<td>1.6</td>
<td>1.1</td>
<td>0.5</td>
<td>0</td>
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<td>0</td>
<td>67.4</td>
<td>100</td>
</tr>
<tr>
<td>30-34</td>
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<td>53.5</td>
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<td>35-39</td>
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<td>6.5</td>
<td>34.2</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>51</td>
<td>100</td>
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<tr>
<td>40-44</td>
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<td>42.3</td>
<td>1.6</td>
<td>4.9</td>
<td>24.4</td>
<td>8.9</td>
<td>5.3</td>
<td>2.4</td>
<td>1.6</td>
<td>3.2</td>
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<td>124</td>
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<td>100</td>
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<tr>
<td>45-49</td>
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<td>1.3</td>
<td>19.5</td>
<td>19.5</td>
<td>0.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>2.3</td>
<td>4.9</td>
<td>18.2</td>
<td>3.9</td>
<td>2</td>
<td>0.8</td>
<td>0.8</td>
<td>67.2</td>
<td>97.2</td>
<td>97.2</td>
<td>100</td>
</tr>
</tbody>
</table>

† Includes both modern and traditional methods that are not listed separately

NFHS-1 (1992-93)  
15-19  4.5  4.5  1.6  1.5  1.4  0  0  0  0  0  0  95.5  100  56  
20-24  15.4  13.2  2.3  0.5  5.4  5  0  2.2  0  2.2  0  84.6  100  195  
25-29  34.4  31.3  1.5  2.8  8  18.2  0.7  2.8  1.5  1.3  0.4  65.6  100  227  
30-34  53.2  49.7  0.6  3.2  11.6  34.4  0  3  6.2  2.4  0.5  46.8  100  159  
35-39  65.3  62.7  2.1  2.2  6.8  44.8  6.8  2.1  0.5  1.6  0.5  34.7  100  167  
40-44  61.5  59.5  0.7  0  3.7  49  6.1  2  2  0  0  38.5  100  122  
45-49  62.5  58.7  0  0  39.8  18.9  3.8  0  3.8  0  37.5  100  101  
Total  43.1  40.4  1.4  1.6  6.2  27.3  3.8  2.4  0.7  1.7  0.2  56.9  100  1,027
About 94% of currently married women using contraception are using a modern method. In Uttaranchal, as in most Indian states, sterilization dominates the contraceptive method mix. Nearly 31% of currently married women are sterilized; female sterilization accounts for 63% of the total contraceptive prevalence and its predominance has been increasing. Female sterilizations outnumber male sterilizations by about 14 to 1; only 4% of currently married women report male sterilization as their current contraceptive method. The three spacing methods together account for less than a quarter (21%) of contraceptive prevalence.

Current contraceptive use increases from 5% for women aged 15–19 years to 65% for women aged 35–39 years, and decreases for older women. Condom use is highest (12%) among women aged 30–34 years, whereas female sterilization is highest (49%) among women ages 40–44 years. The majority of contraceptive users under the age of 30 currently uses either a modern spacing method or a traditional method, whereas the majority of current users ages 30 or above uses female sterilization.

The NFHS-2 CPR of 43% is substantially higher than the NFHS-1 rate of 33%. During the period between surveys, there was also an overall increase in the use of modern methods (from 31% to 40%); however, traditional method use has not increased (2% in both surveys). In both NFHS-1 and NFHS-2, modern method use accounted for 94% of current contraceptive prevalence. Among the modern methods, use of female sterilization has risen from 18% in NFHS-1 to 27% in NFHS-2, but male sterilization remained at the same level and use of spacing methods increased only slightly between the two surveys (from 8% to 9%). These results suggest that despite an increased emphasis on contraceptive choice and on modern spacing methods in the Reproductive and Child Health (RCH) Programme and despite women's increasing knowledge of modern spacing methods, female sterilization continues to dominate the method mix, and modern spacing methods still account for only a small percentage of total contraceptive use in Uttaranchal.

**Socio-economic Differentials in Current Use of Family Planning Methods**

Table 3 shows differences in contraceptive use according to background characteristics of currently married women. The CPR is over 40% for women in all education groups, except for women who have completed only middle school (27%). Sterilization is most common among illiterate women and literate women who have not completed middle school (38%). Prevalence of spacing method use is highest among women who have completed at least a high school education (26%). The use of traditional methods increases with education, overall, but the differentials are not large. Various studies based on NFHS-1 data have shown that even after controlling the effects of other factors, education is a key factor influencing contraceptive use in India (Retherford and Ramesh, 1996; Ramesh et al., 1996).

Contraceptive prevalence is higher among Hindu women (44%) than women from other religious groups (35%). Spacing methods together account for only 21% of
Table 3. Current Use by Background Characteristics

<table>
<thead>
<tr>
<th>Background characteristic</th>
<th>Any modern method</th>
<th>Any method&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Sterilization</th>
<th>Not using any method</th>
<th>Number of women</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>51.6</td>
<td>25.7</td>
<td>43.5</td>
<td>228</td>
</tr>
<tr>
<td>Rural</td>
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<td>37.2</td>
<td>32.8</td>
<td>60.7</td>
<td>799</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
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<td>40</td>
<td>38</td>
<td>57.3</td>
<td>543</td>
</tr>
<tr>
<td>Literate, &lt; middle school complete</td>
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<td>45.1</td>
<td>38.2</td>
<td>54.2</td>
<td>141</td>
</tr>
<tr>
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<td>16.4</td>
<td>71.7</td>
<td>94</td>
</tr>
<tr>
<td>High school complete and above</td>
<td>48</td>
<td>44</td>
<td>18</td>
<td>52</td>
<td>249</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>43.7</td>
<td>41.1</td>
<td>32.6</td>
<td>56.3</td>
<td>961</td>
</tr>
<tr>
<td>Other</td>
<td>35.3</td>
<td>31.2</td>
<td>10.6</td>
<td>64.7</td>
<td>66</td>
</tr>
<tr>
<td><strong>Caste/tribe</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled caste</td>
<td>39.8</td>
<td>38.7</td>
<td>32.7</td>
<td>60.2</td>
<td>150</td>
</tr>
<tr>
<td>Scheduled tribe</td>
<td>(31.0)</td>
<td>-31</td>
<td>-24.4</td>
<td>-69</td>
<td>37</td>
</tr>
<tr>
<td>Other backward class</td>
<td>41.2</td>
<td>34</td>
<td>26</td>
<td>58.8</td>
<td>54</td>
</tr>
<tr>
<td>Other</td>
<td>44.7</td>
<td>42</td>
<td>31.8</td>
<td>55.3</td>
<td>773</td>
</tr>
<tr>
<td><strong>Standard-of-living index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>33.7</td>
<td>31.6</td>
<td>29.5</td>
<td>66.3</td>
<td>191</td>
</tr>
<tr>
<td>Medium</td>
<td>40.9</td>
<td>38.6</td>
<td>32.3</td>
<td>59.1</td>
<td>477</td>
</tr>
<tr>
<td>High</td>
<td>52.1</td>
<td>48.1</td>
<td>27.3</td>
<td>47.9</td>
<td>280</td>
</tr>
<tr>
<td><strong>Number and sex of living children</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No children</td>
<td>2.6</td>
<td>0.6</td>
<td>0</td>
<td>97.4</td>
<td>127</td>
</tr>
<tr>
<td>1 child</td>
<td>26.6</td>
<td>22.1</td>
<td>4</td>
<td>73.4</td>
<td>140</td>
</tr>
<tr>
<td>1 son</td>
<td>38.1</td>
<td>29.5</td>
<td>6.5</td>
<td>61.9</td>
<td>74</td>
</tr>
<tr>
<td>No sons</td>
<td>13.9</td>
<td>13.9</td>
<td>1.4</td>
<td>86.1</td>
<td>66</td>
</tr>
<tr>
<td>2 children</td>
<td>43.8</td>
<td>43</td>
<td>24.7</td>
<td>56.2</td>
<td>219</td>
</tr>
<tr>
<td>2 sons</td>
<td>57.7</td>
<td>57.7</td>
<td>47.9</td>
<td>42.3</td>
<td>72</td>
</tr>
<tr>
<td>1 son</td>
<td>41.3</td>
<td>39.8</td>
<td>15.4</td>
<td>58.7</td>
<td>113</td>
</tr>
<tr>
<td>No sons</td>
<td>(22.2)</td>
<td>(22.2)</td>
<td>(5.8)</td>
<td>(77.8)</td>
<td>33</td>
</tr>
<tr>
<td>3 children</td>
<td>57.6</td>
<td>54.6</td>
<td>47.8</td>
<td>42.4</td>
<td>255</td>
</tr>
<tr>
<td>3 sons</td>
<td>80.9</td>
<td>75.8</td>
<td>73.1</td>
<td>19.1</td>
<td>34</td>
</tr>
<tr>
<td>2 sons</td>
<td>70.1</td>
<td>67.4</td>
<td>63.1</td>
<td>29.9</td>
<td>125</td>
</tr>
<tr>
<td>1 son</td>
<td>38.2</td>
<td>34.9</td>
<td>21.8</td>
<td>61.8</td>
<td>77</td>
</tr>
<tr>
<td>4+ children</td>
<td>55.8</td>
<td>52.6</td>
<td>48.5</td>
<td>44.2</td>
<td>286</td>
</tr>
<tr>
<td>2+ sons</td>
<td>58.5</td>
<td>54.5</td>
<td>52</td>
<td>41.5</td>
<td>219</td>
</tr>
<tr>
<td>1 son</td>
<td>48.5</td>
<td>47.3</td>
<td>37.9</td>
<td>51.5</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>43.1</td>
<td>40.4</td>
<td>31.1</td>
<td>56.9</td>
<td>1,027</td>
</tr>
</tbody>
</table>

Note: Total includes 19 women with three children but no son, 2 women with four children but no son and 1, 11, and 89 women with missing information on education, caste/tribe, and the standard of living index, respectively, who are not shown separately.

<sup>1</sup> Includes both modern and traditional methods that are not listed separately

<sup>2</sup> (): based on 25-49 unweighted cases
contraceptive use by Hindus, whereas they account for 58% of contraceptive use by other religious groups.

Contraceptive prevalence is highest for women who do not belong to a scheduled caste, scheduled tribe, or other backward classes (45%) and lowest for women belonging to a scheduled tribe (31%). The use of any contraception is positively related to the standard-of-living index (SLI). Contraceptive prevalence increases from 34% for the poorest women (who have a low SLI) to 52% for women with a high SLI. The use of modern spacing methods is much higher among women with a high SLI (21%) than among women with a medium (6%) or low SLI (2%).

Table 3 also shows differences in currently married women’s contraceptive use according to the number and sex of their living children. Contraceptive use increases sharply from only 3% for women with no living children to 58% for women with three living children, and then declines slightly for women with four or more living children (56%). There is a pattern of increasing use of sterilization corresponding to increasing number of living children. Use of spacing methods is highest for women with one or two living children (18%). The CPR according to sex composition of living children indicates the existence of considerable preference for male offspring; regardless of the number of living children, women with no sons are much less likely to be using contraception than women with one or more sons.

Timing of Sterilization and Sources of Contraceptive Methods
Table 4 shows how many years before the surveys currently married women or their husbands were sterilized and how old the women were when sterilization took place. There is a decline in the age at acceptance of sterilization between the survey years. The overall median age at sterilization in NFHS-1 was 30 years, which decreased to 27 years at the time of NFHS-2—a decline of about three years over a period of six years.

To assess the relative importance of various sources of contraceptive methods, NFHS-2 included a question on where current contraceptive users obtain their methods. Table 5 shows the percentage distribution of modern contraceptive users according to both the type of method and the source from which they obtained their method most recently. The public medical sector (government/municipal hospitals, government dispensaries, primary health centres (PHCs), and other governmental health infrastructure) is the source of contraception for 77% of current modern method users. The private medical sector (hospitals or clinics, doctors, mobile clinics, paramedics, pharmacies or drugstores, and traditional birth attendants) is the source for 10% of current users. Seven per cent of modern contraceptive users obtain their methods from other sources such as shops, friends, and relatives, and a negligible proportion obtain methods from non-governmental organizations (NGOs) or trusts. Government/
municipal hospitals are the main source (75%) for sterilization, followed by camps; community health centres, rural hospitals, or PHCs; and urban health posts, urban health centres, or urban family welfare clinics. In contrast, shops and private pharmacies or drugstores are the main source for modern spacing methods. In Uttaranchal, users use the private medical sector more (31%) than the public medical sectors (24%) for obtaining spacing methods.

Future Intentions Regarding Contraceptive Use and Unmet need

Currently married women, including those who were pregnant at the time of NFHS-2, who were not using any contraceptive method at the time of the survey were asked about their intentions to use a method in the future. Table 6 gives women’s responses to questions on future use according to number of living children. This information can help managers of family welfare programmes identify potential groups of contraceptive users.

More than half (59%) of currently married women who are not currently using any contraceptive method express an intention to use a method in the future. Among these women, 25% intend to use a method within the next 12 months. The proportion of women who intend to use contraception at any time in the future increases from 53% for women with no living children to 72% for women with one living child, and then steadily declines with increasing numbers of children to reach 52% for women with four or more living children. More than 40% of women with four or more living children say they have no intention of using contraception in the future.

NFHS-2 asked currently married women, who were not using any method of contraception and said they did not intend to use a method in the future, why they did not intend to use contraception. This type of information is crucial both for understanding the obstacles to further increasing contraceptive use and for designing effective contraceptive information programmes. Table 7 shows that 11% of women...
mention opposition to use as a reason for not intending to use contraception in the future. Another 11% mention a reason related to lack of knowledge; 20% mention a method-related reason (health concerns, worry about side effects, cost, etc.); and 50% mention a fertility-related reason. The most frequently mentioned reason for not intending to use contraception is the fertility-related reason of wanting as many children as possible (17%). Other important fertility-related reasons are that the woman is menopausal or has undergone a hysterectomy (12%); the couple is subfecund or infecund (10%); or the couple is not having sex (10%). Almost 38% of women aged 15–29 years mention the desire to have as many children as possible as the main reason for not intending to use contraception, compared with only 3% of women aged 30–49 years. Younger women are less likely than older women to give reasons relating to lack of knowledge or method-related reasons.

Since currently married women younger than 30 years of age account for 79% of the total current fertility in Uttaranchal, the reasons they give for not intending to use contraception are extremely important from a policy perspective. Among the 48% of younger women who give reasons not related to fertility, the reason given most often is that they do not like existing methods (10%). However, a substantial proportion of young women who do not intend to use contraception mention lack of knowledge (11%) and opposition from their husbands (7%). This suggests that improved quality of services and information programmes could enhance the success of the family welfare programme in Uttaranchal. It needs to be emphasized that among younger women who are not using contraception, the desire to have as many children as possible remains the major reason for not intending to use contraception in the future.

Currently married women have an unmet need for family planning if they are not using any method of contraception but do not want any more children or want to wait two or more years before having another child. Current contraceptive users have a met need for family planning. The total demand for family planning is the sum of the unmet need

Table 6. Future Use of Contraception

<table>
<thead>
<tr>
<th>Intention to use in the future</th>
<th>Number of living children&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Intends to use in next 12 months</td>
<td>14.6</td>
<td>26.0</td>
</tr>
<tr>
<td>Intends to use later</td>
<td>36.3</td>
<td>44.3</td>
</tr>
<tr>
<td>Intends to use, unsure when</td>
<td>1.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Unsure as to intention</td>
<td>6.3</td>
<td>5.1</td>
</tr>
<tr>
<td>Does not intend to use</td>
<td>37.8</td>
<td>22.4</td>
</tr>
<tr>
<td>Missing</td>
<td>3.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Total percentage</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Number of women</td>
<td>104</td>
<td>112</td>
</tr>
</tbody>
</table>

<sup>1</sup> Includes current pregnancy, if any
Table 7. Reasons for Not Intending to Use Contraception

<table>
<thead>
<tr>
<th>Reason</th>
<th>Current age</th>
<th>15-29</th>
<th>30-49</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fertility-related reasons</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not having sex</td>
<td>52.5</td>
<td>48</td>
<td>49.8</td>
<td></td>
</tr>
<tr>
<td>Menopausal/had hysterectomy</td>
<td>2</td>
<td>15.7</td>
<td>10.2</td>
<td></td>
</tr>
<tr>
<td>Subfecund/infecund</td>
<td>1.9</td>
<td>19.2</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>Wants as many children as possible</td>
<td>10.3</td>
<td>9.8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>Opposition to use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opposed to family planning</td>
<td>38.4</td>
<td>3.3</td>
<td>17.3</td>
<td></td>
</tr>
<tr>
<td>Husband opposed</td>
<td>7.1</td>
<td>6</td>
<td>6.4</td>
<td></td>
</tr>
<tr>
<td>Against religion</td>
<td>3.7</td>
<td>1.5</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td><strong>Lack of knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knows no method</td>
<td>10.5</td>
<td>11.8</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Knows no source</td>
<td>7.2</td>
<td>10.3</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td><strong>Method-related reasons</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health concerns</td>
<td>18.1</td>
<td>20.5</td>
<td>19.5</td>
<td></td>
</tr>
<tr>
<td>Worry about side effects</td>
<td>0</td>
<td>2.6</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Costs too much</td>
<td>3.3</td>
<td>5.2</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td>Afraid of sterilization</td>
<td>3</td>
<td>3.3</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Doesn’t like existing methods</td>
<td>9.8</td>
<td>9.4</td>
<td>9.6</td>
<td></td>
</tr>
<tr>
<td>Other/ don’t know/ missing</td>
<td>0</td>
<td>4.9</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td><strong>Total percentage</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td><strong>Number of women</strong></td>
<td>82</td>
<td>123</td>
<td>205</td>
<td></td>
</tr>
</tbody>
</table>

The unmet need for family planning among married women has decreased slightly from NFHS-1 (25%) to NFHS-2 (21%). Though the variability of met and unmet needs remained almost the same over the age groups, the total demand satisfied has increased by about 10 percentage points between the two surveys.

Although there has been some improvement since the time of NFHS-1, the current results continue to reveal high levels of unmet family planning need among women, particularly the younger women. The findings also suggest the need for further promoting spacing methods in the method mix offered to women. A family planning programme with an emphasis on sterilization fails to meet the needs of young women, who are still in the process of family formation. The high unmet need for limiting
childbirth among older women suggests that many women who need permanent methods of contraception are also not being served well by current programmes. Thus, there is a need to strengthen sterilization services for couples who want to use sterilization. At the same time, the family planning programme in Uttaranchal needs to provide women, who want to stop childbearing but do not wish to adopt sterilization, with methods and options that they find acceptable for long-term use.

Table 8. Need for Family Planning Services

<table>
<thead>
<tr>
<th>Background characteristic</th>
<th>Unmet need for FP¹</th>
<th>Met need (currently using)²</th>
<th>Total demand for FP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For spacing</td>
<td>For limiting</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td></td>
<td>Percentage</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–29</td>
<td>23.2</td>
<td>9.1</td>
<td>32.3</td>
</tr>
<tr>
<td>30+</td>
<td>2.2</td>
<td>14.4</td>
<td>16.6</td>
</tr>
<tr>
<td>Total</td>
<td>12.1</td>
<td>12.4</td>
<td>24.5</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–29</td>
<td>19.7</td>
<td>11.6</td>
<td>31.3</td>
</tr>
<tr>
<td>30+</td>
<td>2.5</td>
<td>9.6</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>10.5</td>
<td>10.5</td>
<td>21</td>
</tr>
</tbody>
</table>

¹ Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic who are not using any method of family planning and who say they want to wait two or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted, and women who are neither pregnant nor amenorrhoeic who are not using any method of family planning and who want no more children.

² Met need for spacing refers to women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Met need for limiting refers to women who are using some method and who want no more children. Note that spacing and limiting refer to the reason for using contraception rather than to the particular method used.

References


Unmet Need for Contraception in Uttaranchal

Evidence from the National Family Health Survey and the Reproductive and Child Health Survey

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Professor
Jawaharlal Nehru University
New Delhi

Introduction

The National Population Policy (NPP) 2000 has given a high priority to addressing the “unmet need” for contraception in India (DoFW, India, 2000). Meeting this recognized need would, by itself, lead to a substantial reduction in fertility. The concept of unmet need for contraception has been discussed in demographic literature for some time. Simply stated, those with unmet need are couples who need to regulate fertility because they do not want to have a child soon or ever, but are not using contraception.

Since the World Fertility Survey data became available, estimates of unmet need are being provided for many countries, despite difficulties in measurement. At the time of the survey, pregnant or amenorrhoeic women were considered not in need of contraception which results in a low value of unmet need. A series of papers by Westoff and others (Westoff and Pebley, 1984; Westoff, 1988; Bongaarts, 1991; Westoff, 1992; Westoff and Bankole, 1995) has clarified this issue and now there is a good deal of consensus on measurement. According to the new definition, pregnant women whose pregnancy was mistimed and amenorrhoeic women whose last birth was mistimed are presumed to have “unmet need for spacing.” Pregnant women whose pregnancy was unwanted and amenorrhoeic women whose last birth was unwanted are presumed to have “unmet need for limiting.” However, computation of unmet need in this manner requires a number of questions to be asked and careful tabulation of data. As a result, while some surveys, especially the Demographic and Health Surveys (and by implication the National Family Health Surveys [NFHS] of India), provide estimates according to
these additional criteria, many other surveys use simpler criteria. In this paper, “unmet need” is expressed in terms of percentage of couples of reproductive age having unmet need according to the more detailed criteria. Similarly, “met need” is measured as the percentage of couples of reproductive age using a contraceptive method at the time of the survey.

According to the NFHS-2, in 1998–99, about 16% of couples of reproductive age in India had an unmet need for contraception, nearly equally divided into need for spacing births and need for limiting family size (IIPS and ORC Macro, 2000). Given that the contraceptive prevalence rate was 48%, meeting a major portion of the unmet need could by itself take the level of contraceptive prevalence to 60% and fertility to near replacement level. It is well known that there are large state-by-state variations in fertility and contraceptive use. Specifically, the new state of Uttaranchal is more favourably placed in many respects compared to the state of Uttar Pradesh from which it was carved. This is especially the case for literacy and infant survival. The new state is also ahead of Uttar Pradesh in the fertility transition. (For a comprehensive population profile of the state, see Srinivasan, Thiagarajan and Shastri, 2001). Recent estimates show that the fertility level in the state is well below that in Uttar Pradesh and close to the national average; the Sample Registration System (SRS) estimates for 1999 and 2000 that show very low fertility in Uttaranchal need to be viewed with caution.¹

This paper looks at the level of unmet need in Uttaranchal, its nature and position relative to other states. It also seeks to see if there are spatial variations in the level of unmet need and whether unmet need varies by background characteristics of couples.

**Data**

There are two major independent sources of data on unmet need for contraception in India and its states, the NFHS and the Reproductive and Child Health Survey (RCHS). NFHS-2 was carried out during 1998–99. The RCHS was carried out in two phases over 1998–99. At the time the surveys were carried out, the state of Uttaranchal had not yet been constituted and, hence, the surveys provided no reports or estimates for Uttaranchal. However, recently, the NFHS-2 has released a brief report on Uttaranchal (IIPS and ORC Macro, 2002), with a sample for Uttar Pradesh that included 1093 ever-married women of reproductive age from Uttaranchal, of whom 1023 were currently married. Similarly, though the RCH report (IIPS, 2001) does not provide state-level estimates for Uttaranchal, estimates for 10 districts of the state, each district with a sample of about 1000 women of reproductive age, are available (summary results in IIPS, 2001; detailed reports in Gulati et al., 2000). From these it is possible to obtain state-level estimates using appropriate weights. At the time of the RCHS, there were 10 districts in the state and each of these was covered. Since then, three new districts (Bageshwar, Champawat, and Rudraprayag) have been created by pooling areas from some of the 10 districts. Estimates are obviously not available for the present 13 districts but only for the 10 districts that existed in 1998–99. Therefore, in order to obtain state-level estimates, weights based on the 1991 census population are used; this is not expected to distort the estimates to a notable extent.
The NFHS and the RCHS used different criteria for identifying unmet need for contraception. According to the NFHS-2,

“Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who say they want to wait two or more years for their next child birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted, and women who are neither pregnant nor amenorrhoeic who are not using any method of family planning and who want no more children. Met need for spacing refers to women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Met need for limiting refers to women who are using some method and who want no more children. Spacing and limiting refer to the reason for using contraception rather than to the particular method used.” (IIPS and ORC Macro, 2000: 174).

The RCHS has defined unmet need as follows.

“Unmet need for limiting: The proportion of currently-married women who are neither in menopause nor have had a hysterectomy nor are currently pregnant and do not want any more children but are currently not using any family planning method. Unmet need for spacing: The proportion of currently married women who are neither in menopause nor have had a hysterectomy nor are currently pregnant and who want more children but after two years or more and are currently not using any family planning method. The women who are not sure about whether and when to have a next child are also included in unmet need for spacing”. (IIPS, 2001: 96)

The principal difference between the NFHS and the RCHS is in assessing the need for pregnant and amenorrhoeic women. Therefore, the estimates from the two sources are not expected to coincide. However, each set could be used to examine differentials within the state. The NFHS provides estimates by demographic and socio-economic characteristics of couples/women and the RCHS gives estimates for the 10 districts (as existed in 1998-99). The RCHs district reports also give estimates for demographic and socio-economic groups within each of the districts, but pooling these to obtain state-level estimates is laborious.

Level of Unmet Need in Uttarakhand

The NFHS-2 estimate of the total unmet need for contraception in Uttarakhand is 21% equally divided into need for spacing and for limiting (Table 1). This is higher than the extent of unmet need at the all-India level (16%), the difference is seen both for spacing and for limiting. Contraceptive prevalence (met need) in Uttarakhand is 43%, taking the total demand for contraception (unmet need + met need) to 64%. Thus,
Table 1. Unmet Need for Contraception in Uttaranchal and Selected States of India, NFHS-2

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage Need for Contraception Demand</th>
<th>Percentage Met Demand (currently using)</th>
<th>Percentage of Total Demand</th>
<th>Percentage of Total Demand Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarakhand</td>
<td>10.5</td>
<td>10.5</td>
<td>21.0</td>
<td>3.3</td>
</tr>
<tr>
<td>India</td>
<td>8.3</td>
<td>7.5</td>
<td>15.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Gujarat</td>
<td>4.8</td>
<td>3.7</td>
<td>8.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>5.2</td>
<td>2.5</td>
<td>7.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>6.6</td>
<td>6.4</td>
<td>13</td>
<td>2.2</td>
</tr>
<tr>
<td>Orissa</td>
<td>8.7</td>
<td>6.8</td>
<td>15.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>8.9</td>
<td>7.3</td>
<td>16.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Assam</td>
<td>7.0</td>
<td>10.0</td>
<td>17.0</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Sp.=Spacing;   Lim.=limiting
Note: All figures except in the last column are percentages of couples of reproductive age.
For criteria used to define unmet need, see the text.
Figures for states with total demand close to the level of Uttaranchal are shown in the table.
Source: IIPS and ORC Macro (2000, 2002)

two-thirds of the demand is satisfied (last column in Table 1). The total demand in Uttaranchal is nearly identical to that at the national level, but relatively less is satisfied. Six states with total demand in the range of 60-68% are also listed in Table 1 for comparison. All of the six states have less unmet need than in Uttaranchal, in some cases (Andhra Pradesh and Gujarat) the level is very low. Thus, compared to states with a similar demand, Uttaranchal does quite poorly in meeting the need for contraception. This is true both for spacing and limiting.

Though both the NFHS-2 and the RCH survey were coordinated by the International Institute for Population Sciences (IIPS), the implementation agencies differed making, thus the surveys fairly independent. Therefore, estimates from the RCHS are also presented (Table 2). According to the RCH, unmet need in Uttaranchal was 33.8%. This is indeed quite high, much higher than the NFHS estimate.

The RCHS estimate of unmet need for Uttaranchal (33.8%) is much higher than the national level (25.3%). Further, as in the case of NFHS estimates, six states with total demand for contraception in the range of 76-81%, (close to the Uttaranchal level of 79%) are listed in Table 2.

However, as noted earlier, the criteria used by the RCHS are different from those used by the NFHS. In fact, the RCHS estimate is higher than the NFHS estimate for every state and the RCHS criteria appear to give an over-estimate of actual unmet need. The difference is particularly large in the case of unmet need for limiting. But there is a strong relationship between the RCHS and the NFHS-2 estimates of total unmet need; the correlation coefficient equals 0.91. A simple linear regression fitted to 25 states, for which both estimates are available, yielded the following equation.
Unmet Need (NFHS) = 1.449 + 0.568 * Unmet Need (RCHS) with R^2 = 0.84

If this is applied to the RCHS estimate for Uttaranchal (33.8%), the predicted value according to the NFHS criteria equals 20.6%, very close to the actual NFHS estimate of 21%.

This data shows that, except for Assam, all states have lower unmet need than Uttaranchal. Thus, regardless of which set of data one uses, NFHS-2 or RCH, the clear inference is that the level of unmet need is quite high in Uttaranchal; it is higher than the national average and higher than states with similar levels of total demand.

Variations in Unmet Need within Uttaranchal
Because the RCHS was conducted in each district (in Uttaranchal 10 districts were covered with a large enough sample in each), district-level estimates are available, which allow us to see if there are spatial variations in the level of unmet need (Table 3). Unmet need varies within a narrow range, 30%-37% in the 10 districts. In fact, “total demand,” between 77%-83%, also does not vary much. Thus, the degree of unmet need is generally high and does not seem to vary much across districts.

The NFHS-2 report gives differentials in unmet need by demographic and socio-economic characteristics (Table 4). Unmet need is very high for relatively younger women and falls steadily as age increases. This is primarily because of the high demand for spacing at younger ages that nearly vanishes in later years of childbearing. Unmet need is moderately higher in rural areas than in urban (22% in contrast to 17%). There is no clear pattern of differences by education. Caste differentials are small. But unmet need is substantially high among couples with a low standard of living, as assessed by the NFHS standard of living index. Overall, spatial variations are seen only in terms of rural-urban classification (with relatively higher unmet need in rural areas) but not...
UNMET NEED FOR CONTRACEPTION IN UTTARANCHAL

Conclusions

Both the NFHS-2 and the RCHS estimates clearly show that there is a fairly high demand for contraception in Uttaranchal that is largely unmet. The need is higher than the national average; it is much above that for states with a comparable level of total demand. There is a large potential for fertility decline in the immediate future if this need can be met.

It is generally assumed that family size desires and, consequently, demand for fertility regulation are primarily determined by socio-economic conditions. Diffusion also plays a role. These conditions seem to be favourable to low fertility in Uttaranchal, but only if the service delivery system is able to meet the demand. That the rural areas are more deprived than the urban areas, and the poor sections of the population more than the non-poor, points towards issues of access and affordability. The lack of spatial variations indicates that the problem is not area-specific, but affects the state as a whole. Moreover, there is relatively high unmet need both for spacing and for limiting. It must be recognized that unmet need is generally high in hilly regions. Both the NFHS-2 and RCHS data show that Arunachal Pradesh, Bihar, Manipur, Meghalaya, Nagaland, Sikkim and Uttar Pradesh have greater unmet need than Uttaranchal. Of these, all except Bihar and Uttar Pradesh are hilly or sparsely populated states. At the same time, among the hilly states, Himachal Pradesh has a low level of unmet need and has obviously been successful in overcoming the difficulties. This calls for strengthening of fertility regulation or strengthening the more comprehensive

Table 3. Inter-district Variations in Unmet Need for Contraception in Uttaranchal, Reproductive and Child Health Survey

<table>
<thead>
<tr>
<th>District</th>
<th>Percentage Unmet Need for Contraception</th>
<th>Percentage Met Need (currently using)</th>
<th>Percentage Total Demand</th>
<th>Percentage Demand Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spacing</td>
<td>Limiting</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>13.6</td>
<td>16.1</td>
<td>29.7</td>
<td>48.5</td>
</tr>
<tr>
<td>Chamoli</td>
<td>12.4</td>
<td>17.1</td>
<td>29.6</td>
<td>51.5</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>13.3</td>
<td>19.6</td>
<td>32.9</td>
<td>41.3</td>
</tr>
<tr>
<td>Dehradun</td>
<td>10.4</td>
<td>23.0</td>
<td>33.3</td>
<td>49.4</td>
</tr>
<tr>
<td>Pauri Garhwal</td>
<td>12.9</td>
<td>20.3</td>
<td>33.2</td>
<td>49.9</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>13.8</td>
<td>21.1</td>
<td>34.9</td>
<td>43.3</td>
</tr>
<tr>
<td>Almora</td>
<td>16.9</td>
<td>19.4</td>
<td>36.3</td>
<td>41.7</td>
</tr>
<tr>
<td>Nainital</td>
<td>14.1</td>
<td>22.5</td>
<td>36.5</td>
<td>40.5</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>12.6</td>
<td>18.0</td>
<td>30.6</td>
<td>47.0</td>
</tr>
<tr>
<td>Hardwar</td>
<td>12.9</td>
<td>23.7</td>
<td>36.6</td>
<td>39.0</td>
</tr>
<tr>
<td>Uttaranchal</td>
<td>13.2</td>
<td>20.6</td>
<td>33.8</td>
<td>44.8</td>
</tr>
</tbody>
</table>

Note:
All figures except in the last column are percentages of couples of reproductive age. Estimates are available for the 10 districts as these existed at the time of the RCH during 1998–99. Since then, three new districts have been formed: Bageshwar, Chamapawat, and Rudraprayag; separate estimates for these are not available.
The RCHS report used different criteria to define unmet need than those used by the NFHS; for clarification, see the text.
Since it was not possible to classify current use by purpose as spacing and limiting, demand has also not been classified by purpose.
Source: IIPS (2001)

Conspicuously across districts. The very poor also have very high unmet need compared to the non-poor.
reproductive health delivery system in the state of Uttaranchal to make the services more easily accessible and affordable to the population.

Table 4. Unmet Need for Contraception by Demographic and Socio-economic Characteristics in Uttaranchal, NFHS-2

<table>
<thead>
<tr>
<th>Characteristic and level</th>
<th>Percentage Unmet Need for Contraception</th>
<th>Percentage Met Need (currently using)</th>
<th>Percentage Total Demand</th>
<th>Percentage Demand Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spacing Limiting Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of wife</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–19</td>
<td>43.9 3.1 47.0</td>
<td>4.5</td>
<td>51.5</td>
<td>8.8</td>
</tr>
<tr>
<td>20–24</td>
<td>22.7 10.3 33.0</td>
<td>15.4</td>
<td>48.4</td>
<td>31.8</td>
</tr>
<tr>
<td>25–29</td>
<td>11.2 14.7 25.9</td>
<td>34.4</td>
<td>60.3</td>
<td>57.1</td>
</tr>
<tr>
<td>30–34</td>
<td>6.2 16.0 22.3</td>
<td>53.2</td>
<td>75.5</td>
<td>70.5</td>
</tr>
<tr>
<td>35–39</td>
<td>1.6 9.3 10.9</td>
<td>65.3</td>
<td>76.3</td>
<td>85.7</td>
</tr>
<tr>
<td>40–44</td>
<td>0.7 7.3 7.9</td>
<td>61.5</td>
<td>69.4</td>
<td>88.6</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>7.7 9.7 17.4</td>
<td>56.5</td>
<td>73.9</td>
<td>76.4</td>
</tr>
<tr>
<td>Rural</td>
<td>11.3 10.7 22.0</td>
<td>39.3</td>
<td>61.3</td>
<td>64.1</td>
</tr>
<tr>
<td>Education of wife</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>9.3 12.6 21.8</td>
<td>42.7</td>
<td>64.5</td>
<td>66.1</td>
</tr>
<tr>
<td>Literate but &lt; middle school</td>
<td>6.8 8.2 15</td>
<td>45.8</td>
<td>60.7</td>
<td>75.3</td>
</tr>
<tr>
<td>Middle school</td>
<td>11.2 13 24.2</td>
<td>28.3</td>
<td>52.5</td>
<td>53.9</td>
</tr>
<tr>
<td>High school</td>
<td>14.9 6.4 21.3</td>
<td>48.0</td>
<td>69.3</td>
<td>69.3</td>
</tr>
<tr>
<td>Caste</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Caste</td>
<td>11.5 11.7 23.2</td>
<td>39.8</td>
<td>63.0</td>
<td>63.2</td>
</tr>
<tr>
<td>Non SC/ST/OBC</td>
<td>9.8 10.4 20.2</td>
<td>44.7</td>
<td>64.9</td>
<td>68.9</td>
</tr>
<tr>
<td>Standard of living</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>12.0 16.2 28.3</td>
<td>33.7</td>
<td>62.0</td>
<td>54.4</td>
</tr>
<tr>
<td>Medium</td>
<td>9.7 9.8 19.5</td>
<td>40.9</td>
<td>60.3</td>
<td>67.8</td>
</tr>
<tr>
<td>High</td>
<td>10.5 8.0 18.5</td>
<td>52.1</td>
<td>70.6</td>
<td>73.8</td>
</tr>
</tbody>
</table>

Note:
All figures except in the last column are percentages of couples of reproductive age.
For criteria used to define unmet need, see the text.
Source: IIPS and ORC Macro (2002)

Endnotes
1 The SRS estimate of the crude birth rate for the year 2000 is 20.2 for Uttaranchal and 24.6 and 17.1 for rural and urban areas respectively (Registrar-General, 2001). But the rural and urban estimates imply a state estimate of 22.6 and not 20.2. The NFHS-2 estimate for the state is 23.5, slightly below the all-India estimate of 24.8. Based on the 2001 census, Guilmoto and Rajan (2002) obtained an estimate of 26.1 for Uttaranchal for the period 1994–2001, a shade higher than the national estimate of 25.9.
References


Maternal, Infant and Child Mortality in Uttaranchal State: An Appraisal of Some Proximate Determinants
Arvind Pandey and Damodar Sahu

Antenatal Care Services and Assistance at Time of Delivery
Wilda Campbell, Avinash Ansingkar and Ragini Pasricha

Immunization Coverage of Children in Uttaranchal
D K Mangal and P N Rajna

Discussant
I S Pal
Introduction
Following the Alma Ata Declaration in 1978 to ensure health for all by 2000, the Government of India initiated a number of health programmes for the well-being of mothers and children. The programmes included universal immunization of children against all preventable childhood killer diseases, tetanus toxoid (TT) injections for pregnant women to prevent tetanus, and prophylaxis to prevent vitamin A deficiency. Also, a large number of advocacy programmes, emphasizing the need for colostrum feeding, exclusive breastfeeding for a period of 4-6 months, timely supplementary feeding, use of oral rehydration therapy (ORT) during diarrhoea, control of acute respiratory infection (ARI), and so forth, have been made. In 1992-93, the Child Survival and Safe Motherhood Programmes continued the process of integration by bringing together several key interventions for child survival with safe motherhood and family planning activities (MoHFW, 1992). In 1996, the Child Survival and Safe Motherhood Programmes were integrated into the Reproductive and Child Health (RCH) Programme with the main objectives to reduce maternal, prenatal, infant, and child mortality and to promote positive health among mothers and children.

As a matter of fact, child health care includes the physical, mental, and emotional health of women immediately before, during, and after childbirth and the health of infants and young children. Maternal child health (MCH) services have included antenatal, natal, and postnatal care for mothers and health and nutritional services for infants and children under five years of age. These services are delivered by the
government health centres in rural areas such as primary health centres (PHCs), sub-centres, and other government health facilities. In urban areas, service delivery is through government or municipal hospitals and urban health posts. As a result of all these efforts, maternal and child mortality have been reduced at the state and national levels during the past two decades.

But looking at the optimistic mid-term goals set by the National Population Policy (NPP) 2000 - to achieve replacement-level fertility by 2010, to reduce the infant mortality rate (IMR) to below 30 per 1000 live births, and reduce the maternal mortality rate (MMR) to below 100 per 100,000 live births - the current pace of mortality decline is quite slow, particularly in some of the northern states. Uttaranchal is a newly formed state carved out of the state of Uttar Pradesh (UP) where maternal, infant, and child mortality rates continue to be high. The status of various intermediate variables, including reproductive health services, needs to be examined for further corrective measures.

Objectives
Keeping in view the various socio-demographic goals set in the NPP 2000, the present paper sets forth the following two objectives:

1. To discuss the levels and differentials of infant and child mortality in the State of Uttaranchal, and
2. To appraise the status of some proximate variables affecting infant, child, and maternal mortality in the state in relation to the utilization of maternal and child health services indicators and the nutritional status of both mothers and children.

Methods and Materials
The present paper uses the National Family Health Survey (NFHS-2) of 1998–99 and the Sample Registration System (SRS) to discuss various aspects of infant and child mortality and maternal health care in the state of Uttaranchal. SRS has started providing estimates of IMR along with the birth rates and death rates in the state. As a part of NFHS-2 Uttar Pradesh, data in Uttaranchal were collected from 1092 households, from 1093 eligible women of ages 15–49, and 383 children born to eligible women during the three years preceding the survey. For infant and child mortality, the level of the infant mortality rate (IMR) is discussed based on SRS estimates, while the differentials of infant and child mortality are discussed based on the NFHS-2 data. Child health care data, which are based on NFHS-2, included factors such as immunization, vitamin A dosage, knowledge of ORT for diarrhoea management, and ARI management. Maternal care factors are also based on NFHS-2 estimates that included factors such as antenatal care, antenatal check-up, TT vaccination, place of delivery, and assistance during delivery.

Results and Discussion
Infant and Child Mortality
Data on different parameters are available for Uttaranchal only for the past two years, since the state was separated from UP. The current level of the IMR in Uttaranchal, as estimated by SRS 2000, is 50 infant deaths per 1000 live births. During 1997–99 the IMR was 52 infant deaths per 1000 live births. This marginal decline appears to be in
rural areas where the level of IMR was as high as 75 per 1000 live births during 1997-99 and 73 during 2000. The level of IMR is relatively low (25–26 per 1000 live births) in urban areas. The level of infant mortality in NFHS-2 appears to be grossly underestimated. It shows the level of infant mortality at 38 infant deaths per 1000 live births during the five-year period preceding the survey, which was much lower than the SRS estimates. The child mortality rate in Uttaranchal was 19 (deaths of children under age five per 1000). Adding this level of child mortality to the level of IMR as estimated in SRS, we can say that one in 20 children die in the first year of life and one in 14 die before reaching age five. The position of Uttaranchal with respect to the level of IMR as compared with other states is provided in Figure 1. Apparently, there is a need to focus on child-survival programmes in rural areas.

Along with various socio-economic groups, efforts to promote child survival need to concentrate on very young mothers and mothers whose children are closely spaced. Infant mortality is more than 60% higher among children born to mothers under age 20 than among children born to mothers ages 20-29 (69 deaths, compared with 43, per 1000 live births). Infant mortality is more than four times as high among children born less than 24 months apart (110 deaths, compared with 23, per 1000 live births). Clearly, efforts to expand the use of temporary contraceptive methods for delaying and spacing births would help reduce infant mortality as well as fertility.

Maternal Care
The RCH Programme recommends, as part of antenatal care, that pregnant women should have at least three antenatal check-ups that include blood pressure checks and other procedures to detect pregnancy complications, receive two doses of TT vaccine, and take adequate amounts of iron and folic acid (IFA) tablets or syrup to prevent and treat anaemia (MoHFW 1997; 1998). A pregnant woman can have an antenatal check-up by visiting a doctor or another health professional in a medical facility or through a home visit by a health worker or both.
The percentage distribution of births with mothers having received various types of antenatal services among births in the three years preceding the survey is presented in Figure 2. Women who received antenatal check-ups both at home and outside the home are categorized as having received care outside the home. If women received check-ups from more than one type of health provider, only the provider with the highest qualification is considered. In Uttaranchal, antenatal check-ups were received by mothers of 44% of the children born in the three years preceding the survey, which was about 11 percentage points lower than that for the all-India average. The same category is, however, reported to be 34% in Uttar Pradesh. Among these check-ups, 35% were received from doctors and 7% from other health professionals (auxiliary nurse midwives (ANMs)/nurses/midwives/lady home visitors (LHVs) and others). Antenatal check-ups received at home from a health worker took place in only 2% of births. Antenatal check-ups were more than double in urban areas (78%) than in rural areas (35%) and antenatal check-ups from doctors were more common in urban areas than rural areas. A positive relationship between antenatal check-ups and educational level of the mother was observed. Illiterate mothers received antenatal check-ups for only one-fourth of their births whereas mothers with at least a high school education received check-ups for more than three-fourths of their births. The proportion of births with mothers receiving antenatal check-ups from a doctor increases steadily with education — from 20% for illiterate mothers to 70% for mothers who completed high school and above. A negative relationship between antenatal check-ups and birth order was found. Women having higher-order births were much less likely to have received antenatal check-ups (especially from doctors) than women having first-order births. It was clear that rural women, women with high parity, and illiterate women disproportionately received antenatal check-ups during their pregnancies in the three years preceding the survey. So, in order to improve the coverage of antenatal programmes in Uttaranchal, special efforts are needed to reach rural, illiterate, and high parity women.

One of the important causes of neonatal (under one month) death is neonatal tetanus. However, it is preventable if two TT injections are given during pregnancy. In Uttaranchal, mothers of little more than half (54%) of births received two or more doses of TT vaccine. The result was pronounced in urban areas where mothers of more than three-fourths of births (77%) received the TT injection compared to rural mothers receiving TT injections for only 49% of births. The coverage varies inversely by birth order, 64% of mothers with first-order births received two or more TT injections compared with 25% of mothers who had given six- or higher-order birth. The TT coverage increased with increased level of education. 81% of mothers who completed high school and above received two doses of TT while only 42% of mothers who were illiterate received two or more doses.
Under the safe motherhood services offered as part of the MCH activities of the Family Welfare Programme (Ministry of Health and Family Welfare), it is recommended that all pregnant women consume at least 100 tablets of IFA, or the equivalent in terms of syrup, in order to prevent anaemia, which has many detrimental effects on the health of women and children. In Uttaranchal, only 39% of pregnant women received IFA tablets or syrup and, among mothers who received IFA tablets during pregnancy, 66% received at least a three-month supply. Differentials by important background characteristics in the proportion that received at least a three-month supply are not very large. These results suggest that public health facilities need to educate pregnant women about the advantages of IFA and to make IFA tablets or syrup available.

An important feature of the RCH Programme is to encourage institutional delivery whereby births take place under proper hygienic conditions and the supervision of trained health professionals. As shown in Figure 3, the majority of births in Uttaranchal (77%) were found to have taken place in the home and only 21% of births were delivered in a health facility. Of the institutional deliveries, more than one-third were conducted in public sector health institutions, such as government-operated district, taluk, town, or municipal hospitals and PHCs. The proportion of deliveries that took place in health facilities is more than double in urban areas (42%) than in rural areas (16%). Institutional deliveries were more common among more educated women, women having lower order births, and women with a high standard of living. As shown in Figure 4, doctors attended one out of four deliveries in both private and public sector health institutions. Within two months of delivery, only one out of seven births delivered outside a medical facility were followed by a postpartum check-up. Overall utilization of health services in Uttaranchal during pregnancy, during delivery, and after childbirth remains low (IIPS and ORC Macro, 2002).

**Child Care**

In India, the Universal Immunization Programme (UIP) was introduced in 1985–86 into each district of the country with the target of achieving 100% immunization coverage. Pulse Polio immunization campaigns were started in December 1995 as a part of a major national effort to eradicate polio. Figure 5 shows the percentage distribution of children between the ages of 12–23 months, an age group by which children should have received all vaccinations scheduled for infancy. In Uttaranchal, 41% of children aged 12–23 months are fully vaccinated.
(compared with only 20% in UP), 48% have received at least one vaccine (but not all recommended vaccinations) and 12% have not received any vaccinations. Coverage for BCG, DPT, polio (except polio O) and measles vaccinations are relatively higher than the percentage fully vaccinated. Only 56% of children received measles vaccination and three doses of DPT, while 62% received three doses of polio vaccine. Although DPT and polio vaccines are given at the same time as a part of the routine immunization programme, the coverage rates are higher for polio than DPT; this may be because of the Pulse Polio campaign.

It is recommended under the National Programme on Prevention of Blindness that children under age five should receive oral doses of vitamin-A every six months starting at the age of nine months. In both the rounds of NFHS-2, information was collected from mothers of children born during the three years before the survey on whether their children ever received a dose of vitamin A. Those who said that their child had received at least one dose of vitamin A were asked how long ago the last dose of vitamin A had been given. In Uttarakhand, only 24% of children aged 12–35 months received any vitamin A supplementation and only 18% received a dose of vitamin A in the six months preceding the survey. This indicates that almost three-fourths of children in Uttarakhand did not receive any vitamin A supplementation.

In India, fever, ARI, and diarrhoea are said to be the major causes of death among infants and children. In Uttarakhand, 25% of children under age three suffered from fever during the two weeks preceding the survey, 17% suffered from ARI, and 18% from diarrhoea. The prevalence of ARI, fever, and diarrhoea among children under age three are shown in Figure 6.

The ORT Programme is one of the priority activities of the public health programme for child survival. One major goal of this programme is to increase awareness among mothers and communities about the causes and treatment of diarrhoea. Oral rehydration salt (ORS) packets are made widely available and mothers are taught how to use them.
The percentage distribution of children aged under three years that had diarrhoea in the two weeks prior to the survey are shown in Figure 7 classified by the various treatments received during diarrhoea. In Uttaranchal, among children who suffered with diarrhoea, 64% were taken to a health facility. More than half of the mothers (59%) of children aged less than three years knew about ORS packets. In order to assess mothers’ knowledge of children’s need for extra fluids during episodes of diarrhoea, mothers of all children born in the previous three years were also asked about the quantity of the fluids to be given to the child during diarrhoea. Only 19% of the mothers reported incorrectly (according to the standard recommendation) that children should be given less to drink than usual during an episode of diarrhoea. 32% of children with diarrhoea

![Figure 6: Prevalence of ARI, Fever, and Diarrhoea Among Children Aged <3 Years](image)

![Figure 7: Treatment of Diarrhoea](image)
received ORS and 62% received some form of ORT. These results emphasized that more efforts are needed to educate mothers in the proper management of diarrhoea.

**Nutrition Status of Children and Women**

There are three internationally-recognized standards to assess children's nutritional status— (1) weight-for-age, (2) height-for-age, and (3) weight-for-height. Children who are more than two standard deviations below the median of an international reference population are considered underweight (measured in terms of weight-for-age), stunted (height-for-age), or wasted (weight-for-height). Stunting is a sign of chronic, long-term malnutrition; wasting is a sign of acute, short-term malnutrition; and underweight is a composite measure that takes into account both chronic and acute malnutrition.

As per the above standard, 42% of children under three years of age in Uttaranchal are underweight, 47% are stunted, and 8% are wasted. As expected, malnutrition is higher in rural areas than in urban areas and is particularly high among children from households with a low standard of living, and affects more girls than boys.

More than three-quarters of children aged 6–35 months (77%) are anaemic, including a large majority of children in every subgroup of the population. The prevalence of anaemia is particularly high among children who are one-year-old; boys; and children living in households with low to medium standard of living. Children whose mothers are anaemic are more likely to be anaemic than other children.

The level of nutritional status of women is generally measured in terms of the body mass index (BMI) or weight-for-height. As of NFHS-2, the average height for women in Uttaranchal is 152 centimetres (cm), which is one cm higher than the mean height for women in India as a whole. The mean height varies only slightly (between 151 and 153 cm) for women in different socio-economic population groups. Women from households with a low standard of living are two cm shorter than average. As BMI can be used to assess both thinness and obesity, we excluded women who were pregnant at the time of the survey and women who gave birth during the two months preceding the survey. In Uttaranchal, almost one-third of women (32%) were found to be undernourished. Nutrition deficiency is much more prevalent for women in rural areas, illiterate women, and women from households with a low standard of living than among other women. Women who are undernourished themselves are also much more likely than other women to have children who are undernourished.

In Uttaranchal, little less than half (46%) of women have some degree of anaemia, 13% are moderately to severely anaemic. Pregnant and lactating women are much more likely than non-pregnant women to be more anaemic.

**Concluding Remarks**

The current level of infant and child mortality in Uttaranchal is high (50 infant deaths per 1000 live births), although lower than the national average (68 infant deaths per 1000 live births). The SRS has estimated the level of IMR as 73 infant deaths per 1000
live births in rural Uttaranchal as compared with 74 infant deaths per 1000 live births in rural India. As in the national scenario, the pace of decline in the IMR in the state appears to be slow. The shifting of infant mortality patterns to earlier ages is a serious concern. The factors associated with neonatal mortality and morbidity are more directly tied with maternal health than child mortality. Utilization of reproductive health services, child-care, and nutritional status of mothers and children in the state of Uttaranchal are very low, particularly in the rural parts of the state. Special efforts are needed to reach rural, illiterate, and high parity women with a strong population policy under the RCH framework. There is a need to enhance public sector commitment to achieve the NPP goals set for 2010. It is important to mention that a significant improvement in the level of social development is a necessary condition for further reduction in mortality, particularly infant, child, and maternal mortality.

References


Background
A strategy for providing antenatal care (ANC) and trained attendants at birth in the state of Uttaranchal has to take into account the scattered settlements and poor road access in hill districts and a concentration of medical doctors in 2-3 of the 13 districts in the state. Home births are the norm in Uttaranchal as in most of India, with family care-givers and traditional birth attendants (TBAs) assisting at birth, poor awareness of the need for ANC, low recognition of danger signs and poor birth preparedness in terms of emergency funds, transport, and knowledge of referral. With preventive care traditionally offered by the public sector, antenatal services have largely been offered through auxiliary nurse midwives (ANMs). The poor community outreach by ANMs in Uttaranchal is evident in the fact that only 20% pregnant women receive the minimum required ANC package\(^1\). Reproductive and Child Health (RCH) data indicates wide discrepancies in access to ANC services with 35.6% of pregnant women receiving full ANC services in the most advanced district of Dehradun while only 14.2% receive this in Udham Singh Nagar. The following tables show key maternal and neonatal health indicators.

As ANC and delivery assistance cover a wide range of situations, ANC referenced in this paper is based on the United States Agency for International Development (USAID) Initiative on Maximizing Access and Quality\(^2\), which

<table>
<thead>
<tr>
<th>Table 1. Infant Mortality Rate</th>
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<tr>
<td>Total</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Uttaranchal</td>
</tr>
<tr>
<td>India</td>
</tr>
</tbody>
</table>

Source: SRS Bulletin April 2001
concerns that any pregnancy can become risky at any point and recommends a model shifting from the high-risk approach to recognition of danger signs. (See Appendix 1 for MAQ Exchange recommendations for ANC and PRIME's definition for the purposes of this paper of assistance at the time of delivery).

**Recommended Strategy**

Given the current maternal health infrastructure and the political, financial, and management capacity to improve it as well as the geographic, economic and social barriers to institutional access, PRIME recommends the following:

1. A community-based strategy should be formulated to improve access and quality of antenatal services and assistance at time of delivery.
2. Because of Uttaranchal's active NGO and private sector involvement in health services, PRIME further recommends that the Government of Uttaranchal harness the resources of the NGOs and private sector to be collaborative partners in any strategy to improve ANC and assistance at the time of delivery.
3. The strategy has been formulated for implementation through a decentralized mechanism at a district level to allow designing, prioritization, and implementation of needs-based interventions to improve maternal and infant health care. Based on their needs, the districts will select possible interventions.

**Proposed Interventions and Supportive Activities**

Activities in support of interventions are grouped in the areas of policy, provider motivation, strengthening of referral support, site readiness, supervisory support, knowledge and skills of providers, and community awareness and acceptance of safe motherhood and infant practices.

The recommended interventions in support of the strategy are based on PRIME's experience providing maternal and reproductive health technical assistance in four districts of Uttaranchal as well as PRIME's programme experience in UP and other countries of the region.

**I. Public Sector Interventions**

The safe motherhood interventions recommended for implementation through the public sector take into account current strengths and weaknesses of this sector, service delivery trends, and infrastructure variations. They also take into

<table>
<thead>
<tr>
<th>Table 2. Maternal Health Indicators for Uttaranchal</th>
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<tbody>
<tr>
<td><strong>Anaemia Among Women</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Any anaemia</td>
</tr>
<tr>
<td>Moderate to severe anaemia</td>
</tr>
<tr>
<td><strong>Received full Antenatal Care</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Dehradun</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
</tr>
<tr>
<td><strong>Place of Delivery</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Home</td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Health facility</td>
</tr>
<tr>
<td>Public</td>
</tr>
<tr>
<td>Private</td>
</tr>
<tr>
<td><strong>Birth Interval Since Previous Birth</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Less than 24 months</td>
</tr>
<tr>
<td>24–47 months</td>
</tr>
<tr>
<td>48 or more months</td>
</tr>
</tbody>
</table>

1: RCH household survey, IIPS, Mumbai
2: National Family Health Survey 2, IIPS, Mumbai
II. Private And Public Sector Collaborative Interventions

As indicated above, RCH data for Uttaranchal indicates wide differences in patterns of attended births in urban and rural areas. Therefore, there is a strong need in remote areas to involve private sector institutions and providers. The following are possible interventions for private sector involvement in the improvement of access to and quality of ANC services and trained attendance during childbirth:

- Formulate a model for focused improvement of the performance of the important private practitioners, the TBAs, by creating linkages with ANMs and eventually, Community Midwives (CMWs). The model would improve TBA knowledge and skills in ANC, the five cleans, recognition of danger signs for mothers and neonates and timely referral through skill/knowledge enhancement, linkage with referral sites/personnel, postnatal care, FP and supportive communication on the importance of adopting safe motherhood practices.

- Involve NGOs/private hospitals working with district health systems to improve the performance of private sector ISMPs and Rural Medical Practitioners in ANC, non-clinical FP methods and simple life-saving and emergency stabilization skills through improving ISMPs’ knowledge and skills, and linking them with skilled attendants and higher referral sites. Increase community awareness of the new capabilities of these providers and establish a certification/re-certification system that assures basic adherence to service for which they have mastered knowledge and skills.

- Supplement midwifery services by creating a new cadre of private practitioners - CMWs - who are legally recognized by the State Nursing Council. The CMWs would actually live in remote communities and would be skilled in ANC, safe delivery, recognition of danger signs, and basic emergency care. The Uttaranchal Government may like to consider lessons learned in the Indonesian village midwife programme experience. Similarly, the Nepal Maternal and Child Health Worker programme may yield valuable lessons on the background that the CMW should or could have. Within the Asia region, the Philippines has a network of 200 private midwives in a franchise model supported by NGOS. There are valuable lessons to be learned within the region.

- Provide special training and basic emergency drugs and equipment for at least one accessible health care provider in the area (ANMs at sub-centres, CMWs, or even...
certified ISMPs) in remote areas where there are no emergency obstetric and neonatal care facilities readily available. This practitioner would be able to respond to the basic emergencies of mothers and neonates as has been done in other remote areas in India such as Gadchiroli. Support the efficacy of this limited extension of medical services through certification/re-certification and educating the community about the importance of receiving services only from those certified to offer these services.

- Assist NGOs in the training of pregnant women, their family care-givers and decision-makers in Home-Based Life Saving Skills (HBLSS) in areas where no trained TBA or ISMP is available within a half-an-hour walk. HBLSS is a course that uses a behaviour change approach in teaching key neonatal and maternal complication preventive measures, recognition of danger signs, and stabilization techniques, and has been successfully used in a feasibility study in Kanpur.

- Encourage the community to use preventive ANC and postnatal practices and trained providers in deliveries, to know how to recognize danger signs for mothers and neonates, and to have a birth plan with an understanding of how to access emergency care and the resources to do so. Use a state-wide mass media approach, as well as public and NGO communication networks.

- In areas without public health infrastructure, pilot community monitoring mechanisms for services provided by trained providers to allow community needs to be more keenly felt by the providers. (See section on Supervisory support)

III. Activities to Support Proposed Interventions

To assure the success of these key interventions, which together represent a comprehensive effort of improving basic maternal and infant health, PRIME urges a number of supportive activities. First and foremost would be a supportive public policy for the changes suggested.

A. Government of Uttaranchal Policy

- A key policy decision that the Uttaranchal government may want to take at this point is whether the state has to rely on TBAs in rural areas and then train them or whether the state sees the need to invest resources in a new cadre of workers, e.g. CMWs.

- Based on an assessment of why ANMs currently assist in such few deliveries, develop a policy response to help ANMs increase delivery assistance.

- Make it a policy to have regular reviews of safe delivery services and maternal deaths by top-level health management including the Chief Secretary, Health Secretary and DGHS in order to ensure service delivery.

- Use policy to:
  - assure posting of ANMs willing to conduct deliveries and trained in safe delivery to sub-centres with adequate infrastructure; and
  - encourage regular collaboration of anganwadi workers (AWWs) and ANMs at the sub-centre level.

- Policy support to assure availability of required supplies
by improving logistics management for referral sites and ANMs providing safe delivery services and basic emergency obstetric care; and

by promoting commercial marketing of safe delivery kits and IFA tablets for the private sector worker (ISM, TBAs, CMWs).

- Policy direction to improve community response to emergencies by
  - creating a statewide IEC (Information, Education and Communication) policy to make the community aware of the improved skills of the trained providers (ANMs, CMWs, TBAs, ISMPs) as well as the key elements of safe motherhood that each community member should adopt; and
  - guiding the PRI/Rural Development department in facilitating the use of emergency transportation funds for complicated delivery cases.

B. Motivation
As all workers are free individuals, often working with little or no supervision, many activities need to be considered, which will help them be more motivated to both reach out to the community in offering improved services and simply be available to the community for these services.

- For the public sector employees, regular reviews and even spot-checking of ANM service statistics on attended deliveries and pregnancy outcomes at the monthly meetings of MOICs at PHCs/CHCs.
- Provider promotion through IEC campaigns to generate demand for the services of trained providers.
- Recognition for best performance at all levels.
- Financial incentives for ISMPs, TBAs and CMWs through social marketing of IFA, DDKs, OCPs and condoms.

C. Strengthening of Referral Support
Operational difficulties can make emergency obstetric care ineffective even where facilities exist. However, it is important to note that 85% obstetric complications can be handled without access to blood, general anesthesia, or surgery (for Caesarean section). The strategy recommends the following:

- Conduct a participatory community mapping of referral sites by key community partners and ANM / block health officials under birth-preparedness. Display and update information about nearest referral sites, routes, and mode of transportation at every village Panchayat.
- Assure more responsive referral sites by
  - assessment and strengthening of existing referral sites;
  - additional budgetary support to referral centres exclusively for emergency transportation for complicated delivery cases;
  - provision of regular, adequate, and quality supplies required for a typical referral site for managing obstetric emergencies.
- Identify additional referral sites where general surgeons are posted, as referral sites and strengthening of sites.
- Increase coverage by
- Training of Lady Health Visitors (LHVs) in safe delivery techniques and refreshers for LMOs and other MOs;
- Refresher training of other support staff (nurses, lab technicians, etc.) for effective assistance during normal delivery or surgical procedures (Caesarean section);
- Mechanism for periodic or routine assessment of management of referrals made by ANMs and private providers such as ISMPs, TBAs and CMWs; and
- Streamlining the referral mechanism by strengthening linkages at the local level among various public/private providers and PRI members and government health functionaries.

- In the remotest areas, with no timely access to the above, there should be special training/certification and equipment to alternative basic emergency obstetric and neonatal care sites staffed by a CMW, ANM or in some cases ISMPs, to allow a basic level of treatment in cases of maternal hemorrhage and neonatal sepsis.

D. Site Readiness

- Criteria for ready site per approved standards and guidelines per provider. Private providers would only be certified if they meet these guidelines. TBAs would not have a site but a safe delivery kit.
- Assessment and upgrading of sub-centres to make the sites suitable for providing ANC, delivery, and basic emergency obstetric care services and for providing the ANM a safe and reasonable place to live.
- Plan for maintenance of ready sites.

E. Supervisory Support

For the public sector, in view of the large number of vacancies for the posts of LHVs, who are the immediate supervisors of ANMs, the current supervisory system needs to be reviewed to explore alternative supervisory models. The following steps are suggested to improve supervisory support for ANMs using existing resources.

- Enhancing/refreshing the knowledge and supervisory skills of the supervisors (LHVs and MOICs)
- Familiarizing supervisors with quality standards and guidelines
- Piloting self and peer supervision models for the ANM backed by community-based supervision
- Improving client-provider interaction through mobility funds for ANMs as well as mobility funds for LHVs to increase the number and quality of supervisory visits
- Introducing community-based supervisory mechanisms through Panchayat Raj members of ANM activities at the sub-centre and local level, such as:
  - Display boards at the Panchayat office indicating number of pregnant women, TT and IFA status; and
  - Client-retained service cards – cards with the pregnant women indicating the number of visits made by the ANM and the purpose of her visits.
- Accomplishing supervisory support for CMW and ISMPs through a certification approach. Only those receiving certification/re-certification every 3-5 years would have valid license to practice basic maternal and neonatal emergency care. ANMs
available in the area would oversee the TBA’s practice. However, the most successful model would be for the community to be aware of what safe practices the TBAs should be using.

F. Knowledge and Skills of Providers

Public Sector

- Refresh and update safe delivery and basic emergency obstetric and neonatal care skills of tertiary level providers consistent with latest international standards and guidelines.
- Ensure that clients referred by TBAs, ISMPs, and CMWs receive prompt care, through a training programme for referral facility staff.
- Based on results of assessment of why ANMs currently attend such few deliveries, design a curriculum that includes a response to the needs identified and assures skill/knowledge mastery through the following.
  - phased training of ANMs in ANC and postnatal care including FP, safe delivery, basic emergency obstetric and neonatal care and referral synchronized with attention to other performance factors including service site strengthening and supervision. Initially, training should be offered to select ANMs who are currently staying at sub-centre headquarters and those posted at PHC/CHC headquarters, who are willing to conduct deliveries or are currently conducting deliveries.
  - For those ANMs operating in remote areas without nearby referral sites, training should include basic emergency care for neonates including antibiotic treatment of sepsis.
  - As post-abortion care is a part of the emergency obstetric care needs of women, the FP counselling component can be strengthened and addressed through a simple self-directed learning package for ANMs which MOICs can implement through monthly meetings.

Private Sector

a) Traditional Birth Attendants (TBAs)

TBAs should be given training in safe delivery, except in places where the Uttaranchal government can provide a more skilled attendant at birth. The widespread presence of TBAs in communities remote from health care facilities necessitates their training, their lack of social power to negotiate safe motherhood practices with the community notwithstanding. The fact that TBAs in India tend to be members of a low caste, who handle “polluting” body fluids released at birth, limits their role in changing health-seeking behaviour. Yet, TBA training remains one of a number of interventions that may improve maternal and neonatal outcomes if strongly supported by:

- A skill-based adult learning course covering the critical basic steps in preventive ANC and postnatal care including FP, five cleans, recognition of danger signs, and referral.

b) Indian Systems of Medical Practitioners (ISMPs)

Clients have traditionally relied on the traditional providers. They have not found convenient, positive alternatives in their vicinity and need considerable encouragement
to change this orientation. ISMPs should be given HBLSS training, which introduces new knowledge and skills through a behavioral change approach. The curriculum covers basic life-saving measures for common obstetric and newborn complications. The training focuses on:

- preventive practices including iron supplementation, use of DDKs and nutrition and postnatal FP counselling;
- prevention and home-based management of maternal bleeding, infection, prolonged or obstructed labour and eclampsia;
- prevention and home-based management of neonatal infection, low birth weight, and asphyxia;
- stabilization and transportation of a mother and baby to a referral facility; and
- family planning with an emphasis on the lactation amenorrhea method.

Because of the remote nature of much of Uttaranchal and difficulty of referred clients reaching sites in time to save lives, PRIME recommends that the Government of Uttaranchal considers training select ISMPs, CMWs, and ANMs who have no referral back-up in their service areas in basic antibiotic treatment of neonates suffering from sepsis following the Gadchiroli model.

Private/Public Sector

a) Community Midwives (CMWs)
For remote areas with adequate population to sustain a private practitioner within a geographically reachable area and without a residential ANM or functioning sub-centre, a local woman meeting key criteria may be selected to be trained in an 18-month ANM curriculum or, if the Uttaranchal Nursing Council approves, a special midwifery curriculum. A graduate of this origin would become a CMW able to improve the accessibility and availability of ANC, FP, emergency obstetric and neonatal care, delivery services in the community as well as contribute to improved referral. ISMPs and TBAs in her area could refer clients to her in an emergency, if sub-centres and other referral facilities are too distant to reach.

A re-certification mechanism is required to be in place to sustain midwifery skills of CMWs.

b) Home Birth Teams
In areas where there are no TBAs or CMWs, the project could work through NGOs to improve delivery outcomes for pregnant women and infants through HBLSS training’ recommended earlier for TBAs and ISMPs for the women and their family care-givers and home birth attendants.

G. Community awareness and acceptance of improved safe motherhood and infant practices
- Encouraging and promoting the roles, responsibilities, and achievements of community partners (NGOs and private practitioners) involvement at the local level through district / block health authorities
• Bridging gaps between pregnant women, community members, and providers through HBLSS training, participatory behaviour change group meetings to educate pregnant women and their care-givers and ongoing IEC interventions.
• Working with NGOs to mobilize communities to have a revolving fund to pay for the utilization of ready sites (private) by poor patients for availing emergency obstetric care.
• Developing health self-help groups to help community members focus on improving maternal and neonatal care and avoiding unwanted pregnancies.

References
2. Antenatal Care: Old Myths, New Realities
6. An Assessment of the Effectiveness of Traditional Birth Attendants in Improving the Outcome of Pregnancy and Delivery by Colin Bullough undertaken by JSI (UK) on behalf of the Department for International Development in June 2000.
7. The HBLSS intervention model is the copyright of PRIME partner American College of Nurse Midwives and is currently being field-tested in 10 countries including India.
Appendix 1

**MAQ Exchange Recommendations for Antenatal Care**

- Health worker guidance to the pregnant woman and her caretaker in
  - nutrition
  - family planning
  - breast feeding
  - danger signs for mother and baby

- Detection and management of existing diseases and conditions
  - STIs,
  - TB
  - Malaria

- Detection and management of complications
  - Anemia
  - Vaginal bleeding
  - Pre-eclampsia, eclampsia

- Prevention
  - IFA
  - Two doses Tetanus Toxoid (TT)
  - Iodine supplementation

- Birth planning and emergency preparedness

**Assistance at the time of delivery for the purposes of this paper refers to**

- Pregnant woman being assisted by a care-giver who practices five cleans, assures thermal control of the newborn, explains and encourages immediate and exclusive breastfeeding, can recognize danger signs in mother and newborn and can effectively refer for complications requiring stabilization, first aid or further emergency treatment.
Immunization Coverage of Children in Uttaranchal

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Background
The state of Uttaranchal has recently been carved out of Uttar Pradesh (UP) by combining the hilly districts of Uttarkashi, Chamoli, Rudraprayag, Tehri Garhwal, Dehradun, Garhwal, Pithoragarh, Bageshwar, Almora, Champawat, and Nainital with the districts of Udham Singh Nagar in the Terai region and Hardwar in the foothills of UP.

The total population of the state is 8.5 million, which is less than one per cent of the population of the country (Census 2001). During 1991–2001, the state recorded a decadal growth rate of 19%, which is lower than the national average (21%) and that of UP (26%).

Uttaranchal is one of the most sparsely populated states with a population density of 159 persons per square kilometre. The literacy rate and sex ratio are better than those of UP and the national averages. The literacy rate for the population of seven years and above is 84% for males and 60% for females and 72% for the total population. Female literacy in Uttaranchal

Table 1. Background Characteristics of Uttaranchal and Other Selected States

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Uttaranchal</th>
<th>Uttar Pradesh</th>
<th>Himachal Pradesh</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of districts</td>
<td>13</td>
<td>68</td>
<td>12</td>
<td>504</td>
</tr>
<tr>
<td>Population (in millions)</td>
<td>8.48</td>
<td>166.05</td>
<td>6.07</td>
<td>1002.7</td>
</tr>
<tr>
<td>Urban</td>
<td>2.17</td>
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<td>Rural</td>
<td>6.31</td>
<td>131.51</td>
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<td>Proportion of urban</td>
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<td>9.79</td>
<td>27.78</td>
</tr>
<tr>
<td>population</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sex ratio</td>
<td>964</td>
<td>898</td>
<td>900</td>
<td>933</td>
</tr>
<tr>
<td>Female literacy</td>
<td>60.30</td>
<td>29.8</td>
<td>63.7</td>
<td>41.8</td>
</tr>
<tr>
<td>Anaemia among women</td>
<td>45.60</td>
<td>48.7</td>
<td>54.3</td>
<td>51.8</td>
</tr>
<tr>
<td>Malnutrition &lt;2SD</td>
<td>41.80</td>
<td>51.7</td>
<td>43.6</td>
<td>47.0</td>
</tr>
<tr>
<td>Anaemia among children</td>
<td>77.40</td>
<td>73.9</td>
<td>75.0</td>
<td>74.3</td>
</tr>
<tr>
<td>Institutional delivery</td>
<td>20.30</td>
<td>16.2</td>
<td>31.7</td>
<td>34.0</td>
</tr>
</tbody>
</table>

Source: Census 2001 and National Family Health Survey-2 1998-99
and Himachal Pradesh (HP) is more or less equal (Table 1), although it is quite a bit higher in these states than in UP. The sex ratio in Uttaranchal is 964 females per 1000 males.

Immunization against common childhood diseases has been an integral component of mother and child health services in India since adoption of the primary health care approach in 1978 and reinforced by the Declaration of Health Policy in 1983. The Government of India (GoI) launched the Expanded Programme on Immunization in 1978 to protect children against diphtheria, pertusis, tetanus, and typhoid. Vaccination against polio through oral polio vaccine (OPV) was added to the programme in 1979–80 and BCG vaccination against tuberculosis was added in 1981-82. Vaccination against measles was included in 1985–86.

In 1985, the Universal Immunization Programme (UIP) was launched to protect all infants (0–12 months) against six serious but preventable diseases, namely, tuberculosis, diphtheria, pertusis, tetanus, poliomyelitis, and measles. The objective of the programme was to fully vaccinate at least 85% of all infants by the age of one year. In subsequent years, the goal of UIP was raised to ensure 100% coverage of all eligible children with one dose of BCG, three doses of DPT and OPV, and one dose of measles vaccine. This programme was integrated with the Child Survival and Safe Motherhood (CSSM) Programme in 1992 and with the Reproductive Child Health (RCH) Programme in 1997. In addition to the ongoing routine immunization programme, the Pulse Polio Immunization (PPI) campaign was initiated in 1995 to eradicate poliomyelitis from the country.

The focus of this paper is to examine the status of the child immunization programme in Uttaranchal and suggest policy and programme issues for realization of the goals of universal immunization services. Data sources on immunization coverage used for this paper include secondary data from the National Family Health Survey 1998–99 (NFHS-2), Uttaranchal and all-India; the Coverage Evaluation Survey (CES 2001), and the RCH Programme’s Rapid Household Survey 1998-99.

Findings
NFHS-2 Uttaranchal provides data on immunization coverage for the state as a whole. According to this survey, only 41% of children aged 12–23 months were fully immunized, which is equivalent to the all-India average of 42%. Full immunization coverage was almost twice that of UP, but only half that of HP, a hilly state with similar topography bordering Uttaranchal.

The proportion of infants not receiving any immunization was 12% in Uttaranchal, 36% in UP, and 14% at the national level, but it was just 3% in HP. Over three-fourths of children in the state received BCG immunization, 56% received DPT III and 62% received Polio III, which is almost comparable to the national estimates. About 9% of the children were administered polio drops at birth as well. Low coverage of DPT III and measles was responsible for the poor performance in full immunization in the state (Table 2).
High dropout rates were another important concern in the programme. The dropout rate between the first and third doses of DPT was about 16%, while that for polio was about 25%. Dropout rates in Uttaranchal were two to three times higher compared with HP (Table 3).

District-level data was available from the RCH Project’s Rapid Household Survey 1998-99. According to this survey, there was a wide variation among districts in the proportion of fully-immunized children. It varied from a minimum of 48% in Hardwar to a maximum of 83% in Nainital. Uttarkashi also reported low coverage (50%). BCG immunization varied among the districts from as high as 90% in Pithoragarh, Pauri Garhwal, and Nainital to around 60%-65% in Uttarkashi and Hardwar. DPT coverage was above 85% in Nainital, Almora, and Pithoragarh, while it was less than 60% in Hardwar and Uttarkashi. Further, coverage for vitamin A was quite low and varied from about 16% in Uttarkashi to 35% in Dehradun (Table 4).

Nonetheless, the findings from the RCH survey should be interpreted with caution as the state estimate approximately calculated from district trends indicate higher coverage than that reported in the NFHS-2.

An examination of social and economic differentials (Table 5) among the districts based on RCH survey data reveals that immunization coverage was much higher in the urban

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### Table 2. Immunization Status of Children aged 12–23 Months

<table>
<thead>
<tr>
<th>Immunization</th>
<th>Uttarakhand</th>
<th>Uttar Pradesh</th>
<th>Himachal Pradesh</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully immunized</td>
<td>40.9</td>
<td>21.2</td>
<td>83.4</td>
<td>42.0</td>
</tr>
<tr>
<td>BCG</td>
<td>76.8</td>
<td>57.5</td>
<td>94.6</td>
<td>76.6</td>
</tr>
<tr>
<td>Polio Zero</td>
<td>9.0</td>
<td>4.7</td>
<td>4.2</td>
<td>13.1</td>
</tr>
<tr>
<td>DPT III</td>
<td>56.1</td>
<td>33.9</td>
<td>88.8</td>
<td>55.1</td>
</tr>
<tr>
<td>Polio III</td>
<td>62.4</td>
<td>42.3</td>
<td>89.8</td>
<td>62.8</td>
</tr>
<tr>
<td>Measles</td>
<td>56.0</td>
<td>36.6</td>
<td>89.1</td>
<td>50.7</td>
</tr>
<tr>
<td>None</td>
<td>11.5</td>
<td>36.1</td>
<td>2.8</td>
<td>14.4</td>
</tr>
</tbody>
</table>

Source: NFHS-2 1998-99

### Table 3. DPT and Polio Dropout Rates

<table>
<thead>
<tr>
<th></th>
<th>DPT I-III</th>
<th>OPV I-III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarakhal</td>
<td>16.3</td>
<td>25.4</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>24.4</td>
<td>14.2</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>7.9</td>
<td>8.1</td>
</tr>
<tr>
<td>India</td>
<td>16.3</td>
<td>20.8</td>
</tr>
</tbody>
</table>

Source: Computed from NFHS-2 1998-99

### Table 4. Vaccination Status in Uttarakhand

<table>
<thead>
<tr>
<th>District</th>
<th>BCG</th>
<th>Three doses of DPT</th>
<th>Three doses of polio</th>
<th>Percentage of children 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttarkashi</td>
<td>61.1</td>
<td>58.7</td>
<td>60.2</td>
<td>53.2</td>
</tr>
<tr>
<td>Chamoli</td>
<td>89.0</td>
<td>85.7</td>
<td>85.1</td>
<td>80.2</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>84.8</td>
<td>71.5</td>
<td>71.2</td>
<td>72.3</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>81.3</td>
<td>74.6</td>
<td>76.4</td>
<td>70.5</td>
</tr>
<tr>
<td>Dehradun</td>
<td>90.8</td>
<td>88.7</td>
<td>86.2</td>
<td>82.1</td>
</tr>
<tr>
<td>Pauri Garhwal</td>
<td>91.5</td>
<td>85.4</td>
<td>86.2</td>
<td>81.8</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>88.3</td>
<td>88.3</td>
<td>87.9</td>
<td>83.0</td>
</tr>
<tr>
<td>Champawat</td>
<td>88.3</td>
<td>88.3</td>
<td>87.9</td>
<td>83.0</td>
</tr>
<tr>
<td>Almora</td>
<td>90.0</td>
<td>88.8</td>
<td>88.4</td>
<td>83.8</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>80.0</td>
<td>74.9</td>
<td>75.1</td>
<td>69.4</td>
</tr>
<tr>
<td>Nainital</td>
<td>65.2</td>
<td>57.6</td>
<td>57.6</td>
<td>52.8</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>65.2</td>
<td>57.6</td>
<td>57.6</td>
<td>52.8</td>
</tr>
<tr>
<td>Hardwar</td>
<td>65.2</td>
<td>57.6</td>
<td>57.6</td>
<td>52.8</td>
</tr>
</tbody>
</table>

Note:
- Includes only last and next-to-last living children (last two living children born during the reference period)
- Complete Immunization: BCG + 3 DPT + 3 Polio + Measles

areas compared with the rural areas. Scheduled Caste/Scheduled Tribe (SC/ST) were disadvantaged groups and immunization coverage among them was found to be lower than for children from other castes. Similarly, educational differentials in immunization coverage could also be noted. Children of illiterate mothers were less likely to be immunized compared with children of educated mothers. The type of housing, a proxy for social and economic status of the household, also seemed to be important. In general, immunization was lower among children from kachcha houses than those from semi-pucca and pucca houses.

**Routine Immunization**

The immunization programme is designed to immunize all infants by the age of 12 months - BCG, three doses of DPT and OPV at 4-week intervals, and measles vaccine - through routine sessions held on a fixed day and place close to the residences of people.

For routine immunization, a health worker provides a pregnant woman with a “mother and child immunization card.” On the card, a record is maintained of the immunization status of the mother during her antenatal period and that of her child during infancy.

In most states, including Uttaranchal, immunization services are provided on a fixed day. Immunization sessions in Uttaranchal are generally held on Wednesdays (77%), although sessions are also held on other weekdays according to CES 2001, which provides better insight of key factors influencing immunization coverage and inter-district variance. The Social and Rural Research Institute conducted the PPI, Routine Immunization, and Maternal Care Coverage Evaluation Survey in Uttaranchal in 2001 using a 30-cluster-lot quality technique. The survey provides estimates for the year 2000 and segregated data on key performance variables. The findings of this study are used to describe the status of routine and PPI.

**Table 5. Complete Immunization Status by Selected Background Characteristics in Uttaranchal**

<table>
<thead>
<tr>
<th>District</th>
<th>Residence</th>
<th>Caste</th>
<th>Education</th>
<th>Type of House</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Rural</td>
<td>Urban</td>
<td>SC/ST</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>50.2</td>
<td>49.2</td>
<td>70.0</td>
<td>38.4</td>
</tr>
<tr>
<td>Chamoli</td>
<td>78.0</td>
<td>77.8</td>
<td>83.3</td>
<td>41.1</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>66.5</td>
<td>66.0</td>
<td>76.9</td>
<td>59.3</td>
</tr>
<tr>
<td>Tehri Garhwal</td>
<td>64.9</td>
<td>60.5</td>
<td>70.2</td>
<td>59.5</td>
</tr>
<tr>
<td>Dehradun</td>
<td>78.5</td>
<td>77.1</td>
<td>90.4</td>
<td>75.8</td>
</tr>
<tr>
<td>Pauri Garhwal</td>
<td>79.2</td>
<td>77.2</td>
<td>100.0</td>
<td>70.9</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>79.4</td>
<td>78.5</td>
<td>100.0</td>
<td>72.5</td>
</tr>
<tr>
<td>Champawat</td>
<td>82.6</td>
<td>85.0</td>
<td>77.9</td>
<td>82.2</td>
</tr>
<tr>
<td>Almora</td>
<td>66.7</td>
<td>66.1</td>
<td>68.6</td>
<td>62.0</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>48.2</td>
<td>43.3</td>
<td>64.7</td>
<td>39.2</td>
</tr>
</tbody>
</table>

In CES 2001, conducted for UNICEF, it was observed that about 60% of mothers had a mother-and-child immunization card. A significantly higher proportion of Hindus (75%) retained the card compared with Muslims (32%). According to the survey, 67% of infants received BCG, 65% DPT I, 62% DPT II, and 58% DPT III. A slightly higher proportion of infants (76%) received OPV I, 70% OPV II, and 63% OPV III; while a slightly lower proportion of children (55%) received measles vaccine. Immunization coverage was marginally lower in urban areas. In the case of female children, coverage was significantly higher among Hindus and in literate families.

CES 2001 elicited reasons for the low percentage of fully-immunized infants in Uttarakhand. Major reasons for poor performance included the lack of knowledge of time and place for vaccinations (35%); lack of recognition of the need for all vaccinations (30%); and lack of awareness of the programme (24%). Fear of getting a disease (12%), having no faith in the vaccine (6%), and fear of side effects (5%) were also important obstacles.

**Pulse Polio Immunization**

The PPI Programme was launched in 1995 with the objective of eradicating polio from the country. Under this programme, all children below five years are given polio drops on a fixed day throughout the country. According to CES 2001, in Uttarakhand 92% of children received all three doses of OPV. There was no or only marginal difference in coverage with all three doses according to gender, religion, caste, or education of parents. However, coverage was lower in urban areas (89%) compared with rural areas (94%). The proportion of children not receiving any OPV dose during the PPI campaign was 0.6%. The proportion of children who had not received any OPV dose in their lifetime was 0.3%; of these almost half the number live in urban areas, belong to a Muslim community, have illiterate parents, and are likely to be female.

During the 2000–2001 PPI campaign in Uttarakhand, almost three out of four children received OPV doses at PPI booths, while only one out of every 10 children were immunized at home; the remainder received some doses at home and some at PPI booths.

Some of the main reasons reported for not getting one or more OPV doses during the PPI campaign were “lack of awareness of place/time”, “not aware of the need for additional doses”, “vaccinator did not come to my house”, “there was nobody to take the child to a booth”, “out of station”, and “child was young.” Myths such as “oral polio will affect fertility of the child” (5.3%), “no faith in additional doses” (3.2%), and “a doctor advised against immunization” (1.0%) also contributed to non-acceptance of OPV during the PPI campaign.

Infant and child mortality rates are good indicators of socio-economic development and the status of health and population programmes. The infant mortality rate in Uttarakhand was 38 per 1000 live births, which is much lower than the all-India average (68 per 1000 live births) and that of UP (89 per 1000 live births). Similarly, the child mortality rate and under-five mortality rates are lower than those of UP and all-India.
However, the infant mortality, child mortality, and under-five mortality rates were much lower in HP compared with Uttarakhand (Table 6).

### Discussion and Recommendations

The above analyses reveal that immunization coverage in Uttarakhand is close to the all-India average but far lower than in HP, a bordering hilly state. There is a wide gap between routine data and survey data. Almost every other child in Uttarakhand is not fully protected and one out of every three children is a dropout from the immunization programme. Coverage is lower in rural areas, according to the RCH survey, while the CES 2001 reported lower coverage in urban areas. In addition, coverage was low for children whose mothers belong to a SC/ST or are illiterate. The major source of immunization services is through the public sector; the private sector plays an insignificant role. Compared with routine immunization, PPI coverage is far better. About two-thirds of immunization sessions were done using a well-sterilized or pre-sterilized disposal syringe and one syringe with one needle was used for one immunization.

Thus in conclusion, Uttarakhand has not reached the goal of universal immunization coverage despite a focused and intense immunization programme since 1985. The main constraints are lack of attention to routine immunization, perhaps due to the intensified focus on PPI campaigns, and the integration of the UIP into CSSM and RCH in 1992 and 1997, respectively. The consequence was the dilution of attention and focus on the routine immunization programme. In this scenario, the goal of universal immunization can only be realized if the following programme and policy issues are considered in developing a prospective plan for the future:

1. Revitalize and strengthen routine immunization services with particular reference to urban areas, Muslims, illiterate parents, populations residing in the plains, and population groups or areas hitherto not reached.
2. Ensure regular immunization services on a fixed-day and fixed-place basis, based on micro-plans with adequate logistics support and a proper cold chain.
3. Strengthen programme management skills of lower- and mid-level managers to address the high dropout rates and low proportion of fully immunized infants.
4. Address the issues of poor utilization of immunization services, obstacles and lack of awareness or motivation, through professionally-designed behaviour change communication interventions.
5. Eradication of polio in the next few years will provide opportunities to introduce newer vaccines in the programme. However, a well-established routine immunization programme is a prerequisite for adding newer vaccines to combat diseases, such as hepatitis B, meningitis, and measles, mumps, and rubella (MMR), and newer techniques like single-shot, self-destructible syringes.

### Table 6. Neonatal, Post-Neonatal, Infant, Child, and Under-Five Mortality Rates

<table>
<thead>
<tr>
<th>Immunization</th>
<th>Uttarakhand</th>
<th>Uttar Pradesh</th>
<th>Himachal Pradesh</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonatal mortality</td>
<td>25.7</td>
<td>53.6</td>
<td>22.1</td>
<td>43.4</td>
</tr>
<tr>
<td>Post-neonatal mortality</td>
<td>11.9</td>
<td>33.1</td>
<td>12.3</td>
<td>24.2</td>
</tr>
<tr>
<td>Infant mortality</td>
<td>37.6</td>
<td>86.7</td>
<td>34.4</td>
<td>67.6</td>
</tr>
<tr>
<td>Child mortality</td>
<td>19.2</td>
<td>39.2</td>
<td>8.3</td>
<td>29.3</td>
</tr>
<tr>
<td>Under-5 mortality</td>
<td>56.1</td>
<td>122.5</td>
<td>42.9</td>
<td>94.9</td>
</tr>
</tbody>
</table>

Source: NFHS-2 1998-99
6. Work with the programme so that it generates more reliable district-based data on coverage, segregated by key variables on a yearly basis so that the immunization programme can be designed or redesigned to overcome constraints in achievement of universal immunization coverage.

7. Ensure that coverage data is correlated with incidence/prevalence of vaccine preventable diseases. Strengthen the surveillance system as well as the aptitude and skills among public health service providers and programme managers.

8. Emphasize quality immunization services including monitoring side effects, injection safety, cold chain, and vaccine potency.

9. Emphasize greater involvement of Panchayati Raj institutions and the community in programme planning and monitoring. This is essential for raising the proportion of fully-immunized children from the current level of 42% to nearly 100%.

10. The state should set up a technical advisory group consisting of eminent public health and paediatric specialists to advise the state on technical aspects of the immunization programme, programme guidelines, introduction of newer techniques and vaccines, and the evaluation of programme impacts.
Session 4

Education, Gender Issues, and Empowerment of Women

Chairperson: Dhanashree Brahme

Role of Education Department in RCH Services
M C Pant

Status of Women, Gender Issues and Empowerment of Women
Pooja Juyal

Empowerment of Women
Anuradha Rajan

Discussant
Sheena Chhabra
Education is an investment in the future. It plays a crucial role in social transformation and economic development. It is instrumental in inculcating knowledge, skills, and appropriate attitudes in citizens. Education aims for the all-around development of a child's personality. It also ensures the effective working of the basic institutions on which the country's economic and social well-being depends.

Within the gambit of all-around development comes the physical, psychological and social development of a child. Education from its very beginning aspires to develop the positive traits of a child's personality to help him or her grow into a good citizen. In the area of physical development, education provides inputs and opportunities related to the total health programme.

At the primary level, development of healthy habits is necessary. The primary level curriculum ought to develop a sense of personal and public hygiene, regular lifestyle, conservation and preservation of environment, food and nutrition, good eating habits, and prevention of diseases. Health orientation programmes – pulse polio, iodized salt, iron, and vitamin A intakes and other such programmes – must have a place in textbooks. Primary level education occurs at the age of habit formation and should include a well-structured curriculum, both inside and outside the classroom.

The primary stage should also develop a child's social traits. These traits include love for fellow beings, respect for elders, a sense of equality of the sexes, courteous behaviour and respect for traffic rules and public property. These are virtues that should be strengthened for good social and emotional development.
At the upper primary stage, concepts and knowledge are strengthened and further knowledge is acquired. This stage occurs when the child reaches adolescence. Physical development is in progress and physiological changes take place in the male and female child. Carefully planned reproductive health education may be initiated at this stage. The children may be made aware of the changes taking place in their bodies. Knowledge regarding common diseases, preventive and social medicine, drug abuse and the harms of liquor, smoking, narcotics, and so forth may be provided at this stage. The knowledge base gained at the primary level should be transformed into skills that should be reflected in the behaviour of the child. Environmental education in its social context, with a view to developing attitudes regarding quality of life, must be an essential part of the educational process. Indigenous knowledge and skill, which is now being applied in Western countries, must be provided to ascertain a healthy lifestyle. There is a wealth of traditional wisdom and knowledge in Uttaranchal, especially in villages and remote areas, that could be well utilized.

The sense of equality of the sexes and respect for the opposite sex ought to be strengthened. Efforts need to be made towards developing a sense of respect for elders and family members. A small family norm is the need of the hour. Along with it, cautious efforts must be made to attune children towards amicable behaviour in a joint family system. Life skills development should be given utmost priority at this stage.

At the secondary and senior secondary level, reproductive health education should be properly provided to the students. It is wise to ascertain social norms while prescribing the reproductive health education curriculum at this stage. Different activity-based programmes in the schools may deal well with this aspect. The themes of reproductive health education may include knowledge of the functioning of our reproductive system, general health- and hygiene-related issues, sexually transmitted diseases, and AIDS. Along with it, drug abuse, smoking and liquor consumption must be strongly highlighted. Issues related to food and nutrition, health-oriented programmes, social and preventive medicine, breastfeeding, conservation and preservation of the environment and respect for the opposite sex should be further strengthened at the secondary level. The pros and cons of Western culture should also be discussed. The concept of good quality of life and ways and means to achieve such quality should be an integral part of this education.

Issues that require discussion include the stage at which the reproductive health programme should be initiated and the content of that input at each stage. The community should be active in these discussions. These issues require attention because, for example, adolescent girls experiencing puberty find no one to explain the physiological process involved and find it embarrassing. Their parents do not discuss such things, as it is considered taboo in the villages. Then, it is only the teacher and the appropriate curriculum that can provide proper information at the proper stage. Further, the programme should adopt a holistic approach to cover all aspects of a healthy life.
Teacher orientation is also tremendously important. It was observed that teachers were initially reluctant to provide any information on reproductive health, but having participated in various activities in an orientation workshop, they found it useful and easy to transfer the necessary inputs to students through an activity-based methodology.

The availability or development of relevant and proper materials for the reproductive health programme is of utmost importance. The National Council of Educational Research and Training and state institutes of education have developed ample literature in this regard. It is also important that education interacts with the community; this interaction may be made part of the curricular framework. Education should be a vehicle of community health, as well. For example, it has been noted that most newborn babies in the state are under-weight and most lactating mothers are anaemic. Various food items in Uttaranchal are abundant in vitamins, proteins, and minerals but due to some misgivings, people do not eat them in adequate quantities. Aspects of women’s health, such as the role of the family in a woman’s pregnancy, proper food and rest, and proper diet for a lactating mother, are issues that need to be raised and dealt with through proper community - education linkages.

If we look at the population explosion problem, we find that the decadal growth rate in Uttaranchal is 19.2% compared with 25.8% in Uttar Pradesh and 21.3% at the all-India level, as per the 2001 provisional population figures. However, there is further need to deal with this area through the extension of education. For example, although there are scattered habitations in the hill areas, the natural resources there are slowly being exhausted. This brings into focus the concept of sustainable development versus optimum population size. The land size cannot increase; hence any increase in population is bound to strain our resources. The concept of the small family norm is relevant in this context as well.

As far as prospects for gender equality are concerned, we find a rather satisfactory situation in Uttaranchal. The provisional population figures for 2001 reveal that the sex ratio in Uttaranchal is better than the all-India ratio. While in Uttar Pradesh there are 898 females per 1000 males and nationally there are 933 females per 1000 males, in Uttaranchal the figure stands at 964. It is heartening that the birth of a girl child is as welcome in families as that of a boy child.

In society, women occupy equal and dignified status. Although women in the hills work hard and devote more time to household chores than the male members of the family do, they have a respected place in the family.

The literacy rate for females in Uttaranchal is also higher than the rates for the country as a whole and for Uttar Pradesh. While the female literacy rate is 43% in Uttar Pradesh and 54% at the national level, in Uttaranchal it is 60%. Comparatively, the male literacy rate is also higher in Uttaranchal, at 84%. Yet, enrolment figures show that there is no discrimination in families regarding providing primary education to boys.
versus girls. At higher levels of education, girls’ enrolment is, of course, lower than that of boys. It is a concern that education has to deal with.

It may be suggested that a cell be created in the State Council of Educational Research and Training (SCERT) specifically to take care of the reproductive and child health programme in Uttaranchal.
The paper Status of Women and Gender Issues in Uttaranchal is in two parts. In the first part, I briefly outline the critique of the mainstream perception of population issues offered by the women’s movement in India and highlight the reasons for their dissatisfaction. There is, they suggest, a more comprehensive, holistic perception of the population issue—one which is more sensitive to women’s rights and opposed to any measures of coercion on the part of the state. There may be some lessons in this discussion for a new state that attempts to formulate a health and population policy. This becomes the backdrop against which, in the second part, I raise the subject of the status of women and gender issues in Uttaranchal.

Part I
There is a growing awareness among women that many perceive them to be the perpetuators of the population problem. Most governments are inclined to give women more attention than men in any discussion on population issues. Naila Kabeer asserts, “Women have always received a disproportionate amount of attention in population control programmes. This is in marked contrast to their negligible presence in the sphere of development.”

Women feel that the issue of women’s health should include more than just reproductive health and should accommodate concern for the health of adolescent girls and older women. It should not perceive women only as reproducers. Women’s health issues should include the protection of women from diseases.
Two viewpoints exist around the discussion of population issues. The choice of the world view becomes important in any planning process as issues, policies, and decision making will be determined by it.

Let us examine the viewpoints more closely. One view looks upon population as a problem of numbers posing a burden on the economy and infrastructure. The viewpoint here is not located in a social and cultural context, and has a tendency to regard women as “child producers” and women’s fertility as something to be controlled. Within the nation, it is a discourse of the upper and middle classes used in reference to the poor and backward social groups; in the international context, it is a discourse of the developed nations that perceive developing nations as responsible for the problem of galloping numbers.

The worldwide perception of the population issue emphasizes social and economic contexts. It validates the pressures of poverty and the working of patriarchy as significant factors that may influence women’s fertility. This view perceives correlations between poverty and socio-economic insecurity that may lead to large families among the poor and between oppressive patriarchy and the inability of women to exercise autonomy in making fertility choices. This world view considers linkages between social and economic development as important determinants of people’s choices regarding small family norms. This viewpoint would shun the discourse of targets, incentives, and disincentives for fertility control as solutions for population control, perceiving them as eroding people’s rights and oppressing women.

The first viewpoint tends to give short shrift to people’s rights and choices. By addressing numbers, it may lead to coercive methodologies for achieving its objective. The latter view has the advantage of being more organic, democratic, and sustainable. This is the view that offers women more space. The proponents of this world view would adopt the strategy of implementing a package of social and economic development measures that would include education, health, assured income, and employment to address the population issue. The strategy would also emphasize the growth of women’s autonomy and empowerment to erode the oppressive tentacles of patriarchy.

The former viewpoint offers doomsday predictions of how – if trends continue – India may overtake China in 2045 to become the most populous country in the world and points out that while global population increased threefold from 2 billion to 6 billion this century, the population of India has increased nearly fivefold from 238 million (23 crore) to 1 billion (100 crore) in the same period. Population growth is considered to be the major cause of world poverty, and women are considered to be both the cause and the potential solution.

The latter viewpoint is not blind to the burdens and pressures that population exerts on the resources and institutions of the world, but would see unequal distribution of
resources and wasteful lifestyles as also contributing to pressure on the world’s limited resources. It is also suspicious of the target-setting and technology-driven approach apparent in an incentive-motivated ethos. It would rather see solutions emerging from the sensitization and self-awareness of rural and urban communities concerning the population capacity of their ecosystem.4

The women’s movement in India has articulated this same critique since the 1970s. It has been anxious about the government’s “obsession with the population numbers and therefore its control.”5 Kalpana Vishwanath says, “The two main areas of critique have been the philosophy and practice of population control, which has at its centre control over reproduction, and research and development of contraceptive technologies and their delivery.”6

The distress felt by the women’s movement regarding the population policies of the Indian government has been at the ideological level as well as at the level of implementation and service delivery. The women were agitated, too, by the policies of near coercion that followed target-setting for sterilization. The focus on women for fertility control, the inordinate use of terminal rather than reversible methods, and the promotion of inadequately tested drugs and methods injurious to women’s health were other major issues of concern.7

The women’s movement’s perspective on issues of health and population may be seen as a cautionary perspective—one offering a corrective critique to the state. Against this backdrop, I highlight the status of women and gender issues in Uttaranchal, of which health is an important aspect.

Part II

The literacy rate for women in Uttaranchal stands at 60%, according to the 2001 census, but a comparison with the rate of 84% for male literacy shows a 24% gender gap. However, the women’s literacy rate has increased from 42% in the 1991 census to the current rate of 60%. Male literacy improved from 73 percent in 1991 to 84% in 2001.

According to the 2001 census, the sex ratio for women in the Uttaranchal stands at 964 females per 1000 males. This is better than the national figure, which stands at 933 females per 1000 males, and that of Uttar Pradesh, which is 898 females per 1000 males. While the current sex ratio in Uttaranchal is adverse for women, it does show an improvement from the 1991 census sex ratio, which was 936 females per 1000 males.

An improved sex ratio possibly represents a better status for women in Uttaranchal, but we also have to contend with the phenomenon of male migration from the Uttaranchal region, which might explain why the sex ratio for women is comparatively better than the national average (Table 1). Interestingly, the figures of some hill districts of Uttaranchal show a favourable sex ratio for women—namely Almora, Bageshwar, Chamoli, Champawat, Garhwal, Pithoragarh, Rudraprayag, and Tehri Garhwal. But, again,
this must be seen in the context of male out-migration to the plains rather than simply a statement of a favourable status of women of the area.

Moreover, the sex ratio in the 0–6 years age group reveals another facet of the low status of women in Uttarakhand (Table 2). The average sex ratio for this age group in Uttarakhand is 906 females per 1000 males. This is very low and thus may lead one to conjecture that some kind of selection process that eliminates female infants is at work. It could be the use of prenatal diagnostic techniques and the practice of female foeticide; it could also be a process of neglecting female infants or a nutritional practice that weakens female infants. Culturally, however, there is no known practice or custom of female infanticide in the Uttarakhand area. The inference can be drawn that the social subordination and marginalization of females, plus the gradually growing practice of dowry in the area, contributes to the perception of the girl child as a liability.8

The sex ratio in the 0–6 years age group is 893 for Dehradun and 868 for Hardwar, which are the two lowest figures for districts in the state.

It is a painful realization that the long history of women’s mobilization in the area – anti-alcoholism and the Chipko movement on environmental issues – has not been able to yield a better status for women. According to the sex ratio, women are nowhere near par with men in Uttarakhand, and the sex ratio is particularly unequal in the 0–6 years age group. The literacy level has improved in the past decade, but the 24 point gender gap in literacy indicates a devaluation of girls. Girls are not able to access (for various reasons) educational institutions that will give them knowledge and skills and impart productivity and efficiency. Reasons for girls’ limited access may be the distance of the school from the home, expectations for assisting with the home tasks, restrictions on the mobility of girls, or perhaps not having female teacher recruitment in the schools. Thus changes and improvements which flow from education and contribute to improving the quality of life are denied to girls.9

In the field of economic activity, women are known to be the prime movers and the backbone of the economy. They constitute the main
agricultural workforce in Uttaranchal—a fact proven by their workforce participation rate of 41% as compared to the national average of 22.7% in 1991. Women are known to perform all kinds of agricultural labour, except field ploughing. Wage differentials exist between men and women for the same tasks.

Women’s history of mobilization has not translated into political power for them. There was no woman member of the Legislative Assembly among the 22 persons elected to the Uttar Pradesh Legislative Assembly, which constituted the erstwhile interim Legislative Assembly for Uttaranchal, from the Uttaranchal area in 1996. The two women members of the interim Assembly had been elected to the upper house (Legislative Council) in Uttar Pradesh. In the newly elected Legislative Assembly composed of 70 members, there are three women. However, the 73rd and 74th Constitutional Amendments, which reserve a third of seats for women at all levels of local self-government as well as a third of chairperson positions at all levels, have enabled women to stand for elections and enter into decision-making positions.

The low status of women can be explained by the patriarchal arrangement of society and the social inequality inherent in it. But it is also a statement and comment about the limited capabilities of social movements to bring about social change.

Women’s mobilizations have successfully raised issues such as alcoholism, environmental issues, and the formation of a new state. They may even achieve a degree of success in accomplishing their objectives. Therefore, their efforts may result in the cancellation of a liquor shop’s licence or the shift of its location, the appointment of a committee to discuss the issue, or the creation of a new state as in the case of the movement for Uttaranchal. However, most mobilizations do not go so far as to challenge society’s prevailing gender relations, the division of work roles by gender, or men’s control of the family, fertility (reproductive power), mobility, and labour (productive power) of women.

Women’s lives in the hills are tied up in an oppressive patriarchal system in which women’s labour (productive power), women’s fertility (reproductive power), woman’s sexuality, and woman’s mobility are controlled by men. Property and other productive resources, too, are controlled by men.

In a patriarchal society, women are socially subordinate and a preference for male offspring exists, as does discrimination against young girls in food distribution and educational opportunity. The area of the private family is rigidly separated from the public space, and there is a rigid distribution of work by gender, with the burden of household work on women and young girls. There is a general devaluation of women despite their hard physical work in agriculture and the collection of water, fuel, and fodder.

In fact, the patriarchal arrangement of society is so deeply entrenched that the out-migration of males from the hills to the plains for work and the de facto headship of the
household and de facto use of power does not translate into any obvious advantage for women, but instead gives them a dual burden of responsibility.

The mobility of women is limited. Perhaps we could make a distinction between mobility determined by the household chores - collection of water, food, and fodder - and social mobility such as visiting or recreation. In the former case, no restrictions would apply because the objective is to sustain the household; but restraints would apply to the latter. Limited mobility compels female household heads to depend on male support in the community for purchase of agricultural inputs, such as seeds and fertilizers. Limited mobility also impacts the opportunity for girl children to attend school.

In an ethos of social subordination, women’s public communications, transactions, and negotiating skills remain underdeveloped. Fertility decisions are, as other decisions about finance or land, definitely not in the purview of the woman. Access to loans and credit are linked with ownership of assets and are therefore denied to her. Land rights remain with men, leaving women with limited options. Social and cultural values still emphasize the significance of families and breaking away from a violent home is socially unacceptable.

Thus, women’s social status is manifest in social behaviour and practices that continue to emphasize and underline their subordination. However, awareness generated by women’s groups and social activists in the region has helped identify some specific concerns about women’s lives in Uttaranchal that need to be addressed both by society and the state in an effort to improve women’s status and quality of life.

The issue of violence against women is an important concern. In an ethos of patriarchy, social subordination of women is manifested in the prevalence of customs and traditions that are violent towards women. The possibility of female foeticide with the assistance of prenatal diagnostic technologies has been discussed earlier.

Subtle violence is practiced against women by discriminating against infertile women and widows. Oppressive customary practices of restricting and segregating women are practiced.\(16\) Instances of domestic violence, and even brutal dowry murders, are frequently reported.\(17\) According to the police department of Uttaranchal, 22 cases of dowry murders and 28 cases of rape were registered in 2001.\(18\)

Women in Uttaranchal have realized the relationship between liquor consumption and violence against women. They see it as destroying the potential of youth in the hills and the health of men, and contributing to domestic violence. Thus, alcoholism contributes to diminishing economic resources of the home as well as to the related poverty and misery for the family.\(19\) Women’s groups have been involved with this issue very closely. They have debated, discussed, and written about it, thus raising levels of the awareness on this issue.\(20\)
Radha Bhatt asserts that liquor trade and alcoholism have become the bane of women’s lives and should be stopped forthwith. She maintains that without a firm policy of prohibition, women’s development just cannot be imagined.21 Similar recommendations are made in an article that outlines a tentative draft of a policy for women of Uttarakhand,22 which sees a connection between alcohol and violence. It views it as a social evil that not only causes suffering for women and children but has also economically ravaged both the proud, strong hill women and the society. The draft policy recommends complete prohibition as a policy in the state.

Girls’ education must also be regarded as a priority issue and women’s literacy rates need to be enhanced from the present 60%. The proposed women’s policy emphasizes education that is related to local contexts to link it to livelihood; a free technical education for women encourages their participation in this field. It also suggests reserving 33% of jobs for women.

The philosophy of education for women as a potentially powerful tool for social change is present in the Mahila Samakhya education and organization experiment in some villages and blocks of Pauri, Tehri, and Uttarkashi.23 Mahila Shikshan Kendras are awareness-raising organizations as well as residential learning centres for young girls and the occasional adult. They are run for a period of six to eight months. Through their participatory methodology and encouragement of questioning and seeking linkages between social, economic, and political powers, they are able to use education as a powerful tool to change society and inter-personal relationships and to negotiate complex issues. Imparting self-evaluation and analytical skills and decision-making capacities generates a gender-sensitive perspective that greatly empowers women. Given the capacity-enhancing quality of education, there needs to be a sustained thrust towards making education available for all.

In Uttarakhand, women’s understanding of the organic interdependency of life and forests and declared commitment to work for their conservation and protection has served to build the environment movement within and outside India. Women have a deep, almost emotional, bond with the forest—describing their relationship with it in words such as maika (maternal home). It supplies the fuel and fodder a woman needs to maintain her family and her cattle, and she spends long hours in the fulfilment of this family-sustaining task. Forests are home to medicinal herbs and provide wood for implements and the building of houses. The arduous task of collecting fodder and fuelwood gives a woman the opportunity to access a wider physical world and to communicate and share with other women.

Thus, the survival and maintenance of forests, women’s access to them, women’s participation in forest management in van panchayats, and proposals of the establishment of all-women van panchayats are all important issues for women.24 Women are conscious of the significance of maintaining biodiversity and are critical of forest department programmes that encourage chir and pine monocultures. Women are also critical of callous, insensitive, and corrupt forest employees.
The village supply of potable water is another issue for women. The extraordinary physical labour that women endure, owing to the distances they cover and the harsh terrain in the area, have made potable water a significant health issue as well. Water is essential for survival and remains an important item in the women's agenda.25

Anil Agarwal of the Centre of Science and Environment has drawn the implications of environmental degradation to people's lives as follows:

... because there is little fuel available for cooking, rural families are faced with grave risks of infection and illness from eating stale and uncooked food; while women are getting more malnourished, their increasing household chores leave them with little time for seeking medical care; and women are forced to have more children in order to cope with their workload.26

... [Also] if underfed and overworked, women are expected to bear many children, the impact on their health will be drastic.27

What the Shramshakti Report on Women in the Unorganized Sector says about the occupational health of the working woman in India at large applies to the rural Uttaranchal woman as well—“the most important occupational hazard for all women is probably overwork.”28 Conditions of overwork make her vulnerable to various sicknesses and disease, and frequent pregnancies also take a toll of women's health. The issues of health for women are a natural and organic concomitant of their lives, which are characterized by overwork and malnutrition.

General nutrition standards cannot be expected to be high where there are pressures of poverty. Customarily, men and children are given the best food first, then senior women, and then young brides.29

Women's attitude to health is a consequence of their own social subordination and their assimilation of the “inferiorized” identity of women living in a patriarchal society. Women's access to health services, especially the use of family planning services, is mediated by men. Says Mukherji, “Health is the most neglected aspect in the area especially among women. In fact, it is ignored until it becomes absolutely necessary.”30

Health issues relevant to Uttaranchal can be perceived as being linked to the workings of both patriarchy and poverty, which is a consequence of poor development. The absence of economic resources to seek, avail, and sustain health care is a consequence of poverty. Poor women's access to health care is influenced by her subordinate social status, her limited mobility, and the paucity of time available for addressing her own needs.

Against this backdrop of women's issues, what are the tasks that lie before the state in the area of health? The government should make safe drinking water available at reasonable distances from habitations to reduce woman's work. Table 3 illustrates this unfinished task of providing safe drinking water in the rural areas of Uttaranchal—a task that will ease the lives of women. Table 3 also shows that the provision of toilets
in urban areas remains an unfinished task for the
government. Absence of toilets in urban areas
can pose a threat to public health. It is an
oppressive condition of living that reduces the
quality of life, especially for women. The state
will have to provide this facility for 100% of the
households, especially in urban areas.

The state must also provide, in the interest of
women’s health, easy access to fuel to fulfill the
requirements of rural women until a replacement
or alternative can be found for wood fuel. Needs
of fodder for household cattle should likewise be
easily met.

The state would need to address the question of
proximity of the health centres to habitations to
reduce the time and energy spent accessing
them. The health centres need to meet a variety
of needs. They must cater to diseases, such as
tuberculosis (TB) (see Table 4), that emanate
from poor nutritional health and overwork.
Medical department awareness campaigns should
address debilitating diseases, again such as TB,
and health workers should ensure that women
patients follow-up and sustain treatment. The
department can start campaigns for iron
supplement distribution to women to counter
anaemia. Women who travel long distances and
at high gradients are often prone to falls and injuries. Health centres should be
adequately prepared to deal with orthopaedic cases. Certain areas have incidence of
goiter, worm infestation, malaria, and leprosy (see Table 4). The government could ensure
that the health centres of these areas are prepared to treat such specific diseases.

Data reveals that 15% of girls were married before the age of 18. This is a symptom of
both women’s subordination and inadequate and incomplete application of state laws.
The state must also take adequate care to implement the law banning prenatal
diagnostic techniques that facilitate the practice female foeticide (in the prevailing
patriarchal ethos, the birth of a girl child spells economic liability and problems). The
need to remedy these problems can be met by improving education and using existing
schools, voluntary organizations, and the panchayats to spread information about state
laws concerning women’s rights.

Reproductive health data point out that 50% of women have more than three children.
Institutional deliveries have been documented at a rate of 18% and only 18% of women

<table>
<thead>
<tr>
<th>District</th>
<th>Area</th>
<th>Safe drinking water</th>
<th>Toilet</th>
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</thead>
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<tr>
<td>Uttarkashi</td>
<td>Rural</td>
<td>66.35</td>
<td>13.52</td>
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<td></td>
<td>Urban</td>
<td>94.59</td>
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<td></td>
<td>Total</td>
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<td>76.18</td>
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<td>Total</td>
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<td>89.68</td>
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</table>

Source: Population Foundation of India. District Profile Uttaranchal
are reported to have received full antenatal care. Around 71% of children have received complete immunization. An estimated 45% of women are contraceptive users. Approximately 22% of women reported reproductive tract infections (RTIs).32

Infant mortality in Uttaranchal is rather high at 83 deaths per 1000 births compared with the national average of 71. Quality health care that ensures child survival must be made available. Survival of children has a positive correlation with small family choices.

Thus, there are many issues to be addressed in the areas of reproductive and child health. It is apparent that there are many unmet needs. Health services for women need to cover the health needs of the adolescent girl and the older woman, as well. The life patterns of overwork, malnutrition, and neglect of health (at all stages of life) make for a group that is weak and vulnerable to disease.

In terms of reproductive health, the state should ensure that contraceptives that are known to be dangerous to women’s health are not made a part of the government’s health programme. The government’s population policy should not use targets, incentives, or disincentives in the field of family planning because these create a tendency to coerce people and manipulate targets. Doctors must ensure that women are given complete information about the pros and cons of the contraception that is being suggested.

Medical personnel at all levels should also be trained on gender sensitivity. Gender sensitivity is also a required aspect of the administrative mechanism that implements the health and population policies.

Greater male participation in population issues should be emphasized and built into policies and plans. Sensitization of men can be accomplished through education and the media. Increasing the levels of male literacy and preventing school drop-outs is necessary.

The state would also have to address the issue of job availability to control poverty. It would need to initiate income-generation activities for men and women, with a special focus on women’s income generation.

Women’s health issues are also issues of availability and access to health-related services. Since time is an important constraint for women, the issue of proximity of health centres to place of residence becomes important. The state would need to address the problem of many villages not being connected by roads. Roads would not only facilitate health care access, but would also provide villages with access to
development. Access has another meaning in the lives of women. This relates to the patriarchal control of female mobility, which impacts her capacity to use available medical services.

Voluntary organizations can do much to empower women whose personalities and lives have been crushed by poverty and patriarchy. Sound voluntary organizations that can bridge the distance between governmental health care interventions and women's access to them must be identified.

The implication for state action is that there has to be greater emphasis on education. Education for girls will build their self-esteem and confidence to negotiate their lives. Adult literacy for women can also be an important state intervention. The issue of women's health is intrinsically connected to education, which builds people's capacity to access services, negotiate issues, and develop economically, and thus creates opportunities and choices for people.

Education, that builds self-image and prepares women for jobs, will require initiatives on the part of the state. The state will also have to provide development opportunities for women to address the issues of health and population. Its approach in both these endeavours will need to be holistic and gender-sensitive.
Endnotes

2 Kabeer holds that this view “exploits the individual motivation for controlling family size through contraception to build a policy of control: control of the women’s fertility is seen as the most immediate target” (Ibid).


5 Maitreyi Krishna Raj, a doyen of Women Studies, in her theme paper on “Women’s Perspectives on Public Policy: An Incomplete or Lost Agenda” presented at the IX Indian Association of Women Studies Conferences, Hyderabad. January 2000. p.16.


7 Krishna Raj. op. cit. p. 16.

Naila Kabeer points out, “Most feminists have struggled to give women’s need for reproductive technology a political status as one element of their broader rights to exercise control over their bodies and their lives.” (op.cit. p. 193.)

8 "Dowry... is not a part of the traditional marriage transaction in the region and is of a recent origin, having spread from the plains." Mukherji P. 1999. “Case Study in Kumaon and Garhwal, India.” In Jeanette Gurung (ed.). Searching for Women Voices in the Hindukush Himalayas. Kathmandu: International Centre for Integrated Mountain Development p. 382.

9 According to the norms prevalent in Uttarakhand, a primary school should be established within a distance of one kilometre from a village and inhabitations where the population exceeds the 300 mark. In the recent past, initiatives have been taken to appoint at least one woman teacher in every school. In view of meeting the requirement of women teachers, about 80% of the total seats have been kept reserved for women candidates in the admission of teacher’s training for primary level of education. See Mehta G S. Access to Social Infrastructure and Human Resource Development in Uttarakhand. Working Paper No. 170. Lucknow: Giri Institute of Development Studies. pp. 10–11.


See also Mukherji. op. cit. p. 362.

11 Pampa Mukherji in her study points out to the wage differentials between men and women. The wages are Rs 40 for men and Rs 30 for women and old people in one village. In the other, it is Rs 50 for men and Rs 30 for women. She points out that agricultural operations have become even more burdensome with the introduction of cash crops such as potatoes and soya beans, demanding more time to be spent on the fields. (Ibid. p. 362.)

12 Joshi. op. cit. p. 16.
13 Says Pampa Mukherji, “In this region, there is a tendency towards prolonged motherhood, ranging from 16 to 40 years, in the expectation of a male progeny.” (op. cit. p. 366.) Also “Fertility is controlled by men, and women have no say.” (op. cit. p. 366.)


15 Sylvia Walby in her book Theorising Patriarchy calls patriarchy “… a system of social structures and practices in which men dominate, oppress and exploit women.” (in Bhasin. op. cit.)

16 In a booklet Bainiyon Ko Raibaar: Aurat Ka Dukh (1993), there is a discussion on women’s lives which reveals a consciousness of the inequality surrounding the division of labour within the household.

Also see Author 1996. Bainiyon Ko Raibaar: Aurat Aur Hinsa. Tehri Mahila Samakhya publication.

17 Tiwari, D. 2000. “Uttaranchal Mein Stree Hinsa.” Uttara (Nainital) Oct.–Dec. 2000, pp.18–21. He discusses some cases of violence against women and reports that in the past year from Almora district alone 60 cases of murder of newly-wedded women and more than 200 cases of women’s oppression were registered.


18 The Uttaranchal police have collated the following statistics

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2000</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dowry Murders</td>
<td>22</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>Rape</td>
<td>2001</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1999</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

(From the Uttaranchal Police Web site)


The demand for the anti-alcohol movement is couched in terms of “building a healthy society” or “preventing the decline and degeneration of our youth.”

20 Some pamphlets created by village women in the course of their discussion on the issue of liquor show a high degree of awareness about the roots and interdependencies of the liquor


She attempts to outline women’s viewpoints on the most important issues that emerged in course of discussions on the central government’s first draft of the National Women’s Policy in 1995. Chaya Kunwar suggests that the Uttaranchal woman’s policy should include the following themes.

- Women’s rights over water, land, and forest
- Women and agriculture
- Women and economic development
- Women’s participation in policy-making
- Women’s access to information
- Women and education
- Women’s classification as main workers and producers
- Women and health
- Special plan for women in special and adverse circumstances, divorcees, widows and women-headed households
- Women and law
- Establishment of a women’s commission for evaluation, analysis, and implementation
- Elimination of violence against women
- Women and Panchayati Raj
- Women and media.

23 The Mahila Samakhya programme, a programme of the government for women’s education and empowerment, has been implemented in four blocks of Tehri Garhwal (since 1989), three blocks of Pauri (since 1995–96), two blocks of Nainital (since 1995–96), and one block of Uttarkashi (since 2000). Thus, it covers 230 villages in Tehri Garhwal, 180 in Pauri, 130 in Nainital, and 50 in Uttarkashi—a total of 790 villages.

24 See 2000. Bainyon Ko Raibaar: Teesra Sandesh Aur Jangal. Mahila Samakhya, Tehri. It contains poems, illustrations, and personality sketches. It also has articles on the importance of forests as well as a list of the regulations governing Van Panchayats.


Another survey found that the working day of the hill woman is around 17 hours long and that about half this time goes into collecting fuel, fodder, and fetching water. Bahuguna, A. 1983. “Women’s Participation in the Economy of Garhwal.” Himalaya: Man and Nature 7(6–7):7–9.

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A Framework

Fuelled by the human rights discourse and growing evidence about the importance and value of engendering development programmes, women’s access and right to development has entered the rhetoric of policy planning. Beginning with the United Nations Decade for Women, the work of leading social scientists, such as Boserup and Tinker, began to highlight the invisibility of women in social and economic development. This contributed to the emergence of the “women in development approach,” which argues for integrating women into development on the grounds of economic efficiency. However, the gender and development approach that emerged out of the writings of Oakley, Young, and Rubin emphasizes the need to adopt gender relations between men and women as the analytical category for decoding gender subordination. These shifts in approaches to women and development can be viewed as a movement from welfare, anti-poverty and efficiency to a growing emphasis on the empowerment approach. This approach draws from feminist writings and grassroots experiences of women in the developing world. What is this empowerment approach and how is it different from previous approaches?

The empowerment perspective focuses on grass-roots mobilization to increase women’s capacity for self-reliance. It calls for the redistribution of power so that women, and the poor women among them, can influence the direction in which development occurs (Sen and Bhaiyya, n.d.). Naila Kabeer (1999) points out that feminist concern with empowerment stems from the recognition that, in all societies, women have been denied choice to a far greater extent than men in any social group and consequently have had less say in strategic areas of their lives. However, at its core definition,
empowerment of women means and should result in (a) expanding of choices for women, (b) challenging existing power relations, and (c) gaining greater control for women over the sources of power (Batliwala, 1999). Power is derived from controlling resources as well as ideology. Resources can further be seen in terms of physical resources such as land and forests; human resources such as labour, people's skills, and the self; intellectual resources such as information and knowledge; and financial resources such as money and access to credit. Control over these resources is maintained and perpetuated through an ideology that justifies such control and ensures domination by caste, class, and gender. Therefore, empowerment must entail changing the allocation of resources and challenging the ideology that keeps this inequality in place.

The best-known articulation of the empowerment approach has been the development alternatives proposed by Women for a New Era (DAWN), a group of economists and sociologists from developing countries in the south that sought to contextualize the condition of women from the developing world and argued that women's experiences of oppression varied according to race, caste, class, colonial legacy, and current position in the economic order (Moser, 1995). This analysis is essential to developing relevant policy initiatives. Women in India, as in the rest of the developing world, are not a homogeneous category. They are divided by various social and economic structures and systems, and therefore, layered and contextual policies and programmes are the need of the day.

The empowerment approach is undeniably linked to and has been greatly emboldened by the human rights discourse, which sets forth indivisible and universal rights to be ensured by the state to all people, irrespective of class or gender. The human rights framework emphasizes that certain conditions for human existence, growth, and development are inherent rights, and the right to health is one such right. In India, as in other parts of the world, women's health has often been equated with their reproductive roles as mothers and care-givers, rather than viewing women as right-bearing individuals. The health policy of India, for instance, does not even recognize that women's access to health is mediated by cultural and social gender norms and focuses on maternal and child health as an end in itself. The often-quoted “leaking bucket syndrome” ensures services for women during pregnancy and lactation but, when viewed within the rubric of a life cycle of deprivation and discrimination, such services are inadequate; health intervention needs to begin with primary health care for girls.

**Women’s Health, Rights, and Empowerment: The Interface**

The Indian women's movement has continually emphasized that the links between women's status and gender norms in society determine access to health care services. In the context of women's fertility, the movement was one of the first to point out that development is perhaps the best contraceptive for women—a fact that resonated strongly in the International Conference on Population and Development (ICPD). The ICPD strongly established the centrality of women's right to health care (not just family planning) and challenged the prevalent discourse by suggesting that addressing
EMPOWERMENT OF WOMEN

persistent gender disparities in access to education, employment, and other productive resources is essential to counter the root of high fertility.1

It is important to recognize this shift in thinking – from marginalizing reproductive health as a separate area of intervention to viewing its inherent linkages with other social and political forces that inhibit women from accessing social rights of all kinds – in the formulation of any health policy for women. It is equally important to develop a thorough and grounded understanding of the barriers that limit women's access to health care in the region. This necessitates appropriate research and inquiry into cultural and social facts in the region that impede women's access to health, including reproductive health services. Districts should become the units of analysis. Programmatic interventions should be developed while taking into account district-specific issues, constraints, and factors. This would ensure the development of layered and socio-culturally appropriate interventions.

Very often, women themselves do not view mental and physical health as a “right.” Low self-esteem, preference for male offspring, and a strong patriarchal culture coupled with social and economic impoverishment means that concerns, including health, of women and girl children assume the least priority. Barbara Miller's research in the 1980s and subsequent research by others (see Agnihotri; 1995, Kishor, 1993; Jean Dreze et al., 1995) points to rampant gender discrimination in health care, nutrition, and feeding practices. The latest census data point to a shocking fall – of over 50 points in some states – in the sex ratio of children in the age group of 0–6 years.

It is also important to remember that the women’s rights discourse has yet to permeate the domestic domain, which is still viewed as outside state regulation. Addressing rights in the family is absolutely essential for effective assertion of rights and empowerment of women. In the context of reproductive rights, women’s role in decision making has to be addressed to ensure that women are truly equal partners in choices regarding fertility control and child-bearing. Women have to begin viewing access to health care as a right, and such a process has to include dissemination of information to women (about their bodies, health and contraception) as well as providing a perspective—a political understanding of their status in the family and society, decision making, and the need to challenge their subordination.

The strategy for building such skills and such a perspective should draw from the rich legacy of collective action and mobilization in many parts of the country including Uttaranchal, which has witnessed one of the most widespread and oldest women-led movements against alcohol and environmental degradation. Building self-help groups that function as a support structure for women or that leverage upon the strength of existing women’s collectives is a promising option for building local action. Initiating empowerment processes on the ground requires a cadre of committed and trained change agents to build collectives and facilitate information dissemination and critical thinking among group members. Collaboration with existing community-based organizations with a deep-rooted understanding of the cultural and social context of
the region would be invaluable to building a coordinated programme. Appropriate training for female field-level motivators on health-related information, mobilization skills, and, most important, a women-centered, rights-based perspective to women’s health is essential to make access to health meaningful to women.

Violence Against Women as a Barrier to Reproductive Health Services
A fundamental barrier that prevents a woman’s access to reproductive health services and increases her vulnerability to sexually transmitted diseases (STDs) and reproductive tract infections (RTIs) is domestic violence and, more specifically, sexual violence. This strong yet invisible link has to be addressed in policy and programme interventions. In a study on unmet need for family planning conducted in Uttar Pradesh, domestic violence was often quoted as one of the barriers to family planning among women with unmet need (Yinger, 1998). Similar studies in Africa have shown that women are unable to negotiate safe sex with their partners for fear of violence. This, in turn, places women at enormous risk of RTIs, STDs, and HIV/AIDS. Health care providers need to be made aware of how violence can influence women’s reproductive decision making and health-seeking behaviour and thus have long-term consequences.

Hospitals are an important entry point for women survivors of violence, specifically domestic violence. Therefore, health facilities are an important arena where a vastly “private” problem can be brought into the public sphere. However, the health sector's response to violence against women has been far from adequate. Based on reviews of existing medical records at health care facilities in and around Mumbai, Dagn et al. (1998) and Jaswal (2000) estimate that up to 80% of women accessing health care for irregular/unexplained injuries, burns, and attempted suicides may be doing so as a result of domestic violence. A national household-level study on domestic violence in 2000 (Indiasafe) found that of the women reporting violence, 50% reported being slapped, hit, kicked, or beaten during pregnancy. In a study of hospital records, Jejeebhoy et al. (1999) found that up to two-thirds of all women reporting to the casualty department of a large hospital in Mumbai may have been victims of domestic violence.

Yet, there is often no documentation in medical records of the violence experienced by patients. Further, health professionals rarely assess or recognize domestic violence as a health issue. Jejeebhoy (1999) and Jaswal (2000) note that health care professionals are hesitant to recognize domestic violence as a health issue. The need for women patients to be screened routinely for violence has been repeatedly underscored in both literature outside India and recent studies in India. In this direction, the need for protocols to facilitate such screening cannot be overstated. Inter-departmental and inter-agency referral networks that will be able to meet the immediate and long-term needs of women must be incorporated into health programmes and interventions. Policy initiatives for women’s health have to begin to pay attention to the health consequences of violence against women and make adequate resources, mechanisms, and programmes available.
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Sensitization and Capacity Building
The importance of sensitizing the state machinery, especially health care providers, to
gender, status of women, and the social and cultural factors that impinge on women’s
lives and create conditions of gender inequality cannot be overemphasized.
Institutionalized mechanisms to mainstream gender should include regular and
sustained training of government functionaries. The assertion of rights by those
demanding them has to be met with a willingness to respond by those who need to
respect these rights. At the same time, the adoption of a rights framework also
mandates that mechanisms hold systems and state agencies accountable for the
delivery of services. The right to information campaign in Rajasthan has validated a
viable and people-centered model of state accountability that offers promising lessons
for replication. Policy initiatives should also focus on mechanisms to develop clear
process and outcome indicators to assess change in women’s health status within the
community. Such indicators should be based on qualitative as well as quantitative
measures and should take into account the inter-related factors, such as violence, that
impact health.

Involvement of Men and Youth
Another very important component in initiating
women-centred programmes and policies on health
is the involvement of men as partners of change.
The concept of male involvement was first rooted
in the reproductive health movement. To carry this
forward, it is essential to build men’s perspective
on women’s empowerment. Srilata Batliwala (1993)
points out that while empowerment of women will
mean loss of men’s traditional power, in many ways
and in many areas, it will also liberate men from
cultural stereotypes and empower them in a different way. It is a challenge, however, to
find methodologies for working with men to make them allies in the process of change.
Given the high rate of male migration from Uttaranchal to the plains, it is essential that
policy initiatives cover adolescent boys and girls as a distinct but important
constituency for health education and awareness. This is particularly significant
because of the growing evidence that STDs such as HIV/AIDS have now begun to move
from high-risk groups to the general population.

The Mazdoor Kisan Shakti Sangathan (MKSS) has
developed a method of “social audit” to analyze official
information. Local people were invited to give
testimonies at public hearings to highlight the
discrepancy between official records and their own
experiences as labourers on public works projects, anti-
poverty schemes, and so forth (DfID, n.d.).

A similar experiment was attempted in the state of
Andhra Pradesh through a state-initiated system of
public hearings on government spending.
Endnote

1 See http://www.genderhealth.org/vision/ICPD.htm for details.

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Session 5
Role of Other Agencies

Chairperson: P M Kulkarni

Relationship of Integrated Child Development Services with Maternal and Child Health
Manisha Panwar

Role of Panchayati Raj Institutions and Community in Health Issues and Programmes
B K Joshi

The Role of Non-Government Organizations in Reproductive and Child Health Services: Policy and Partnership Implications
Marta Levitt-Dayal

Discussant
Surekha Kishore
The Department of Women Empowerment and Child Development deals with various schemes for the development of women and children in our state. The Integrated Child Development Services (ICDS) Programme is one of the world’s most unique, community-based outreach programmes for early childhood care and development. ICDS was started in 1975 in India with the aim of integrating services for the development of children up to six years with services for pregnant and lactating women. ICDS was introduced in Uttarakhand region in 1978/79. To date, there are 54 child development projects operating in the state with as many as 4243 anganwadi centres. The anganwadi centre is the symbol of the government system, providing services closest to the disadvantaged communities at village/hamlet level. It is the focal point for converging various government programmes for young children, girls, and women from disadvantaged communities. ICDS contributes not only to the achievement of woman and child goals related to health, nutrition, and early child development, but also to other primary health care goals and the goals of universal elementary education.

Broadly speaking, the objectives of ICDS are to

- improve the nutritional and health status of children under six years of age;
- lay the foundation for the proper psychological, physical, and social development of the child;
- reduce the incidence of mortality, malnutrition, and school dropout;
- provide supplementary nutrition to undernourished and malnourished children, pregnant women, and lactating mothers;
- enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education; and
- reduce the dropout rate of children between three and six years of age by providing early childhood education.
To achieve the above objectives, the anganwadi centres provide an integrated package of the following:

- Supplementary nutrition
- Pre-school education
- Health check-ups
- Referral services
- Nutrition and health education
- Immunization.

**Reach of the Programme**

At present, the actual number of beneficiaries in the 54 ICDS projects is 240,681. The breakout of these beneficiaries is as follows:

- Children up to 3 years: 108,412
- Children 3 to 6 years: 85,984
- Pregnant and lactating women: 46,285

As per the new norm, the number of target beneficiaries per anganwadi centre is as follows:

- Children up to 3 years: 40
- Children aged 3-6 years: 40
- Pregnant women: 10
The health and nutrition indicators of Uttaranchal with respect to women and children leave much to be desired; the above table is self-explanatory. According to the Food Insecurity Atlas of Rural India (World Food Programme and M S Swaminathan Research Foundation, 2001), the following areas of concern exist in our state.

1. Nearly 38%–45% of the rural population suffers from Chronic Energy Deficiency (CED).

2. The Health Infrastructure Index (HII) rates the state as “extremely low.”

The HII is one component of food absorption and nutrition status, comprising (1) life expectancy at age one, (2) percentage of severely stunted children under the age of five, (3) percentage of population with CED, (4) percentage of severely wasted children under the age of five, (5) infant mortality rate (IMR), and (6) HII.

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**Table 1. Description of Target Beneficiaries as per the above Norms**

<table>
<thead>
<tr>
<th>Districts</th>
<th>Blocks</th>
<th>City areas</th>
<th>Anganwadi centres</th>
<th>Pregnant Women</th>
<th>Lactating Mothers</th>
<th>Children 0-3 yrs</th>
<th>Children 3-6 yrs</th>
<th>Children Adolescent Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing (54 projects)</td>
<td>12</td>
<td>53</td>
<td>1</td>
<td>4,243</td>
<td>42,430</td>
<td>42,430</td>
<td>169,720</td>
<td>169,720</td>
<td>12,729</td>
</tr>
<tr>
<td>New (45 projects)</td>
<td>1</td>
<td>42</td>
<td>3</td>
<td>2,415</td>
<td>24,150</td>
<td>24,150</td>
<td>96,600</td>
<td>96,600</td>
<td>7,245</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>95</td>
<td>4</td>
<td>6,658</td>
<td>66,580</td>
<td>66,580</td>
<td>266,320</td>
<td>266,320</td>
<td>19,974</td>
</tr>
</tbody>
</table>

- Lactating mothers 10
- Adolescent girls 2-3

**Table 2. The Challenges before the State Regarding Maternal and Child Health**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Status in Uttarakhand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant mortality rate</td>
<td>37.8</td>
</tr>
<tr>
<td>Under-five mortality rate</td>
<td>56.4</td>
</tr>
<tr>
<td>Percentage of births within 24 months of previous birth</td>
<td>24.8</td>
</tr>
<tr>
<td>Percentage of births whose mother received * antenatal check-up from a health professional</td>
<td>43.5</td>
</tr>
<tr>
<td>* two or more tetanus toxoid injections</td>
<td>54.2</td>
</tr>
<tr>
<td>* iron and folic acid tablets or syrups</td>
<td>38.6</td>
</tr>
<tr>
<td>* assistance from a doctor</td>
<td>24.9</td>
</tr>
<tr>
<td>* assistance from a traditional birth attendant</td>
<td>45.8</td>
</tr>
<tr>
<td>Percentage of children who receive all vaccinations</td>
<td>40.9</td>
</tr>
<tr>
<td>Percentage of women with anaemia</td>
<td>45.2</td>
</tr>
<tr>
<td>Percentage of children aged 6-35 months with anaemia</td>
<td>76.6</td>
</tr>
<tr>
<td>Percentage of children chronically undernourished (stunted)</td>
<td>46.5</td>
</tr>
<tr>
<td>Percentage of children acutely undernourished (wasted)</td>
<td>7.3</td>
</tr>
<tr>
<td>Percentage of children underweight</td>
<td>41.4</td>
</tr>
</tbody>
</table>

Source: National Family Health Survey-2 (1998-99)
The above scenario brings us to the issue of the relationship between ICDS and maternal and child health. Following are the focus areas for maternal and child health issues in any policy formulation.

1. Delivery of all births by trained assistants
2. Reduction of maternal mortality
3. Immunization of children against tuberculosis, polio, diphtheria, whooping cough, tetanus, and measles
4. Reduction of the infant mortality rate, mortality among children ages 1–4 years, and the number of babies with low birth weight.

ICDS is now recognized as integral to the basic institutional mechanism for achieving lower infant mortality levels. Expansion of coverage is essential for reductions in infant and child mortality, which are symptomatic of the poor nutritional and health status of the majority of the population.

Infant deaths result from many factors, such as poor nutrition of pregnant mothers (which is associated with low-birth-weight babies that have a high risk of dying), inadequate care during pregnancy, and unhygienic conditions during pregnancy.

The ICDS programme has the potential for greatly expending the distribution of iron and folic acid (IFA) supplements to pregnant women who suffer from nutritional anaemia. The chance of dying due to complications associated with childbirth is generally higher among women who receive inadequate care during pregnancy and who suffer from poor nourishment, anaemia, and/or infections. This would, of course, require a rapid expansion of antenatal and obstetric services for pregnant women, particularly in rural areas where only a minority of births are supervised by trained health personnel.

The traditional pattern of interventions in maternal and child health by ICDS working in isolation is listed below. These are in the context of the village-level community.

An evaluation of the ICDS shows that the lack of an integrated and inter-sectoral approach has grossly impaired the benefits of ICDS. Shortcomings of the scheme, as we look back on the experiences of the last 20 years, are as follows.

1. There is a lack of attention to the 0–3 years beneficiaries, particularly to their proper feeding at home and the timely treatment of infections. Growth monitoring and effective counselling of mothers is missing and has failed to become institutionalized in the scheme.
2. Pregnant and lactating mothers are associated with anganwadi centres but this has not ensured their total coverage under the antenatal programme of the Health Department. Health and nutrition education for this section of beneficiaries is also missing.
3. Feeding at anganwadi centres has become a “doling out practice” rather than a means of demonstrating proper feeding practices.
4. The inter-generational transfer of malnutrition needs to be seriously analyzed. Proper coverage of pregnant and lactating mothers will not only lead to healthier babies but also curb malnourishment.
### Table 3. The Role of ICDS in Maternal and Child Health Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Role of ICDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal care</td>
<td>• Enrol pregnant women at anganwadi centre if they belong to the beneficiary group</td>
</tr>
<tr>
<td></td>
<td>• Nutrition education on Take Home Ration (THR) days</td>
</tr>
<tr>
<td></td>
<td>• Home visits</td>
</tr>
<tr>
<td>Natal and postnatal care</td>
<td>• Counsel mothers for delivery by trained persons</td>
</tr>
<tr>
<td></td>
<td>• Educate women about the importance of the five “cleans” during delivery</td>
</tr>
<tr>
<td>Promoting exclusive breastfeeding up to 6 months</td>
<td>• Counsel pregnant women on feeding of “colostrum,” early initiation breastfeeding and exclusive breastfeeding (no water) for the first six months</td>
</tr>
<tr>
<td></td>
<td>• Lactating mothers to be counselled on exclusive breastfeeding (no water) for the first 6 months</td>
</tr>
<tr>
<td>Complementary feeding from 6 months onwards</td>
<td>• Promote regular weighing of children on THR days</td>
</tr>
<tr>
<td></td>
<td>• Focus on visit to households of infants to check on immunization and counsel on complementary feeding</td>
</tr>
<tr>
<td>Immunization</td>
<td>• Ensure complete immunization of infants</td>
</tr>
<tr>
<td>Vitamin A administration</td>
<td>• Ensure complete vitamin A administration among children</td>
</tr>
<tr>
<td>Treatment of diarrhoea, acute respiratory infection</td>
<td>• Bring cases to the knowledge of the auxiliary nurse midwife (ANM) after counselling on initial prevention and management of diarrhoea</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>• Perform regular growth monitoring</td>
</tr>
<tr>
<td>Safe water and sanitation</td>
<td>• Ensure timely supplementary nutrition to malnourished children</td>
</tr>
<tr>
<td></td>
<td>• Promote correct feeding practices</td>
</tr>
<tr>
<td></td>
<td>• Promote and create awareness about safe water and the use of sanitary measures</td>
</tr>
</tbody>
</table>

5. The great advantage of the outreach of ICDS has been lost by the under-commitment to expansion of the coverage of immunization, and so forth.

6. ICDS has not brought about the behavioural changes necessary among families to prevent malnutrition in young children and babies with low birth weight.

7. Low-paid, under-trained anganwadi workers (AWWs) and helpers have neglected the key service of nutrition and health education at centres.

8. By and large, ICDS and the Department of Medical Health and Family Welfare have been working in isolation. No cohesive efforts to monitor the malnourished have been made.

The purpose of the present workshop is to identify key policy issues and implementation mechanisms aimed at attaining population stabilization and improving the health status for people of Uttaranchal. Malnutrition needs to be recognized as a “national” or
“state” problem, not merely a sectoral one. It can only be effectively targeted by a convergent approach focusing on inter-generational transfer of malnutrition. Ideally speaking, the process would start with adolescent girls and carry right through the reproductive stage. The ideal interventions envisaged for the Departments of Medical Health and Family Welfare and ICDS would be as follows.

The above model of convergence of the roles of ICDS and the Department of Health is what we have to strive for in our state. It will require a complete reorientation of the Department of ICDS as well as the Department of Health. But we definitely have to make policy provisions to institutionalize the above convergence so that the great advantage of outreach that lies with ICDS is not lost in our state.

Table 3. The Role of ICDS in Maternal and Child Health Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Health</th>
<th>Role of ICDS</th>
</tr>
</thead>
</table>
| Registration and counselling of newly-weds | • Register all newly-weds  
• Counsel to delay first pregnancy >20 years  
• Provide contraceptives | • Provide information for newly-weds  
• Counsel on importance of adequate diet, birth spacing, and family size  
• Counsel on diet |
| Antenatal care service (ANC)          | • Provide ANC, tetanus toxoid (TT), and iron and folic acid (IFA) to registered pregnant women  
• Seek support of anganwadi workers (AWW)/ key volunteers for follow-up of registered pregnant women for ANC services  
• Counsel on food/rest message at ANC/ TT contacts  
• Promote adequate weight gain (8–10 kg)  
• Promote consumption of IFA tablets - minimum 100  
• Promote consumption of an extra meal and daily rest of minimum two hours | • Facilitate and ensure ANC services are provided  
• At the first contact for supplementary food, ensure Registration UIP Card received; refer to ANM to organize education sessions  
• Meeting with mothers should coincide with fixed THR day  
• AWW to check compliance with IFA: one tablet per day for 100 days  
• Counsel on extra food during pregnancy and minimum two hours rest per day and usage of only iodized salt and green leafy vegetables (GLV)  
• Focus home visits on registered pregnant women who are not reporting for ANC/TT/IFA (dropouts)  
• Refer cases of severe anaemia |
| Natal and postnatal care              | • Observe five “cleans” during delivery  
• Identify complication of pregnancy  
• Refer to first referral unit (FRU)  
• Ensure newborn care to all  
• Promote one extra meal daily  
• Promote rest during day | • Counsel mothers for delivery by trained persons  
• Educate mother about importance of five cleans during delivery  
• Inform mother about referral to FRU  
• Seek help of women’s group and PRI to arrange transport during pregnancy  
• Facilitate ANM in postnatal check-up |
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Health</th>
<th>Role of ICDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth registration</td>
<td>• Provide support of PRI</td>
<td>• Provide support of PRI</td>
</tr>
<tr>
<td>Weighing of newborn</td>
<td>• Undertake weighing within two days of birth</td>
<td>• AWW will inform ANM for weighing</td>
</tr>
<tr>
<td>Promotion exclusive breastfeeding up to six months</td>
<td>• ANM to counsel on colostrum and early initiation and delivery contact points</td>
<td>• AWW or anganwadi helper (AWH) to counsel pregnant mothers coming for supplementary food on feeding of colostrum, early initiation of breastfeeding and exclusive breastfeeding (no water) for the first six months</td>
</tr>
<tr>
<td></td>
<td>• ANM to counsel lactating mothers on exclusive breastfeeding, message at DPT-1, DPT-2, DPT-3 contact points</td>
<td>• ANM/ AWW to counsel lactating mothers on THR day on exclusive breastfeeding (no water) for the first six months and need to continue breastfeeding along with complementary food</td>
</tr>
<tr>
<td></td>
<td>• Promote correct hygiene practices</td>
<td>• Promote correct hygiene practices</td>
</tr>
<tr>
<td>Complementary feeding from six months</td>
<td>• Counsel lactating mothers at DPT-1 contact point for continued breastfeeding and introduction of complementary feeds at six months</td>
<td>• Ensure complete immunization of infant</td>
</tr>
<tr>
<td></td>
<td>• Check at measles immunization contact point (nine months) whether minimum four complementary “feeds” per day per infant have been introduced</td>
<td>• Promote regular weighing of child at THR contact point</td>
</tr>
<tr>
<td></td>
<td>• ANM with AWW to organize six-month session for improving vitamin A coverage</td>
<td>• At AWC contact point on THR, counsel lactating mothers on introduction of appropriate complementary feeding and following up with full immunization.</td>
</tr>
<tr>
<td></td>
<td>• Promote good personal/food/water hygiene practices</td>
<td>• Focus home visits to households of infants of four months old; check on immunization as well as counsel on introduction of complementary feeding (at least four complementary feeds per day)</td>
</tr>
<tr>
<td></td>
<td>• Counsel on prevention of diarrhoea and use of ORS</td>
<td>• AWW to focus home visit on children &lt;2 years to ensure full immunization, dosage of vitamin A administered and check that at least four complementary feeds per day are being given</td>
</tr>
<tr>
<td></td>
<td>• Promote use of safe water</td>
<td>• AWW to help ANM in organizing campaign to ensure (1) full coverage with vitamin-A supplement, (2) immunization (BCG/ DPT/ measles), (3) management of ARI/ diarrhoea</td>
</tr>
<tr>
<td></td>
<td>• Promote appropriate hygiene practices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reinforce message related to proper discarding of faeces</td>
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<tr>
<td>Intervention</td>
<td>Health</td>
<td>Role of ICDS</td>
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<tr>
<td>Immunization</td>
<td></td>
<td>• AWW to promote supplementary food in AWC and food at home level made suitable and acceptable with reference to consistency / energy density / frequency of feeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Promote good personal / food/ water hygiene practices</td>
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<tr>
<td></td>
<td></td>
<td>• Ensure use of only iodized salt, if salt used as condiment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Counsel on prevention of diarrhoea and use of ORS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Counsel on appropriate use of water</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>• ANM will ensure her visit on schedule in her area at fixed date and time</td>
<td>• AWW will assist in organizing the mother–child protection session</td>
</tr>
<tr>
<td></td>
<td>• ANM will keep AWW / mobilizer informed regarding her visit</td>
<td>• Support ANM in vitamin A administration</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>• Ensure first dose of vitamin A along with measles vaccine</td>
<td>• Reinforce the role of AWW in prevention and management of diarrhoea</td>
</tr>
<tr>
<td></td>
<td>• Next four doses for children aged 1-3 years using fixed nutrition months strategy (twice a year strategy along with fixed day immunization session)</td>
<td>• Promote ORT</td>
</tr>
<tr>
<td>ARI</td>
<td>• ANM will ensure the supply of ORS packets at village level</td>
<td>• Support ANM in ARI management</td>
</tr>
<tr>
<td></td>
<td>• Promote strategies for diarrhoea prevention</td>
<td>• Help women in getting adequate treatment of pneumonia</td>
</tr>
<tr>
<td>Protein Energy Malnutrition (PEM) [severe]</td>
<td>• Use correct case management and timely referral and feedback at appropriate level</td>
<td>• AWWs have list and photograph of such cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ensure supply of double quantity of supplementary food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Timely referral</td>
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<tr>
<td>PEM (moderate)</td>
<td>• Promote correct infant and child feeding practices</td>
<td>• Ensure growth monitoring</td>
</tr>
<tr>
<td>Safe water and sanitation</td>
<td>• Ensure regular chlorination of wells</td>
<td>• Ensure supply of supplementary food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Promote correct infant and child feeding practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Promote and create awareness about safe water and use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Promote construction and use of sanitary latrines</td>
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<tr>
<td>Intervention</td>
<td>Health</td>
<td>Role of ICDS</td>
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</tr>
<tr>
<td>Supplementary food provision and usage</td>
<td>• Check at ANC/TT contact on usage of supplementary food provided by AWC</td>
<td>• AWW/ AWH to trace dropouts on THR day</td>
</tr>
<tr>
<td></td>
<td>• On the THR day, ensure ANC/TT completed</td>
<td>• Counsel and follow-up dropout through home visits and encourage them to avail of supplementary food at ICDS centres</td>
</tr>
<tr>
<td></td>
<td>• ANM to ensure full immunization</td>
<td>• Encourage increased food intake / frequent resting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Promote increase in weight during pregnancy and higher food intake than earlier</td>
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Introduction

The basic structure of Panchayati Raj institutions (PRIs) in the state of Uttaranchal has been inherited from its parent state of Uttar Pradesh (UP), and is based on the requirements of the 73rd Constitutional Amendment of 1992. This amendment gave a Constitutional status to PRIs by adding a new part to the Constitution—Part IX: The Panchayats. Part IX provides stability to PRIs through the following provisions:

- All states are required to have a three-tier structure of PRIs—(1) a district panchayat at the apex; (2) a village panchayat at the bottom; and (3) an intermediate tier to be determined according to the situation prevailing in each state. Smaller states (those with a population of less than 20 lakh) can, however, dispense with the intermediate tier (Article 243-B(1) [2]).
- Powers and functions given to each tier are to be transferred by the Legislatures of the States (Article 243-G). An illustrative list of 29 such powers and functions is given in the 11th schedule, which this amendment added.
- It is mandatory for the states to hold elections to PRIs every five years. In the case of a PRI dissolving before the end of its term, fresh elections are to be held within six months of such dissolution and the newly-elected body is to hold office for the remainder of the dissolved panchayat’s term (except when the remainder is less than six months) (Article 243-E).
- Every state is required to set up an election commission to conduct and supervise elections to PRIs (Article 243-K).
- Every state is required to constitute a finance commission every five years to “review the financial position of the panchayats and to make recommendations to the Governor as to
  - the principles which should govern
the distribution between the state and the panchayats of the net proceeds of the taxes, duties, tolls and fees leviable by the state, which may be divided between them... and the allocation between the panchayats at all levels of their respective shares of such proceeds;

- the determination of the taxes, duties, tolls and fees, which may be assigned to, or appropriated by, the panchayats;

- the measures needed to improve the financial position of the panchayats; and

- any other matters referred to the Finance Commission by the Governor in the interests of sound finance of the panchayats” (Article 243-I [1]).

The intention of the 73rd Constitutional Amendment is to strengthen the PRIs as institutions of self-government. Hence they are not to be seen merely as subordinate agencies of the state government; instead they are an essential part of the governance structure with constitutional sanction and protection. That is why the amendment emphasizes specific functions, periodic elections conducted by an independent statutory body, and financial independence based on the principle of entitlement to a share in the state revenues, as determined by an independent finance commission. The provisions of the 73rd Constitutional Amendment are in keeping with the intention of the framers of the constitution, who established in Article 40, Part IV (Directive Principles of State Policy).

The State shall take steps to organize village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

The 73rd Constitutional Amendment is an attempt to provide flesh and blood for this directive.

Brief History of Panchayats in Uttar Pradesh

UP has a fairly long history of panchayats existing as legally sanctioned institutions, going back to the 1920s. This is especially true of panchayats at the village level—the lowest level of the existing three-tier structure. The British realized the importance of the village panchayat, which is rooted in a tradition going back many centuries, and decided to give it legislative status. This is evident from the enactment of the United Provinces Village Panchayat Act by the Government of UP in 1920 to “assist in the administration of civil and criminal justice in the rural areas and also to affect improvement in the sanitation and other common concerns of the villagers.” During the freedom struggle, Mahatma Gandhi emphasized the role of panchayats as the basic institutional form for rural India, which fit in with his concept of self-sufficient village societies.

Uttar Pradesh, then known as the United Province, legally established village panchayats immediately after independence, even before the adoption of the constitution. The UP Panchayat Raj Act of 1947 was passed by the UP Legislative Assembly under the
provisions of the Government of India Act of 1935 with a view to “establish and develop local self-government in the rural areas of Uttar Pradesh and to make better provision for village administration and development.” The Statement of Object and Reasons in the 1947 act, which replaced the UP Village Panchayat Act of 1920, noted that progress under the 1920 act had been disappointing because it “suffered from certain inherent defects, chief of them being that the panchayats constituted under it were not truly representative of popular opinion and their field of activity was very much restricted.” The 1947 Act sought to establish panchayats in all villages on a wider popular basis and give them power to “levy certain taxes, manage their funds, make by-laws, prepare their budgets and maintain and establish schools and dispensaries” in order to “revitalize village corporate life and instil in the people the spirit of self-reliance and common endeavour to ameliorate their condition without depending too much on government agencies.”

In its actual implementation, the UP Panchayat Raj Act of 1947 fell far short of the intentions of its framers. On the one hand, the government of newly-independent India came to assume increasing responsibility in social and economic spheres, thereby restricting the space for promoting “village corporate life” and instilling in the people “the spirit of self-reliance and common endeavour to ameliorate their condition without depending too much on Government agencies.” On the other hand, the village panchayats were not provided with unstinting government support. They were frequently superseded with impunity, and elections were not held for years together. This situation continued until the passage of the 73rd Constitutional Amendment by the Indian Parliament in 1992. The UP Panchayat Raj Act of 1947 was amended in 1994 to conform with the provisions of the 73rd Constitutional Amendment, and village-level panchayats came to be known as gram panchayats. There are, at present, 7055 gram panchayats in Uttaranchal.

UP has had an institutional presence at the district level for a considerable period of time, as well. The British administration established district boards in the 1920s and gave them responsibilities, including construction and maintenance of rural roads, primary education, and basic health facilities like dispensaries. In Uttaranchal during this early period, district boards were established in the older districts of Almora, Dehradun, Nainital, and Pauri Garhwal. As new districts came into existence in the post-Independence period, district boards were established in them as well. In the early years, district boards were nominated, not representative, bodies. In 1961, as a result of the Balwant Rai Mehta Committee’s recommendations, a three-tier structure of PRIs was created with the passage of the UP Kshetra Samiti and Zila Parishad Act. District boards were renamed zila parishads and made into representative bodies, as their members came to be elected by the rural population in the district.

The UP Kshetra Samiti and Zila Parishad Act of 1961 also created a new representative institution, known as the kshetra samiti, at the level of development blocks. Development blocks came into existence at various times between 1952 (when the first blocks were established in the country under the National Extension Scheme) and 1996 (when development blocks were last created in the state).
In 1994, the UP Kshetra Samiti and Zila Parishad Act was amended to conform to the provisions of the 73rd Constitutional Amendment and renamed to become the UP Kshetra Panchayat and Zila Panchayat Act of 1961. As a result of this amendment, kshetra samitis became known as kshetra panchayats, and the zila parishads became zila panchayats. There are, at present, 13 zila panchayats and 95 kshetra panchayats in Uttaranchal.

Membership of Panchayats
There is a basic difference in the membership of gram panchayats on the one hand, and of kshetra and zila panchayats on the other. Gram panchayats consist of only elected members, while the kshetra and zila panchayats consist of both elected and non-elected (ex officio) members. Gram panchayat membership consists of a pradhan elected directly by the registered voters in the panchayat and between 9 and 15 members elected from territorial constituencies depending on the population of the panchayat. The size of the population served by a gram panchayat in Uttaranchal varies considerably—from less than 100 (in a few cases as low as 43, 47, and 52) to over 10,000, as per the 1991 census. The reason for such a high degree of variation is that laws relating to panchayats in Uttar Pradesh made special provisions for the hill districts of the state, which now form part of Uttaranchal. Thus, while in the rest of the state's gram panchayats (including those in the Hardwar district of Uttaranchal) are constituted for a village or group of villages whose population is 1000, no minimum size of population was prescribed for gram panchayats in the hill districts. This is presumably due to the nature of the terrain and thus the existence of small rural habitations scattered over a wide area.

Membership of kshetra panchayats consists of both elected and non-elected (ex officio) members. The number of elected members is either 20 or 25, depending on the population of the kshetra panchayat. Kshetra panchayats whose populations are less than 1 lakh have 20 elected members, while those with populations over one lakh have 25 members. The non-elected members include all gram pradhans in the block, and members of Parliament (MPs) and members of Legislative Assemblies (MLAs) whose constituencies fall in the block. Therefore, the kshetra panchayat is a fairly large body. The non-elected members, especially the gram pradhans, clearly outnumber the elected members.

The presence of both elected members and non-elected gram pradhans in the kshetra panchayat has resulted in considerable tension. On the one hand, the elected members feel they should have superior status and primacy in the kshetra panchayat as compared to the pradhans because they have been elected for that specific purpose and they represent a constituency that covers more than one gram panchayat. The gram pradhans, on the other hand, consider themselves to be the acknowledged representatives of their panchayats and believe that elected members of the kshetra panchayats, whose constituencies embrace more than one gram panchayat, cannot adequately represent their gram panchayats.
The zila panchayats, like the kshetra panchayats, consist of both elected and non-elected (ex officio) members. The number of elected members, who are elected from territorial constituencies consisting of, as far as is practicable, an equal number of voters, varies from 15 to 20 depending on the rural population of the districts. Districts with a rural population of not more than five lakh have 15 members, those with a rural population of between five and seven lakh have 18 members, and those with a rural population of more than seven lakh have 20 members. The non-elected members include all kshetra pramukhs in the district, members of the Lok Sabha and the State Legislative Assembly whose constituencies fall wholly or partly within the district, and members of the Rajya Sabha who are registered as voters within the area of the zila panchayat.

An important difference in the constitution of the gram panchayats and the other two tiers is that only the gram pradhan (who presides over the gram sabha and the gram panchayat) is directly elected by voters of the gram panchayat. The heads of the kshetra panchayat (pramukh) and zila panchayat (adhyaksha) are elected indirectly—by the elected members of the respective bodies. This gives a certain importance and primacy to the gram pradhan over the other presiding office-holders.

Gram Sabha
The gram panchayat is unique among the three tiers of PRIs because it alone has a general body, in the form of the gram sabha, to which it is accountable. Under the act of 1947, gram sabhas, consisting of all persons registered as voters within the area of a gram panchayat, have been established in every village or group of villages in the state. The gram sabha is required to meet twice every year, soon after the harvesting of the kharif and rabi crops.

The functions assigned to the gram sabha by the UP Panchayat Raj Act of 1947 are as follows.

- Mobilizing voluntary labour and contributions for the community welfare programmes
- Identifying beneficiaries for the implementation of development schemes pertaining to the villages
- Rendering assistance in the implementation of development schemes pertaining to the village (Section 11[5]).

Powers and Functions of PRIs
PRIs in Uttarakhand have been assigned a wide array of powers, functions, and responsibilities by the relevant legislation. Described below, in brief, are their main powers and functions, as per the provisions of the relevant legislation.

Zila Panchayats and Kshetra Panchayats
The zila panchayats have been given power to classify fairs and festivals as falling within the jurisdiction of either gram, kshetra, or zila panchayats; and roads as village roads, inter-village roads, and district roads. Based on this classification, the fairs, festivals, and roads are managed by the respective panchayats. The zila panchayat...
also has the power to supervise the activities of the gram and kshetra panchayats within the district and is the main channel of communication between the state government and the gram and kshetra panchayats. Further, Section 32 of the UP Kshetra Panchayat and Zila Panchayat Act provides a list of 31 functions assigned to the zila panchayats (Schedule II) and 32 functions assigned to kshetra panchayats (Schedule I).

These functions can be grouped into four broad categories—(1) promotion and development; (2) providing assistance to the government; (3) supervision, review, and monitoring; and (4) implementation. Most of the functions assigned to the zila and kshetra panchayats fall into the first three categories, and only a few fall into the last category of implementation.

As an illustration, we can examine the responsibilities given to these two bodies in the areas of health, family planning (FP), maternal and child health (MCH), and development of women and children. These are as follows.

**Zila Panchayats**
- Assisting and suitably financing kshetra panchayats for the prevention and control of epidemics
- Establishing, maintaining, and managing primary health centres (PHCs) and dispensaries
- Providing drinking water facilities
- Implementing, supervising, and monitoring FP programmes
- Implementing MCH programmes
- Promoting school health and nutrition programmes.

**Kshetra Panchayats**
- Establishing and maintaining PHCs and dispensaries
- Controlling epidemics
- Implementing rural sanitation and health programmes
- Promoting FP and health programmes
- Promoting organizations' participation in MCH, school health and nutrition programmes
- Promoting woman and child development programmes.

**Gram Panchayats**
Section 15 of the UP Panchayat Raj Act of 1947 assigns 30 functions to the gram panchayats. These cover a wide range of activities, including agriculture, industry, land reforms, soil conservation, water management, watershed management, roads and bridges, rural housing, rural electrification, education, culture, sports, health, sanitation, child health and nutrition, drinking water, social welfare, welfare of weaker sections (especially Scheduled Castes and Scheduled Tribes [SC/ST], public distribution system [PDS]), and so forth. As in the case of the zila and kshetra panchayats, the role assigned to gram panchayats is largely that of promoting and assisting in the
implementation of programmes and government efforts in these areas. It is only in a few areas that they may initiate activities.

In all of the aforementioned areas, the powers of the gram panchayats to actually initiate activities are subject to state government departments transferring the necessary powers. As of yet, only a few of these powers have been transferred to the gram panchayats. The areas in which they have been exercising the transferred powers include distribution of scholarships to the SC/ST, minority, handicapped, and backward class, and girl students; and monitoring and supervision of fair price shops under the PDS. In 1999, the Government of UP transferred some functions such as primary education to the gram panchayats. Primary school teachers were also placed under the administrative control of the gram panchayats. Faced with stiff opposition from the teachers unions, the government soon withdrew the orders regarding the transfer of teachers to the panchayats.

A reading of the provisions of the laws, without reference to the actual situation, gives the wholly erroneous impression that panchayats are truly powerful institutions. In fact, however, they are toothless bodies that do not exercise any real power because the government has chosen not to transfer any functions to them. They remain firmly under the control of the district administration and the state government, with little independence; it would be a travesty of the truth to refer to them as the institutions of self-government intended by the Constitution. In actual practice, the PRIs, especially the gram panchayats, are functioning as agents of the central and state governments for implementing poverty alleviation programmes. Their activities are confined to undertaking construction projects under the auspices of various centrally-sponsored rural development and poverty alleviation programmes (e.g., Employment Assurance Scheme, Swarna Jayanti Gram Swaraj Yojana, etc.).

A New Role for Panchayats
If instead of giving a wide array of functions to the panchayats—which are not actually performed either because they lack the funds, necessary personnel, or other support or because no one seriously expects them to do so (implying a lack of accountability)—it would be more appropriate to make panchayats responsible for selected functions and to then empower them sufficiently with funds, personnel, and functional freedom. Thereafter, they can be legitimately expected to deliver results and be held accountable to their electors—the common citizens living in the rural areas.

Some of the basic functions that every local body, whether rural (panchayat) or urban (municipality), must perform include sanitation, maintenance of roads, drains and other public assets, and provision of streetlighting. Even a casual observer can see that these functions are not being performed in our towns and villages. While municipalities do make some effort at sanitation, this function is totally neglected in the rural settlements, as is indeed the case with the other functions mentioned above. The health impacts and costs (both public and private) of such monumental neglect of basic functions such as sanitation would, likewise, be huge. Panchayats must be given a more
defined and active role, accompanied by the necessary transfer of powers, in the field of health, education and welfare programmes within their respective jurisdictions.

We must realize that in a state like Uttaranchal, which has a high level of geographical, economic, social, and cultural diversity, proper social and human development programme planning and implementation can only be accomplished on a decentralized basis. It is also true that with proper decentralization, the results and impact of these programmes will be much better than what we have at present. The institutional basis for decentralization exists in the form of the three-tier PRIs. What is needed is political (and bureaucratic) will and trust in the capacity of grass-roots institutions to solve their own problems. Experience from other states (Kerala, West Bengal, and Madhya Pradesh, to name a few) shows that wherever panchayats have been sufficiently empowered and allowed freedom to operate and chart their own course without undue political and bureaucratic control and interference, they have shown much better results than the centralized system of governance that has been the norm in much of the country.

Community Participation
Panchayats are the most appropriate instrument for fostering community involvement and participation. Today, we have come to realize that without active and effective community participation, the chances of grass-roots development initiatives succeeding are rather poor. It needs to be emphasized that it is such development initiatives, not macro policies, that have the maximum visible impact on the lives of ordinary people. Effective community participation also gives ordinary citizens a voice, which ultimately increases their self-confidence and self-worth. In the long run, these factors give meaning to the term “stakeholder”—a relatively new addition to development vocabulary that is gaining increasing currency in contemporary development discourse. Panchayats, being representative institutions closest to the daily lives and immediate concerns of the people, are best suited to become the institutional mechanism for promoting community participation. Being a part of the constitutional arrangement and governance structure, they have not only the necessary legal sanction but stability and continuity, as well. They are not dependent on the whims and fancies of any individual or agency for their existence and functioning. It is now necessary for panchayats to understand their own importance, demand what is rightfully theirs, and exercise their powers and functions as true institutions of self-government.

While emphasizing the role of panchayats as the main institutional form for promoting and fostering community participation, it needs to be pointed out that serious challenges have emerged in recent years. The first emanates from within the governmental system, at both central and state government levels. As mentioned, governments have been using the panchayats largely as agencies for executing their own programmes. As a result, large amounts of money are being funneled through the panchayats into rural areas for activities designed to the last detail by funding agencies, with little or no leeway for the implementing agencies to modify them. This has created a strong dependence syndrome among these bodies. Panchayats have been
“schooled” into looking for largesse from the outside instead of depending on their own initiatives and resources for improving their condition and making their voices heard. The dependence syndrome also encourages irresponsibility and lack of transparency regarding how money is spent because it is seen as a gift rather than belonging to the people it is intended to benefit.

The second challenge to the autonomy of the panchayats is similar to the first, but arises from externally-funded development projects. With an increase in the budgetary constraints of the central and state governments, less money is available through the public exchequer for development activities. As a result, more development projects in the areas of health, education, drinking water supply, forestry, watershed management, and so forth are being implemented with financial support from international organizations and foreign governments and agencies. Most of these funding bodies require community participation and implementation through non-governmental organizations (NGOs). However, often the institutional means selected for achieving community participation are user or stakeholder committees largely formed by NGOs. Thus, such committees have been created at the village level in Uttarakhand for operation and maintenance of drinking water supply, management of forests, management of natural resources, management of schools and education programmes, and so forth. In many cases (though not all—the Village Education Committee being one such exception), these committees function outside the panchayats, creating considerable tension between them and the panchayats. One of the reasons for the tension is that many of these project-promoted committees have money at their disposal, which in some cases is more than what the panchayats have. The panchayats’ anger regarding these committees often takes the form of opposition. This opposition is not necessarily against the committees themselves, perhaps because they are seen as having the support of the government, but is instead against the NGOs involved in the implementation of the projects. Thus, rather than promoting community participation, the end result may do quite the opposite—alienate the community. To overcome this problem, it is necessary to link all such projects with the panchayat system by giving panchayats an important stake in the activities and benefits of the project from the beginning.

The panchayats can also be mobilized to play an important role by spearheading community participation in the area of health and health programmes. One area in which they can play a crucial role is collecting information on health problems and needs through the participation and active involvement of local communities. What I have in mind is a Community-based, People-centered, Health Management Information System (C-HMIS), along the same lines of a Community-based, Child-centered, Education Management Information System (C-EMIS) I have developed and have been involved in implementing on a pilot basis in selected South and Central Asian countries (Nepal, India, Sri Lanka, and Tajikistan) for the past two years. Apart from gathering authentic data on health needs and problems, which can then be used to re-orient the health service delivery system to give priority to people’s perceived needs and problems, it can also play an important role in linking people with the institutional
health infrastructure. Preliminary results of the implementation of C-EMIS show that it has made great headway in linking communities to schools in their respective villages and that communities have taken greater interest in schools’ functioning and working. It is the beginning of the process of making schools accountable to local communities and local institutions like the panchayats. This process needs to be carried forward not only in the field of education but in health and other areas of social and human development as well. An institution like the panchayat is the most appropriate agency for spearheading this effort.

Apart from being local institutions close to the people, panchayats have other advantages that make them fit instruments for taking on this responsibility. It can be reasonably expected that the vested interests that have so far escaped all responsibility will resist any effort to enforce accountability. Hence a backlash can be expected. An institution with a Constitutional-legal basis and a representative-democratic character would be best suited to deal with such entrenched vested interests.
Role of NGOs in RCH Services: Policy and Partnership Implications

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Involvement of the non-governmental sector in health and development is not a new phenomenon. Women activists around the world in the 1970s and 1980s began forming small non-governmental organizations (NGOs) to lobby for improvements in the social, economic, and political aspects of women’s lives. It was at this time that NGOs began experimenting with alternative, community-based means of improving maternal and child health. By the mid-1980s, NGOs became active in implementing child survival and safe motherhood interventions. By the 1990s, women’s NGOs in less developed countries were advocating for improvements in family planning programmes by better informing clients about various contraceptive methods available, and encouraging service providers to treat clients with greater respect. India, in particular, has a vibrant NGO environment.

Non-Governmental Organizations and Reproductive Health: National and International Frameworks

The International Conference on Development and Population (ICPD) held in Cairo in 1994 formulated a 20-year PoA (Programme of Action), for which India is a signatory, clearly mandating that NGOs play a significant role in improving reproductive health and ensuring reproductive rights. Delegates at the ICPD recognized that governments could not be expected to single-handedly meet the challenge set out for population stabilization, sustainable development, and reproductive health. The preamble of the ICPD PoA states that all members of and groups in society have the right, and indeed the responsibility, to play an active part in efforts to reach those goals. The ICPD was the first time that the NGO community participated in such large numbers within a global population forum. More than 4200 representatives of over 1500 NGOs from 133
countries, including India, took part in this historic event. In fact, NGO involvement at ICPD made up 42% of registered participants and echoed in an unprecedented voice the needs and commitments of the grass-roots and civil society. NGOs and women’s groups called for a strong emphasis on women’s empowerment as a major component for development and fertility decline, as well as broadening to an integrated reproductive health agenda that is client-centred and based on informed choice and free from coercion and programme targets.

The basic principles set forth in the PoA, to name a few, include gender equality and equity and the empowerment of women, access to reproductive health care and family planning, and integration of population into sustainable development policies and programs. The PoA defines reproductive health to include a broad range of information and services to ensure reproductive rights and reproductive health. According to the PoA, reproductive health implies that “people have the capability to reproduce and the freedom to decide if, when and how often to do so...the right...to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice,...and the right of access to health care services that will enable women to go safely through pregnancy and childbirth.” It is expected that NGOs will contribute significantly to ensuring these rights.

The issue of partnerships with the NGO sector is dealt with specifically in Chapter XV of the ICPD PoA and referred to throughout the document. The PoA promotes effective partnership between government and the private sector, including NGOs and calls for the following.2

- Governments, bilaterals, and multilaterals should integrate NGOs and local community groups into their decision making and facilitate NGO contributions towards finding solutions to population and development issues and to implementing the ICPD PoA.
- Governments should ensure the essential roles and participation of women's organizations in the design and implementation of population and development programmes.
- It is critical to involve women at all levels, especially the managerial level.
- NGOs and their networks must be able to maintain their autonomy and strengthen their capacity through regular dialogue and consultations, appropriate training and outreach activities, and thus play a greater role in the partnership.
- The profit-oriented sector should consider how it might better assist non-profit NGOs in playing a wider role in society by enhancing or creating mechanisms to channel financial and other support to NGOs and their associations.
- NGOs should make greater and effective use of the entertainment media, including radio and television, folk theatre, and other traditional media.
- Governments should collaborate with NGOs to establish appropriate mechanisms to respond to the special reproductive health needs of adolescents.

In 1999, the ICPD+5 was held in Hague to review the progress made by nations towards PoA implementation. In discussions on partnerships and collaboration, the
role of civil society was once again affirmed as:
- helping communities articulate reproductive health needs,
- strengthening of health systems,
- ensuring adherence to basic rights,
- involving youth in decision making on youth policies and programmes, and
- ensuring effective NGO participation in population and development activities through increased availability of resources and information.

The National Population Policy (NPP) 2000 clearly states the importance of involving the NGO sector as follows.

“A national effort to reach out to households cannot be sustained by the government alone. We need to put in place a partnership of non-government voluntary organizations, the private corporate sector, government, and the community. Triggered by rising incomes and institutional finance, private health care has grown significantly, with an impressive pool of expertise and management skills, and currently accounts for nearly 75% of health care expenditures. However, despite their obvious potential, mobilizing the private (profit and non-profit) sector to serve public health goals raises governance issues of contracting, accreditation, regulation, referral, and besides the appropriate division of labour between the public and private health providers, all of which need to be addressed carefully. Where government interventions or capacities are insufficient, and the participation of the private sector unviable, focused service delivery by NGOs may effectively complement government efforts (Government of India, NPP, 2000, p. 9).”

Strategies for increasing collaboration with and commitments from the NGO sector as spelled out in the NPP 2000 include the following.
- A forum of representatives from government, NGOs, and the private sector should prepare guidelines that will facilitate and promote collaborative arrangements.
- NGOs will be encouraged to augment advocacy, counselling and clinical services at the village level.
- Guidelines should be developed to articulate the role and responsibility of the voluntary and NGO sector to facilitate efficient service delivery to villages.
- The voluntary sector will be encouraged to motivate village level self-help groups to participate in activities.
- Collaboration will be encouraged with the NGO sector in the social marketing of contraceptives to reach villages.

NGOs and RCH: Strengths and Successes
NGOs the world over have rallied to the call-in partnership with governments and independently-to increase access, improve quality, and create demand for reproductive and child health (RCH)
services. NGO contributions have been most significant in meeting information and service delivery (both clinical and non-clinical) needs of communities and groups that are historically unserved or underserved by public sector information and services, such as those living in urban slums, remote rural areas, tribal groups, and women who have limited mobility due to cultural restrictions.

Given their physical and socio-cultural rootedness in communities, NGOs have been instrumental in shifting attention of RCH programmes away from mere physical access to health facilities to the creation of enabling environments and socio-cultural access for behaviour change. The inherent flexibility of NGOs has led to the development and testing of innovative models for service delivery, demand generation, and social mobilization, which have been replicated and expanded on national and global scales. Finally, NGOs have played a pivotal role in advocating for clients’ reproductive rights and for governments to provide reproductive health programmes and services.

NGOs clearly have very significant and unique advantages and strengths in providing reproductive health services in that they are autonomous, less bureaucratic, and thus more able to be flexible and responsive to local needs. NGOs are able to reach communities with high unmet need and thus get results in a relatively short period of time. Services provided by NGOs are usually more acceptable and demand-driven and of high quality. An article on Marie Stopes clinics in Sierra Leone lists five advantages of NGOs—(1) lack of bureaucracy, (2) innovativeness, (3) accountability, (4) maximizing scarce resources, and (5) challenging convention. “With aware and committed leadership, NGOs are often able to advocate change and challenge many cultural and even legal barriers that hinder the spread of reproductive health information and services. Thus, they are able to open doors where larger, government programmes can subsequently follow (Marie Stopes, 1999).”

The community-based approach, which NGOs are so effective at implementing, is critical to the creation of an enabling environment. Globally, it is well-recognized that socio-cultural barriers obstruct communities—especially women—from accessing health care. Many women in developing countries are unable to leave their homes to attend health facilities without the household decision-maker’s permission, even when experiencing life-threatening emergencies. NGOs have blazed the trail for a several models for community-based RCH services delivery, such as community-based distribution (CBD) especially where services are not available or where women are unable to leave their home to access services through community members trained as family planning workers. NGOs have managed to increase contraceptive use significantly bringing increased choice of methods either to the doorstep or through referrals to health facilities.

NGOs have contributed to creating enabling environments by working with policymakers, community opinion leaders, local health providers, and families to ensure that policy, social and family environments are conducive to adopting healthy reproductive health behaviour. Their strong roots in their communities, the respect they command,
and their good relations with community leaders and programme beneficiaries facilitate the creation of enabling environments.

NGOs have been particularly successful at linking reproductive health services with other efforts associated with reductions in fertility—income generation, women’s empowerment, literacy, and non-formal education. Such successful integration has promoted mainstreaming of RCH into development.

NGOs around the world are taking the lead in implementing programmes for adolescents and youth to prevent early marriage, reduce adolescent pregnancy, and give greater life options. The impact of increased age of marriage on total fertility decline has been demonstrated in several developing countries. In India, where 39% of women aged 15-19 are married National Family Health Survey [NFHS] and the singulate mean age of marriage for women is 20, NGOs are working to increase the age of marriage through family life and vocational skill development.

From Increasing Access to Creating Enabling Environments through NGO Partnerships

Between 1991 and 2002, the Centre for Development and Population Activities (CEDPA) implemented two global projects funded by the United States Agency for International Development (USAID) through numerous NGO Projects in 14 countries, including India. In the first seven years, reproductive health services were provided to 832,156 clients through a wide range of NGO partners such as national women’s networks, dairy cooperatives, family planning associations, and the Red Cross. In order to provide access to hard-to-reach communities, especially in rural areas, family planning services are provided by a network of community-based field workers (paid and volunteers) chosen from the community to be served. Because the project focuses on outreach services, the main methods offered are temporary methods. Service delivery strategies include community-based distributors, depot holders, social marketing, and group meetings. Offering temporary methods increases service to low parity couples.

Another major strategy is to strengthen the capacity of institutions to deliver sustainable family planning services. Through technical support, introduction of new strategies, and improving the capacity of local staff and consultants, institutional systems are established for quality services. Technical assistance is provided for the establishment of training centres and programmes, skill-based training for managers, supervisors and field workers, community mobilization and need assessment, continuous quality improvement, developing effective systems for collecting service statistics and assessing progress towards meeting indicators, and evaluation of impact. To improve quality and range of services, surveys are conducted with clients, community-based distributors and programme managers. Evaluations of CBD programmes find that, overall, clients are satisfied with the services of CBD workers who were trusted and respected members of the community. It is typically found that irregular supply of contraceptive commodities and poor quality of public services for
clinical methods presented serious constraints to the outreach programmes and that social marketing can help resolve this issue. Probably the greatest challenge for NGO partners is planning for sustainability to enable programmes to continue services after projects end. Technical assistance is provided to develop skills in proposal writing, fund-raising to diversify donor support, initiating cost recovery through fees, creating community ownership, developing corpus funds and revolving funds, social marketing to sell reproductive health commodities, and establishing small business ventures to sustain services.

To improve family planning services and systems, NGOs in Nepal and Bangladesh established networks and coalitions. An NGO Coordinating Committee was formed to coordinate NGO activities, share lessons and experiences, strengthen linkages with the government at all levels, improve NGO service delivery statistics and integrate their results into the government Management Information System (MIS), and standardize training material and service provision protocols. In 1995, the Nepal Red Cross in partnership with CEDPA and 26 other NGOs implemented the first National Condom Day to raise awareness on the importance of using condoms for family planning and to prevent STDs like HIV/AIDS. In its first year, this event reached 33 districts. By 2001, the event involved 50 organizations and reached all 75 districts of the country. Interviews of persons attending the event found that the majority intended to use condoms now that they understood their dual benefits.

Other strategies used to support sustainable reproductive health service delivery included the following.

- Developing human capacity for quality family planning programmes through customized training programmes and leadership development
- Enhancing women’s participation in family planning
- Reaching out to educate/counsel men
- Empowering women as catalysts for change as field workers, supervisors, and group facilitators.

These experiences taught us that preventing unintended fertility and improving women’s reproductive health is more complex than just making family planning services more accessible. A comprehensive approach is required to address the underlying contextual factors, such as literacy, harmful traditional practices, early marriage, lack of women’s decision-making status etc. that are barriers to women’s control over their reproductive lives. Reproductive health services, while vitally necessary, need to be provided in combination with complementary efforts in education, income generation, and community mobilization to develop the full potential of women. Therefore, in addition to quality services, NGO networks must work together with family decision makers, community and government leaders, and policy-makers at all levels to create change in the demand factors by promoting an enabling environment that support women’s decision making and improved reproductive health behaviour change.
NGOs and RCH in India

In response to the framework set down by the ICPD PoA, India formulated a national RCH Programme under the 9th Five-Year Plan that signalled a landmark shift from a target-driven to a target-free approach that is client-centred, based on informed choice, and providing high quality and integrated RCH services.

In India, there are an estimated 166 million married couples of reproductive age as well as tens of millions of adolescents preparing to enter their reproductive years. Recognizing the enormity of the task ahead, the GoI has been involving NGOs in family welfare schemes since the early 1980s. Recently, it has been estimated that there are approximately 12,000 NGOs involved in reproductive health throughout the country. Under the current 9th Five-Year Plan, 600 NGOs are being supported by various programmes under the Ministry of Health and Family Welfare.

The national RCH Programme unequivocally supports NGO involvement. “...both the government sector and NGOs should be used in a complementary manner for optimum effect. The NGOs have the advantage of flexibility in procedures, rapport with local population, and credibility. They are therefore, better placed to try innovations which the government system is not in the position to even attempt...The main thrust of the programme in the 9th Plan will be involve NGOs essentially in innovative programmes and not to use them for implementing routine government programmes...”

Within this programme, specific roles have been outlined and provisions made for the participation of three categories of NGOs.

1. **Small NGOs** are involved at the village, panchayat, and block levels to advocate and provide counselling for RCH and family welfare.
2. **Mother NGOs**, those with substantial resources and demonstrated competence, are provided grants to cover 5–10 districts for the support of small NGOs. This support includes proposal development, sub-grants, training, technical assistance, and monitoring.
3. **National NGOs** are being assisted on a project basis to design and implement innovative RCH programmes and run mobile clinics. Select national NGOs are responsible for the monitoring and performance assessment of mother NGOs.

The RCH Programme, in addition to upgrading facilities, skills, and the MIS within the public sector, seeks to create community ownership of the programme so that it does not remain a purely government effort. It aims at increasing involvement from civil society through NGOs, panchayats, and women’s groups.

**Innovative Models of Working with NGOs on RCH Services in India and Uttarakhand**

The contribution of NGOs in India in the field of family planning are significant. NGOs have added credibility and momentum to the family planning programme, reaching out into communities and providing much needed family planning (FP) services.
In India, there have been several successful models of RCH service delivery provided through NGOs. These models include:

- provision of static or mobile clinic-based information and services;
- non-clinical outreach efforts based on community mobilization, information, and CBD of contraceptive and other RCH supplies with referrals to public sector service delivery sites;
- social marketing of RCH products;
- depot holders;
- integration and mainstreaming of family planning into existing non-health activities such as income generation and women’s empowerment, self-help groups; and
- serving as training and resource centres for smaller NGOs to expand and upscale successful models.

A few NGOs while mainly being community-based, non-medical models are hiring doctors on a part-time or full-time basis to provide basic clinical services in areas where public sector services are not available.

These, and several other effective models, are being integrated and replicated in the Uttar Pradesh-based Innovations in Family Planning Services (IFPS) project, the largest reproductive health effort in the country supported through a 10-year GoI and USAID bilateral agreement. Through partnerships with UP-based NGOs, the project’s implementing agency—the State Innovations in Family Planning Services Agency (SIFPSA)—has been able to ensure the provision of RCH information and services to populations that had little or no such access.

There are several unique features to the project.

- The project is managed through an autonomous society in order to facilitate efficient project implementation.
- A rigorous selection process is adhered to in determining NGO partners, thus ensuring high probability of results. Contracts have clear measurable impact indicators—increase in CPR (5 percentage points per year), proportion of pill and condom clients using social marketing commodities, proportion of women who have delivered who received two doses of tetanus toxoid and 100 iron and folic acid (IFA) tablets/syrup, percentage of deliveries by trained birth attendants and percentage of children aged 13–24 months fully immunized.
- NGO partners represent diverse and cross-cutting areas of development. Partners are not required to have previous experience in RCH and come from such diverse backgrounds as environment, clinical and non-clinical programmes, education and women’s empowerment.
- Apex Training Centres (ATCs) have been established, one of which evolved from an NGO with long-standing experience, to provide training and technical assistance on a scheduled basis to all sanctioned NGO projects in areas such as reproductive health (RH), project management, financial management, CBD service delivery, social marketing, community mobilization, and MIS.
- A cadre of CBD workers (local women with at least Class 8 education) are recruited and trained and provided monthly honorariums to provide door-to-door RCH services and referrals.

- Social marketing has been integrated into the CBD approach in order to facilitate sustainability and reduce stockouts, two major concerns of NGOs.

- A rigorous MIS system has been set up to ensure effective tracking of progress. This includes baseline surveys to identify eligible couples and families, maintenance of daily diaries of CBD workers, submission of monthly reports by supervisors to project management and quarterly reports to the implementing agency. Independent monitoring including client verification and problem solving is provided by the implementing agency programme staff.

- Each NGO project is evaluated towards the end of the project by an independent external agency on the basis of the impact indicators set in proposals. Those who show progress are given an extension to continue the work with revised measurable indicators.

The IFPS's CBD approach has been particularly successful in increasing contraceptive use by low parity couples. For example, Shramik Bharti, a Kanpur-based NGO under the project, increased the CPR in their project area from 17% in 1994 to 57% in 1999 with 59% of clients choosing socially-marketed contraceptives.

The IFPS project's focus on NGO participation is best demonstrated in the fact that the number of NGOs involvement went from 3 in 1994 to 111 by January 2002. Significant NGO contributions to the project are the creation of over 11,500 new service delivery points through the training of CHWs, increase in regular client contact and follow-up and CHWs who provide an essential ingredient of quality services—accurate and complete information to assist couples make informed choices. A survey of 2188 married women of reproductive age in 100 Dairy Cooperative Society villages in five districts of UP found that 62.5% had met with a CHW in the last six months. Another success has been the increased method mix and use of temporary methods, in particular pills and condoms. A Macro study conducted in January 1999 found that in the first four years of the IFPS project, NGO projects in 15 districts had been responsible for 416,000 new acceptors. Of these, 170,000 new acceptors were created in 1998 alone. The scaling up of the project in the last seven years from 3 to 66 projects in 20 districts covering over 22,000,000 population has, as of September 2001, resulted in 724,000 active spacing clients being served. A list of NGOs in Uttaranchal that have implemented projects for IFPS are listed in the Annex.

In the realm of safe motherhood, the White Ribbon Alliance in India, an alliance of 55 NGOs, donors, international organizations, and the government, is working to create awareness and act as a catalyst for action. The impact of synergistically working towards a common goal of reducing maternal and neonatal deaths has created a force that facilitates awareness creation, increases resource allocation, and has spurred organizations to action. To decentralize this alliance, state- and district-level alliances are being formed; a WRA has been launched in Teri Garwal. While alliance activities are relatively inexpensive as the costs are shared across
organizations, some funds are required to initiate a secretariat and get events started.

Issues for NGOs Providing Reproductive Child Health Services

1. **Costs:** It is often argued that NGO reproductive health (RH) projects are cost-intensive; however, analyses of NGO CBD project costs in developing countries provide definitive evidence that the CBD approach used by many NGOs is more cost-effective than clinic-based projects. In South Africa, for example, it was found that it cost US $42 per Couple Years of Protection using a CBD approach in comparison to US $44 at clinic. The CBD costs decline to US $25 in successive years, while clinic-based costs remain constant. This study found that CBD services may also save money by allowing professional clinic staff to devote more time to services that require more expertise. IFPS-funded CBD projects cost US $12–20 for each new acceptor.

2. **Geographic coverage:** Another concern regarding NGOs is that their coverage is limited and thus their impact on overall fertility decline and population stabilization is limited. However, the IFPS project has been able to partner with a significant number of NGOs including those that cover large geographic areas (a minimum of 100,000 population with most NGO projects covering a population of 150,000 and dairy cooperative projects covering from 7 to 23 lakh population). In total, IFPS-supported projects cover almost 23 million population with the dairy cooperative projects reaching 16,242,326 and the NGO and employer sector projects serving 5,900,000 population—a 36% coverage in the 20 districts with CBD projects. These NGOs and dairy cooperatives provide services where governments are unable to reach, complementing the efforts of the public sector. For the CBD approach to have impact, it is also necessary to ensure a CBD to population ratio that corresponds to population density. In the hills of Nepal, for example, the CBD to population ratio is 1 CBD to 500 population while in more densely populated areas this increases to 1000 or 1500.

3. **Sustainability:** One of most important emerging issues is that of sustainability for reproductive health services and benefits resulting from NGO programme efforts. Planning for sustainability is often an after-thought at the end of a project period. NGOs are very concerned with retaining staff and programme activities as in the initial project and are at first reluctant to experiment with cost reduction and revenue generation measures (such as cross-subsidization, fees for services, and social marketing). However, the IFPS project has found that through dialogue and training, willingness to introduce sustainability measures increases and that many organizations take it on as a positive challenge towards attaining self-reliance. Experiments with sustainability in the IFPS project have been most encouraging in the area of cost reductions, community ownership, and social marketing.

4. **Coordination:** With increasing numbers of NGOs getting involved in reproductive health, it is necessary to coordinate and literally map out areas of service delivery to avoid overlapping. SIFPSA has incorporated GIS mapping into their MIS activities to identify and avoid overlaps in geographic coverage among projects.
This prevents confusion in the field and the possibility of double counting of clients. By creating alliances and networks, results occur more speedily as larger populations are reached with standardized behaviour change messages.

5. **Transparency and Accountability**: Given that NGOs are entrusted with the general development for communities in which they work, public demand for transparency and accountability in the NGO sector has increased significantly in recent years. NGOs must be able to account for their work, results, and appropriate use of resources. It has been found that to simplify the process of accountability, project accounts be kept separately, staff time be pro-rated by actual time put into a specific project, or staff be assigned to only one project at a time, and detailed budgets be developed and followed. NGOs are often reluctant to inform prospective new donors about their other projects believing that they may be rejected since they have other funding sources. In fact, NGOs must be encouraged to be transparent as donors today are more inclined to give grants to NGOs who have multiple donors/partners as long as they are clear about the purpose of other grants and can assure donors that there are no overlapping activities.

6. **Documentation and Reporting of Service Statistics**: Establishing or reporting through a good MIS is critical for NGOs to ensure that their efforts are recognized and documented. Well-documented or showcased NGO projects have greater chances of securing funding and thus documentation is imperative for sustainability considerations. Most often NGOs do tremendous work without any effective means of showing impact or results. In Nepal, through the NGO Coordinating Committee, the government and NGOs came to an agreement and strategy of how NGOs could report their service statistics through the government MIS. In this way, the government was able to report the full extent of service provision (from both public and private sectors) and at the same time able to show the proportion of services contributed by each sector.

7. **Institutional Strengthening and Capacity Building**: For effective participation of NGOs in RCH, NGOs require strengthening at two levels—(1) strengthening of institutions and (2) capacity building of human resources. Facility and infrastructural upgrading, management and training systems development, training of staff, technical assistance during implementation, and strengthening of the organization as a whole are prerequisites to successful projects that show quick results. The IFPS project was designed to integrate extensive technical assistance to strengthen institutional capacity at each phase of the project from the initial setting up and pilot-testing phase to the second phase of expansion and replication of proven models. Institution building is done for each level of implementation—grass-roots CBD Projects, district project management units, ATCs, as well as SIIFPSA itself to permit efficient project management. Further, a variety of capacity building opportunities are provided for all human resource levels, starting from SIIFPSA staff and ATC faculty to project managers, supervisors, and CBD workers. Technical assistance in the IFPS Project is provided on a regular basis and is considered an integral aspect of the project.
Challenges for NGO Involvement in Reproductive Child Health Services
Despite their significant successes, NGOs in India face certain challenges in providing RCH services.

1. Regular Supply of Commodities: NGOs work hard to gain the trust and respect of the communities where they work. Thus, it is especially difficult when they run out of their stocks of RCH supplies such as contraceptives, oral rehydration solution (ORS) packets, or IFA tablets as they often do when depending on public sector supplies. To prevent stock-outs, more and more NGOs are turning to social marketing. Not only is social marketing more reliable, but can also produce revenues.

2. Resource allocation for NGO participation in RCH: Though on paper budgetary allocations have increased dramatically, actual funding disseminated to NGOs remains low. In 1992, while 20% of the budget was allocated for NGOs, only 2% was actually disbursed.

3. Involvement in Policy formulation and Strategic Planning: NGOs have pointed out that for the most part they are only called upon to implement programmes—representing only token participation in RCH. The potential role of NGOs in planning, monitoring, reviewing, and evaluating RCH programmes/services has not yet been fully tapped into. The challenge now is to find the means for NGOs to become full and active participants in policy discussions, strategic planning exercises, project design, monitoring, and evaluation through increasing dialogue and linkages with government policy-makers and planners.

4. Lack of Information on Available Resources for NGOs: NGOs are not fully aware of government schemes and funding that they can tap. NGOs need to take a proactive role in learning about existing resources, while the government explores new ways of reaching out to NGOs with information.

5. Preserving the Autonomy of Mother NGOs: The concept of Mother NGOs is excellent as it utilizes experienced NGOs to develop the capacity of and monitor project implementation of inexperienced NGOs. However, in the endeavour to create more flexible systems for dispersing funds and technical assistance to NGOs, Mother NGOs have become part of the government machinery, replicating much of the same bureaucracy.

Recommended Strategies for Improving Impact of NGO Reproductive Child Health
- Involve NGOs at all levels of programme planning and implementation, making full use of each NGO’s unique set of experiences and capacities. Involve NGOs in:
  - policy formulation and strategic planning;
  - CBD of spacing methods (including social marketing) and referrals for clinical services;
  - providing support and training to community-level public sector service providers and facilities;
  - integrating reproductive health into existing programme activities such as literacy classes, income generation, and self-help groups; and
  - creating enabling environments for women to be able to access and use reproductive health services,
- training and providing technical assistance to other less experienced NGOs.
- Establish a system to coordinate and literally map out NGO activities to reduce overlapping and avoid gaps in service delivery. The government or implementing agency can identify areas that are underserved and invite NGOs to develop projects in those areas.
- Create a coordination network or alliance of NGOs at state and district levels for NGOs to coordinate activities, standardize services, provide fora for sharing innovations and lessons learned, keep technically up-to-date, collaborate with government as a unified force, and advocate for improved services.
- Indicators for NGO projects need to be result-oriented (and not only process-oriented) with specific indicators to measure the key desired reproductive health behaviour changes, quality of services, and provider performance. The expected results should be used as a basis of budgeting, work plans, determining staff requirements, job descriptions, MIS data collected, training, technical assistance, monitoring, and evaluation.
- When planning to work with NGOs, it is important to have clear criteria for selecting NGO partners and a system for involving diverse stakeholders in the proposal review and approval process.
- NGOs are usually dependent solely on the financial resources provided by donors and thus when release of funds or project extensions are delayed, project activities and thus services, stop. It is important to encourage NGOs to be more financially self-reliant, to get communities to take more responsibility for activities, and to find means of maintaining a corpus fund.
- It is not sufficient to give money alone. Technical assistance will be required from project design and throughout implementation.
- Specific sustainability plans and measures should be built into project design with policies on time limits, such as up to 5 or 7 years, for financial support to NGO efforts in any one location. NGOs with proven successes should be encouraged to move on to work in new areas to increase the coverage of effective approaches. Communities should be involved and ownership created.
- An effective MIS system that documents NGO contribution to project, district, and state reproductive health efforts is beneficial for both government and NGOs. MIS data need to be used as tools for decision making.

**Conclusion**

NGOs have proven that they have an important role in providing services that are client-centred, affordable, acceptable, and accessible, in reaching those with high unmet need, and in serving low parity couples desiring spacing methods. NGOs expand services beyond family planning to an integrated reproductive health package of services which in turn increases acceptability of contraception, mainstreams reproductive health services into non-health NGOs programmes, and thus increases service coverage, uses innovative service delivery models, and creates enabling environments for reproductive behaviour change. While the ICPD PoA and India’s NPP and RCH programme gave a mandate to work with NGOs, case after case of demonstrated NGO success in RCH service provides the impetus to further intensify these partnerships.
Endnotes

1 Gelbard, et al, 1999

2 United Nations, 1995


Session 6

Other RCH Issues

Chairperson: J C Pant

Nutritional Status of Women and Children
Sushma Kashyap

Male Participation in Family Planning and Broader Reproductive Health
Barbara J Spaid

Urban Primary Health Care: Lessons from IPP VIII
G N V Ramana

Public and Private Sector Partnership in Reproductive Health Services:
Opportunities for the State of Uttarakhand
Rita Leavell

Discussant
Manisha Panwar
Nutrition, health, and population are deeply interwoven determinants of nutrition and health status and population stabilization. Nutritional status is a key factor for the health and well-being of a population. Women of childbearing age and young children are nutritionally vulnerable; and they must be given special attention.

**Nutritional Status of Women**

Women perform a multiplicity of roles to make critical contributions to family health and sustainable development in our country. Malnutrition adversely affects their disease resistance, reproductive performance, and productivity at home and at work. Less privileged women have a greater burden of household drudgeries and lower access to medical facilities or other support services. They have low status at home and on account of economic and social backwardness, the dietary intakes of less fortunate women are far from satisfactory. This leads to undernutrition, low body mass index (BMI), anaemia, and other micronutrient deficiencies.

Poor nutrition that continues into pregnancy and lactation leads to low birth weight (LBW) babies, infant death, and progressive growth retardation of children. Consequences of anaemia during pregnancy include increased risk of maternal and infant death, premature delivery, and LBW. There is higher risk for both mother and child if the mother has little education, a poor household, rural residence, or is a member of a Scheduled Caste / Scheduled Tribe (SC/ST).

**Nutritional Status of Children**

The status of our infants and children is the true test of our development. Malnutrition
of infants and children remains one of the most severe public health problems in our country. Malnutrition not only causes growth retardation but also slows mental and intellectual development and increases vulnerability to infections. The incidence of LBW babies in India remains 30%, which leads to consequences such as high infant morbidity and mortality and higher incidence of chronic diseases in infants. In children, malnutrition is most prevalent between the ages of 6 and 18 months. This timing coincides with dwindling supplies of mothers’ breast milk, inadequate complementary feeding, and increased exposure to infections because of poor hygiene and sanitation. School-aged children also have a high incidence of malnutrition and micronutrient deficiencies, such as anaemia. There is a need for a holistic approach to improving the nutritional status of women and children.

National Scenario

The National Family Health Survey 2 (NFHS-2) of 1998–99 has provided a useful database for India as a whole, as well as for individual Indian states. There is considerable regional and socio-economic variation, and varying levels of improvement since NFHS-1 (1992–93) are evident. Tables 1 and 2 show key findings with respect to women and children at the all-India level.

Uttaranchal

Tables 3 and 4 present data for the state of Uttaranchal, which separated from Uttar Pradesh (UP) in November 2000. Uttaranchal is surpassing UP in almost all demographic and health indicators, which are quite similar to the all-India values in several respects.

Uttaranchal is in a state of transition, and its emerging positive attributes include the following:

- Literacy (>6 years): males 82%, females 61%
- School attendance (6–14 years): 92% (males 94%, females 90%)
- Total fertility rate (TFR): 2.6
- Infant mortality rate (IMR): 37.6
- Under-five mortality rate: 56.1
- Family planning: age at marriage is around 18 years; marriages at young ages are declining; and age of mother when first child is born is about 20 years of age
- Medical outreach and immunization status

Nevertheless, Uttaranchal needs to make concerted, collective, and persistent progress on
many other fronts. Areas requiring immediate attention in Uttaranchal include the following. The current status is indicated in brackets.

- Maternal nutrition
  - Undernutrition (32%)
  - Anaemia (46%; moderate–severe 13%) and other nutrient deficiencies
  - LBW babies (41%)
- Safe motherhood and reproductive health
  - Birth spacing (25% within 24 months of previous birth)
  - Antenatal check-ups (43%)
  - Tetanus toxoid injections (54%)
  - Iron and folate tablets (39%)
  - Safe delivery (35%)
- Quality contraception
- Child nutrition
  - Underweight (42%)
  - Stunted (47%)
  - Wasted (7.6%)
  - Anaemic (77%; moderate–severe 52%)
- Child health
  - Exclusive breastfeeding (66% for 0–3 months)
  - Fully vaccinated (41%)

Women’s Food Consumption
Underprivileged women most often have poor diets. Their diets consist predominantly of cereals, with small amounts of pulses and inexpensive vegetables. Few underprivileged women can regularly afford milk and green leafy vegetables; fruits, meats, and eggs are consumed only occasionally. Such diets make these women vulnerable to undernutrition and micro-nutrient deficiencies, especially during pregnancy and lactation. Prevalence of anaemia is high (52% in Uttaranchal) among women of childbearing age— one-third suffer from moderate to severe anaemia. Anaemia is then exacerbated by pregnancy and lactation.

Access to Medical Facilities
Safe motherhood and reproductive and child health (RCH) services need improvement in almost all areas, including antenatal check-ups, tetanus toxoid injections, safe delivery, and delivery of iron and folate tablets. Contraceptive use would help women space their children. Full childhood vaccination coverage and immediate attention to diarrhoea and

| Table 3. Women: Comparison of Uttaranchal with All-India NFHS-2 Database |
|---------------------------------|-------|-------|
|                                | Uttaranchal | All-India |
| Sex ratio (per 1000 males)     | 964    | 933    |
| Low BMI (<18.5)                | 32%    | 36%    |
| Few women receive full complement of reproductive health services |
| Prevalence of anaemia          | 46%    | 52%    |
| Consumption of iron and folate tablets | 38.5%  | 57.6%  |
| Utilization of adequately iodized salt | 57%    | 49%    |
| Illiteracy                      | 39%    | 49%    |
| Poor basic amenities            |        |        |
| Adolescent pregnancy           | 17%    | 19%    |
| Total fertility rate            | 2.6    | 2.85   |
| Unmet need for family planning  | 21%    | 16%    |

| Table 4. Children: Comparison of Uttaranchal with All-India NFHS-2 Database |
|---------------------------------|-------|-------|
|                                | Uttaranchal | All-India |
| IMR/(1000 live births)         | 38      | 68      |
| Under-five mortality rate/(1000 live births) | 56     | 95      |
| 0–3 months exclusively breastfed| 66%    | 55%    |
| 6–9 months receiving breast milk+solid/mushy food | 13%    | 34%    |
| Received full complement of vaccinations | 41%    | 42%    |
| Given oral rehydration salts during diarrhoea | 32%    | 27%    |
| Anaemia (6–35 months)          | 77%    | 74%    |
| Underweight                    | 42%    | 44%    |
| Stunted                        | 47%    | 46%    |
| Wasted                         | 7.6%   | 15.5%  |
acute respiratory infections are essential. Efforts to bring access to the unreached are especially important. Groups like poor women and children and the SC/ST need to be brought into the mainstream.

Women’s Empowerment
The poor educational status of women has emerged as an important determinant of demographic and health outcomes. Higher prevalence of undernutrition, anaemia, early marriage, high fertility, infant mortality, and maternal mortality has been observed among illiterate women. Education, however, empowers women. It is heartening to observe an improvement in the percentage of girls attending school. Health benefits are accrued with improvement in socio-economic status (SES), so high priority should be given to poverty reduction programmes, income-generating activities, and increased access to basic amenities.

Undernutrition in Children
Undernutrition continues to be a serious problem among children. Inadequate feeding, unhygienic environment, poverty, and lack of knowledge are the main factors contributing to undernutrition. The prevalence of anaemia is high among children, and two-thirds of them are moderate to severely anaemic—a situation that requires serious attention.

Mothers need to be counselled on appropriate feeding of children commensurate with the age of the child and appropriate feeding during episodes of diarrhoea. Indian diets are cereal-based and tend to be heavy. For small children, the frequency of meals needs to be increased, and diets need to be made energy- and nutrient-dense with supplements of oil to amylase-rich foods. Mobilizing women’s groups to prepare village-level complementary foods is a practical and sustainable practice for improving child nutrition.

The incidence of undernutrition is very high among children of six months to three years of age. As is seen in Table 5, undernutrition has the lowest incidence among children less than six months old, thanks to universal breastfeeding in India. Undernutrition is most widespread among children in the age group 12–35 months, especially if their mothers are characterized by high parity, low SES, and undernourishment. Therefore, mothers need to be counselled throughout pregnancy.

Status of Infant Feeding Practices in India
- Late initiation of breastfeeding: Only 37% of women begin breastfeeding within one day of birth. This percentage is higher among educated women or in cases of home deliveries.
- Most discard first milk (colostrum), which would have conferred natural immunity.
- Only 66% of children under four months of age are exclusively breastfed. Only 20% receive early supplementary feeding along with breast milk; 23% are given water.

Table 5. Prevalence of Malnutrition by Age (%)

<table>
<thead>
<tr>
<th>Age (months)</th>
<th>Underweight</th>
<th>Stunted</th>
<th>Wasted</th>
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<tr>
<td>&lt;6</td>
<td>3.6</td>
<td>8.1</td>
<td>0.0</td>
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<tr>
<td>6–11</td>
<td>39.7</td>
<td>48.9</td>
<td>8.5</td>
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<tr>
<td>12–23</td>
<td>57.3</td>
<td>56.6</td>
<td>8.9</td>
</tr>
<tr>
<td>24–35</td>
<td>48.2</td>
<td>56.6</td>
<td>10.2</td>
</tr>
<tr>
<td>Total for &lt;3 years</td>
<td>41.8</td>
<td>46.6</td>
<td>7.6</td>
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</table>
• Delayed introduction of complementary foods: At seven months of age, only 32% of children consume solid or mushy food. Even at nine months, less than half the children are fed complementary foods. At 18–35 months, many children are not fed green leafy vegetables (40%) or fruits (two-thirds).

Recommended Guidelines for Infant Feeding Practices
• Initiation of breastfeeding immediately after childbirth
• No discarding of colostrum
• Exclusive breastfeeding from birth to six months (no food or liquids)
• For optimum child growth, breast milk to be frequently supplemented with adequate and appropriate complementary foods after the age of six months (timely to prevent growth retardation); progress to eating from the family pot by one year of age
• Continuation of breastfeeding through the second year or beyond
• Usage of bottles with nipples to be avoided to maintain sanitation and thus prevent infections.

Benefits to mother: Breastfeeding promotes postpartum infertility so that birth interval and fertility levels are affected. Breastfeeding is also a satisfying experience that bonds the mother and child with love.

Benefits to child: Breastfeeding improves nutritional status and immunity and decreases morbidity and mortality. The type, timing, and quantity of supplementary foods also affect the child’s nutritional status.

In India, breastfeeding continues for the recommended long period of time (average: 25 months, median: 20 months), but often without appropriate complementary foods when the child reaches an age of six months. Mothers with high SES or in urban homes, or who give birth in health facilities tend to breastfeed for a shorter period time.

Comparison of Uttarakhand and Himachal Pradesh
The momentum that has been initiated must be built in a very organized and programmed manner. Uttarakhand is on a path to recovery, and it must be strengthened in its efforts by all key players, be it government machinery, non-governmental organizations, industry, community, or others. The neighbouring state of Himachal Pradesh has made great progress in various demographic and health indicators, especially with regard to empowering women and providing basic amenities, health services, and family welfare. Himachal Pradesh and

| Women: Comparison of Uttarakhand with Himachal Pradesh and All-India indicators |
|---------------------------------|-----------------|-----------------|-----------------|
|                                  | Uttarakhand     | All-India       | Himachal Pradesh |
| Low BMI (<18.5)                  | 32%             | 36%             | 30%             |
| Few women receive full complement of reproductive health services | | | |
| Prevalence of anaemia            | 46%             | 52%             | 41%             |
| Consumption of iron and folate tablets | 38.5%          | 57.6%           | 86%             |
| Utilization of adequately iodized salt | 57%             | 49%             | 91%             |
| Illiteracy                       | 39%             | 49%             | 31%             |
| Poor basic amenities             |                 |                 |                 |
| Adolescent pregnancy            | 17%             | 19%             | 10.7%           |
| Total fertility rate             | 2.6             | 2.85            | 2.1             |
| Unmet need for family planning   | 21%             | 16%             | 8.6%            |
Uttaranchal are topographically similar; Uttaranchal can benefit from the effective strategies and the ensuing success stories of Himachal Pradesh.

**Meeting the Challenges**
- Micro-level planning
- Inter-sectoral linkages with the Integrated Child Development Services (ICDS) programme
- Multi-sectoral approaches within and outside the government
- Linkages with income-generating programmes
- Information, education, and communication campaigns for increasing community awareness and participation
- Effective management and monitoring system
- Integrating nutrition into RCH policy.

<table>
<thead>
<tr>
<th></th>
<th>Uttaranchal</th>
<th>All-India</th>
<th>Himachal Pradesh</th>
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<tbody>
<tr>
<td>IMR (per 1000 live births)</td>
<td>38</td>
<td>68</td>
<td>34%</td>
</tr>
<tr>
<td>Under-five mortality rate (per 1000 live births)</td>
<td>56</td>
<td>95</td>
<td>42</td>
</tr>
<tr>
<td>0–3 months exclusively breastfed</td>
<td>66%</td>
<td>55%</td>
<td>18%</td>
</tr>
<tr>
<td>6–9 months receiving breast milk then solid/mushy food</td>
<td>13%</td>
<td>34%</td>
<td>61.3%</td>
</tr>
<tr>
<td>Received full complement of vaccinations</td>
<td>41%</td>
<td>42%</td>
<td>91%</td>
</tr>
<tr>
<td>Given oral rehydration salts during diarrhoea</td>
<td>32%</td>
<td>27%</td>
<td>31%</td>
</tr>
<tr>
<td>Anaemia (6–35 months)</td>
<td>77%</td>
<td>74%</td>
<td>70%</td>
</tr>
<tr>
<td>Underweight</td>
<td>42%</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>Stunted</td>
<td>47%</td>
<td>46%</td>
<td>41%</td>
</tr>
<tr>
<td>Wasted</td>
<td>7.6%</td>
<td>15.5%</td>
<td>17%</td>
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</table>
The importance of increasing male participation in family planning cannot be denied. Worldwide, women are seldom major decision-makers within the family. This is especially true in India. Even in issues that affect women closely, such as family planning, child health care, maternal health care, or emergency care during obstetric complications, the final decisions are generally taken by men. This fact alone argues strongly for focusing the expansion of male participation not only in family planning but also in broader reproductive and child health (RCH).

The importance of involving men as partners and clients in reproductive health has gained attention in the last several years, particularly since the 1994 International Conference on Population and Development (ICPD) in Cairo. ICPD delegates from 183 countries strongly recommended increasing male access to and involvement in reproductive health care, stating that

‘Innovative programmes must be developed to... both educate and enable men to share more equally in family planning and in domestic and child-rearing responsibilities and to accept the major responsibilities for the prevention of sexually transmitted diseases’.

(United Nations 1995)

Increasing Male Participation in Family Planning
Two important goals of increasing male involvement in family planning are (1) to increase use of male methods, specifically male sterilization and condoms, and (2) to
encourage men to support women’s contraceptive choices. Non-scalpel vasectomy (NSV) is a highly effective permanent contraceptive method for men. It is a safe, simple procedure that can be performed in a low-tech, low-resource setting. The entire procedure is performed in 5–10 minutes. It is a simple surgical procedure done under local anesthesia. It requires no incision, only a small puncture, and therefore no stitches. There is less morbidity/mortality risk and expense than with female voluntary sterilization. The failure rate for NSV is very low — 0.15 to 1 pregnancy per 100 women in the first year.

The condom, a temporary male method of contraception, is effective immediately, has no method-related health risks, and is widely available free of cost through the public system and at affordable prices in the commercial sector. Condoms have the distinct advantage of being the only family planning method that provides “dual protection” from pregnancy as well as from STIs/HIV. The male latex condom, when used correctly and consistently, has been proven to be highly effective in preventing pregnancy and the sexual transmission of HIV at the same time.

Uttaranchal has already made good progress in popularizing male sterilization. Three training centres for NSV have been established in Nainital, Almora, and Dehradun. Five trained surgeons have been certified as trainers for the NSV technique, and 17 medical officers have been trained and have conducted approximately 4000 NSV cases in four districts in Uttaranchal since 1996. According to the NFHS-2 (National Family Health Survey-2) carried out in 1998–99, the current use of condoms in Uttaranchal is 6.2%. Use of male sterilization is 3.8%, almost twice the national average for India.

Against this backdrop of moderate success in use of male-specific methods of contraception, lies a significant unmet need for both limiting and spacing methods of family planning — 10.5% and 10.5% respectively. The challenge now is how to reach this large unmet need for family planning through increased male involvement. This could be done either through the increased use of male-specific methods or through men’s involvement, support, and encouragement of their wives in choosing an appropriate method for their family planning needs.

**Increasing Male Participation in Broader Reproductive Health**

Three important goals of increasing male involvement in broader reproductive health are to:

1. improve men’s knowledge and behaviour for prevention of STIs;
2. address men’s own reproductive health needs; and
3. encourage men to play a critical role in improving women’s reproductive health, including pregnancy outcome as well as child health.

Scientific evidence from studies in India and other countries supports the finding that the failure to target men in family planning and reproductive health interventions weakens the impact of these programmes. Involving men in antenatal education has been correlated with better perinatal care and lower perinatal mortality in India. Another study shows that men who are knowledgeable about reproductive health issues...
are more likely to support their partners in contraceptive use, use male methods of contraception, and demonstrate greater responsibility for the children they father.4

We also know that involving men does not need to be an expensive, time-consuming undertaking; nor does it necessarily have to be a programme in and of itself. Involving men is more of a paradigm for thinking about the range of services available in ongoing family planning and reproductive health programmes and how they are delivered. A number of low-cost activities can make existing services more male-friendly, thus increasing their inclination to seek care or services alone or with their wives.5

Because men play a critical role in women’s reproductive health, their help during pregnancy is particularly essential to ensure that women receive adequate health care, have timely access to services, receive proper nutrition, and are able to care for the rest of the family. Unfortunately, men have been a missing link in strategies intended to ensure safe pregnancy and childbirth. Programme managers and health care providers have ignored this critical client group for too long.

Generating Demand for Male Family Planning Methods, Men’s Reproductive Health Services, and Male Involvement in Maternal and Family Health Care

Reaching men in the community with correct and appropriate messages: Clinics and health facilities often cater primarily to women and children, and men are less likely than women to visit them. Accordingly, information and education need to target men in a variety of familiar settings beyond the clinics and health facilities — places where they spend leisure time, work places, religious and community gatherings, and other settings frequented primarily by men.

- Information and materials targeted to male involvement can be distributed during community events and local festivals, such as melas (fairs), panchayat meetings, and haats (weekly markets).
- Peer educators, such as barbers and postmen can be used to provide positive messages about male involvement, assuming they are properly trained in the use of IEC materials and appropriate messages.
- Male family planning methods and reproductive health services can be promoted by signs or monthly peer education sessions at work places or religious gatherings around mosques and temples. Information can be promoted through a variety of learning activities including games, role-plays, small group discussions, case studies, and story telling.

Mass media: When appropriately utilized, mass media has the potential to reach large audiences, including those who are illiterate and semi-literate, with messages promoting male involvement in family planning and reproductive health. Mass media communication can increase awareness and lead to changes in attitudes and behaviour. Programmes that have used mass media to reach men through the events that men enjoy (sports, films, popular theatre, and music) have also improved men’s willingness and ability to communicate with partners, peers, and health providers. Further,
programmes geared to the entire community have motivated men to take part in discussions about their concerns in a comfortable, non-threatening environment.6
- Television and radio programmes are expensive, but an appropriate message can be worked into an ongoing popular series or ongoing public-sector-sponsored spots to reinforce established objectives of promoting male involvement and male-specific family planning methods.
- In collaboration with a local language newspaper, a column could be started featuring male reproductive health problems woven into an interesting story or informative series.
- Messages regarding the availability and benefits of specific reproductive health services can be promoted through signs at clinics, public bathrooms, bars, town halls, rickshaws, buses, etc. Messages need to be written in simple, clear language that respects men and women as equal partners.
- Messages can also be displayed in public, accessible areas advising men of the advantages of NSV and the closest locations for availing NSV services through trained providers.
- IEC messages and materials need to be designed, broadcast and displayed using all available means to improve men's knowledge about family planning and other aspects of RCH.
- Willing and satisfied NSV acceptors can be encouraged to share their NSV experience with other men. Satisfied couples could share their feelings and experiences with other couples considering NSV.

Counselling: While mass media campaigns are often quite successful in increasing awareness, counselling and peer promotion are particularly effective at promoting attitudinal and behavioural change.7 Men have special counselling needs for family planning and reproductive health. Men tend to have less understanding and knowledge about RCH care in general. Health workers need good counselling skills for work with either men or women if the client is to feel respected, at ease, and open to receiving information about family planning, and STIs/HIV, and RCH. Good counselling is essential to ensure voluntary and informed decision making about family and reproductive health.
- Increased communication between partners can be encouraged through couple counselling at clinics and health centres, as long as the privacy of either partner during joint counselling sessions is not compromised. Studies have shown that better communication between couples leads to increased male participation in family planning as well as an increased level of contraceptive use among couples.8,9
- Counselling services must be provided confidentially and information provided to the clients must be correct and appropriate, so that the “word on the street” is positive.

Expanding Access to Reproductive Health Care for Men
Identifying and understanding what services men want and feel they need: This is the first step in expanding access to family planning and reproductive health services for
men. This information can be collected in a variety of community settings utilizing small focus group discussions or questionnaires. It is often easier to increase male involvement through the services they are already aware of and wish to receive. For example, if men are already interested in receiving NSV or STI services or information, this is an excellent opportunity to provide the men with additional information on how they can become more involved in broader family health care issues.

Reaching out to men: Various approaches have already been discussed for reaching out to men with information. However, equally important is to get men into the service delivery system, which is often a clinical setting. Clinic and health care facilities are generally more geared to providing family planning, and RCH services to women and children. They are not always user-friendly to men, but there are ways of making existing or alternative facilities more welcoming to male clients. In areas where men and women’s services do can be integrated, it is essential that the inclusion of men’s services does not compromise resources for women.

- Clinics and existing health care facilities can provide STI/HIV counselling, diagnosis, treatment, and partner management or NSV services at a time convenient to men or at a time restricted to men only. Integration of STI diagnosis and treatment services into the existing range of reproductive health services at facilities may alleviate the stigma attached to a facility or clinic that deals only with STIs.
- The feasibility of providing standalone services for men through male clinics needs to be carefully considered in the context of existing facilities and overall service utilization. This may not be the most cost-effective way to involve men and expand service delivery to men.
- Health providers need to look for opportunities to reach men who are already in the clinic or attending an RCH camp for other purposes.
- Both information and services can be provided effectively through the workplace once managers appreciate that workers with smaller, healthier families are often happier and more productive.
- Men can be constructively involved in antenatal care if simple efforts are made to include them. Couples can be encouraged to attend health facilities for an initial consultation in which both the man and woman are screened for STIs. Couples can be encouraged to attend counselling sessions together to discuss family planning options during the postpartum period. Men and women can participate together in educational sessions about parenting skills during visits to the antenatal care site.
- Appropriately trained male providers can serve as excellent resources to male clients for reproductive health information, counselling for male reproductive health problems, condom distribution, and vasectomy referral. More importantly, they can use these contacts with men to draw them into involvement in issues of child health, maternity care, and recognition signs of life-threatening obstetric emergencies.
Improving the Quality of Male Family Planning and Reproductive Health Care Services

Regardless of whether services are provided in the public or private sector, the quality of services is important for attracting and maintaining clients in the service delivery system; whether the clients are male or female should not make a difference.

- All health care providers need to be trained in counselling skills in order to better address men’s reproductive health needs and concerns in a direct, honest, informed, and non-judgemental manner.

- All health facility staff should be oriented towards providing quality services in a client-friendly manner that respects the rights of each client to courteous, efficient, and appropriate services.

- Health facility staff should be trained in infection prevention to reduce the risk of infection to themselves and their clients. This is particularly important with the increasing threat of HIV/AIDS and the current levels of hepatitis B and C in India.

- Appropriate staff should receive training in NSV, female sterilization, contraceptive technology update, and STI/HIV management with follow-up after an appropriate interval to ensure that trained providers continue to use and maintain their newly acquired skills in a competent manner. Regular, facilitative supervision encourages staff to function better.

Uttaranchal is at an important juncture this year as it develops health policies for reproductive health for the decade ahead. A policy for increasing male involvement in family planning and broader reproductive health services would make good sense for a number of reasons. Increased male involvement is not a programme in and of itself, but a desired outcome of the entire reproductive health programme. It will need to be incorporated throughout all health service programmes at clinics and health facilities as well as in community efforts. A comprehensive policy for increasing male participation could have a positive impact on many programmes—family planning, safe motherhood, child health, and STI/HIV awareness and management.
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5. Green, C et al., “Male involvement in reproductive health, including family planning and sexual health.” UNFPA, 1996


Background
The India Population Project (IPP VIII) is a World Bank initiative undertaken to improve universal access to reproductive health care services in urban areas in general, and specifically in slums. The project operates in many major states of the country. The experiences of implementing IPP VIII in various states have been different and interesting. This paper summarizes lessons learned from project experiences that incorporated different implementation approaches.

As per the 2001 census, Uttaranchal has a population of 8.5 million, of which 2.2 million live in urban areas. The urban population is concentrated in the towns of Dehradun, Nainital, Hardwar, and Udham Singh Nagar districts, which account for over four-fifths of the state's urban population. Six towns in Uttaranchal have slum dwellings, which together have a population of over one lakh.

It is likely that the slum populations in these towns will grow; the formation of the new state and the economic potential of these towns will spur migration to the established slums. Since the presence of public urban health infrastructure and the private health sector is minimal, it will be difficult to provide even basic health services to the urban population. Given both this context and the state's topography, provision of urban health services must be a priority.
Organising Urban Reproductive Health Services

One has to address several issues when organizing urban reproductive and child health (RCH) services. Most important, one must question how to:

- identify the beneficiaries;
- assess their service needs and critical gaps;
- plan and implement interventions;
- manage the project; and
- monitor and evaluate the efficiency and impact.

Different criteria can be used to identify the beneficiaries. The World Bank experimented with the income criterion in the Kolkata project, while geographic location (notified slums) was used as the criterion in urban projects in Bangalore, Hyderabad, and Delhi. Carrying out a reliable income assessment is difficult, however, and other options for identifying the poorest and most vulnerable households can be more operationally feasible. These options include the Asset Index (use of basic amenities, type of cooking fuel, and household possessions) and the participatory appraisal technique.

Existing facilities need to be mapped and needs assessment of the population has to be conducted. The needs assessment should collect quantitative and qualitative information to explore why some people use services while others do not. The service package should be designed on the basis of the findings of the needs assessment.

While designing the service package, it is important to consider the service needs for community-based interventions, clinic-based care, and referral care because all three levels of health care are interlinked (Figure 1).

To address service needs at the three levels and plan for service package implementation, one has to consider the following common list of questions:

- What is the ideal population per provider?
- Who should provide?
- How will it be provided?
- What are the key activities?
- What range of services are to be included?
- From where are the services to be provided?
- What should be the frequency and timing of services?
- How would referral linkages be ensured?
- What are the options for strengthening linkages?
- What are the indicators for monitoring and evaluation?
The answers to these questions will enable formulation of appropriate interventions at the time of implementation. These interventions, as well as the approach for providing community-based services, may vary from place to place. Figure 2 illustrates the different experiences in implementing community-based services in Bangalore, Hyderabad, Kolkata, and Delhi, where non-governmental organizations (NGOs) were involved and both unpaid and paid community volunteer approaches were adopted.

In the management of the project, many options can be employed. Partnerships with NGOs and private sector hospitals can be forged. Ideally, the municipal corporation has to be given the responsibility of nodal authority because it is better integrated with development activities and will ensure greater local involvement. Its resource crunch and limited technical capacity can be overcome by partnering with the health department.

An appropriate monitoring and evaluation system has to be designed upfront. The outcome, output, and process indicators have to be outlined. The management information system (MIS) and a proper mechanism for feedback (an important element missing in many of our programmes) should be in place. Provision for mid-course corrections have to be incorporated in the design. Even the projects implemented in these four states had to overcome initial hiccups and challenges.
In sum, project implementation faces the following challenges:

- Inadequate coordination between multiple agencies providing urban RCH services (teaching hospitals, specialist hospitals, general hospitals, postpartum units, and urban family welfare centres)
- Weak management and technical supervision capacities of municipal health departments
- Inadequate alignment of health interventions with slum development and relocation programmes
- Frequent transfer of crucial project staff
- Challenge of finding sites for new structures
- Dependence of most municipalities on other agencies to recruit health staff.

The lessons learned from the experience of implementing IPP VIII are as follows:

- There is no simple solution for addressing urban RCH issues.
- Strategies depend on local situations.
- Interventions that engage local communities and elected representatives are more sustainable.
- Do not wait for structures to be completed—start services early on.
- Focus on outputs and outcomes rather than inputs.
- Inclusion of some curative care is necessary but, at the same time, do not lose focus on RCH services.
- There is tremendous scope for partnerships with community-based organizations and the private sector—exploit them.
- While planning services, do consider long-term financial sustainability—cost sharing/cross subsidy.
Organizing Urban Reproductive Health Services

Lessons from Family Welfare Urban Slums Project (India Population Project VIII), India

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Background

The India Population Project (IPP VIII) is a World Bank initiative undertaken to improve universal access to reproductive health care services in urban areas in general, and specifically in slums. The project operates in many major states of the country. The experiences of implementing IPP VIII in various states have been different and interesting. This paper summarizes lessons learned from project experiences that incorporated different implementation approaches.

As per the 2001 census, Uttarakhand has a population of 8.5 million, of which 2.2 million live in urban areas. The urban population is concentrated in the towns of Dehradun, Nainital, Hardwar, and Udham Singh Nagar districts, which account for over four-fifths of the state's urban population. Six towns in Uttarakhand have slum dwellings, which together have a population of over one lakh.

It is likely that the slum populations in these towns will grow; the formation of the new state and the economic potential of these towns will spur migration to the established slums. Since the presence of public urban health infrastructure and the private health sector is minimal, it will be difficult to provide even basic health services to the urban population. Given both this context and the state’s topography, provision of urban health services must be a priority.
Urban Reproductive and Child Health Services

One has to address several issues when organizing urban reproductive and child health (RCH) services. Most important, one must question how to:

- identify the beneficiaries;
- assess their service needs and critical gaps;
- plan and implement interventions;
- manage the project; and
- monitor and evaluate the efficiency and impact.

Different criteria can be used to identify the beneficiaries. The World Bank experimented with the income criterion in the Kolkata project, while geographic location (notified slums) was used as the criterion in urban projects in Bangalore, Hyderabad, and Delhi. Carrying out a reliable income assessment is difficult, however, and other options for identifying the poorest and most vulnerable households can be more operationally feasible. These options include the Asset Index (use of basic amenities, type of cooking fuel, and household possessions) and the participatory appraisal technique.

Existing facilities need to be mapped and needs assessment of the population has to be conducted. The needs assessment should collect quantitative and qualitative information to explore why some people use services while others do not. The service package should be designed on the basis of the findings of the needs assessment.

While designing the service package, it is important to consider the service needs for community-based interventions, clinic-based care, and referral care because all three levels of health care are interlinked (Figure 1).

To address service needs at the three levels and plan for service package implementation, one has to consider the following common list of questions:

- What is the ideal population per provider?
- Who should provide?
- How will it be provided?
- What are the key activities?
- What range of services are to be included?
- From where are the services to be provided?
- What should be the frequency and timing of services?
- How would referral linkages be ensured?
- What are the options for strengthening linkages?
- What are the indicators for monitoring and evaluation?
The answers to these questions will enable formulation of appropriate interventions at the time of implementation. These interventions, as well as the approach for providing community-based services, may vary from place to place. Figure 2 illustrates the different experiences in implementing community-based services in Bangalore, Hyderabad, Kolkata, and Delhi, where non-governmental organizations (NGOs) were involved and both unpaid and paid community volunteer approaches were adopted.

In the management of the project, many options can be employed. Partnerships with NGOs and private sector hospitals can be forged. Ideally, the municipal corporation has to be given the responsibility of nodal authority because it is better integrated with development activities and will ensure greater local involvement. Its resource crunch and limited technical capacity can be overcome by partnering with the health department.

An appropriate monitoring and evaluation system has to be designed upfront. The outcome, output, and process indicators have to be outlined. The management information system (MIS) and a proper mechanism for feedback (an important element missing in many of our programmes) should be in place. Provision for mid-course corrections have to be incorporated in the design. Even the projects implemented in these four states had to overcome initial hiccups and challenges.
In sum, project implementation faces the following challenges:

- Inadequate coordination between multiple agencies providing urban RCH services (teaching hospitals, specialist hospitals, general hospitals, postpartum units, and urban family welfare centres)
- Weak management and technical supervision capacities of municipal health departments
- Inadequate alignment of health interventions with slum development and relocation programmes
- Frequent transfer of crucial project staff
- Challenge of finding sites for new structures
- Dependence of most municipalities on other agencies to recruit health staff.

The lessons learned from the experience of implementing IPP VIII are as follows:

- There is no simple solution for addressing urban RCH issues.
- Strategies depend on local situations.
- Interventions that engage local communities and elected representatives are more sustainable.
- Do not wait for structures to be completed—start services early on.
- Focus on outputs and outcomes rather than inputs.
- Inclusion of some curative care is necessary but, at the same time, do not lose focus on RCH services.
- There is tremendous scope for partnerships with community-based organizations and the private sector—exploit them.
- While planning services, do consider long-term financial sustainability—cost sharing/cross subsidy.
Summary
Public–private partnerships can expand the resources available to improve preventive and curative reproductive and child health (RCH) care in Uttaranchal. Some possible mechanisms include contracting of clinical services to non-governmental organizations (NGOs) and private hospitals/clinics, contracting of preventive outreach to NGOs, improvement in private doctors preventive and curative services through training and accreditation, and increased reach of demand for and supply of RCH products through contracting of marketing firms. There should be some financing innovations to encourage private doctors to provide services normally given through public clinics, and also to ensure that the poorest are adequately covered. The key will be to develop regulations and monitoring systems, which will ensure efficient services of good quality.

Background of Public–Private Partnerships
“Public–private partnership” has become a very popular term in many sectors and health is no exception. As governments and donors face resource limitations to cover an increasing population and try to improve services for both curative and preventive care, the potential of tapping private resources becomes very attractive. Around the world, private households account for over 50% of health spending (Rosen, 1999) and, in many countries, the private sector is the primary source of health care.

In India, the World Bank (1997) estimated that about 75% of total health expenditure comes from household out-of-pocket expenditure and the recent NHFS-2 data confirms
this is also true for reproductive health. Although the Ministry of Health and Family Welfare (MoHFW) invests in health facilities and a system designed to provide primary, secondary, and tertiary care for the urban and rural poor and lower middle class, it seems that even the poor opt for private providers–62% obtain health services from the private sector (NHFS-2). In India, there are an estimated 1,109,800 doctors (all systems) and of these, approximately 85% are in the private sector (CBHI, 1998). Another 1.25 million non-qualified rural medical practitioners also conduct out-patient solo clinics (Rohde and Vishwanathan, 1995). The private market system too plays a large role in delivery of health care, as more than 272,000 chemist shops provide drugs throughout urban and rural areas. More than 65% of oral contraceptive and condoms as well as over 60% of oral rehydration salts (ORS), are provided through medical shops. Therefore it makes sense to consider the private medical system in allocating resources for improved health care.

So what is the best way to make use of the private sector to help meet public health needs? The World Bank and other donors have been developing a different perspective of “the state role in health care”. The World Bank has advised governments to target efforts and resources to prevent “failures” of private medical resources (i.e., poor quality and lack of coverage for the poorest). Government would then focus on certain preventive services such as immunization and information sharing. They have advocated for greater public-private interaction and a redefinition of the roles of the public and private sectors. Figure shows a vision of the government as a “steward” of health care, focusing on regulation, financing of services, and provision of information (e.g. training, market segmentation).

Source: Adapted from Private Sector and Child Health, S. Sharma, 2001
Actual partnership with the private sector is often limited to contracting for services. However, the definition includes many types of partnerships, from change of regulations to expand the private sector, dual roles of government medical personnel in both public and private clinics, to joint decision making with the private medical system.

Most strategies focus on either harnessing the current private sector providers to include preventive health care practices or encourage the private sector to expand and reach out to new areas not normally covered. An example of the first would be to provide financial incentives to private clinics to perform sterilizations. An example of the second might be to contract commercial or social marketing firms to market to rural areas or contract an NGO to manage a rural primary health centre (PHC). In all of these however, the government plays the key role in determining resource allocation needs, making the appropriate regulatory changes, and in developing the partnerships.

Public-private partnerships can be designed to work at primary, secondary, and tertiary levels. The range of private-public partnership activities around the world has included the following:

A. Financial incentives to private sector partners
   - Contracting out clinics or services within hospitals to NGOs
   - Contracting for marketing of health products to underserved rural areas
   - Provision of free or discount supplies to private providers
   - Joint investments in return for services, e.g., fixed percentage of beds for poor
   - Fee-based payments for special card holders (e.g., Medicare, poverty card)
   - Community financing or health insurance for preventive or curative services
   - Tax breaks, other subsidies to expand private medical services.

B. Regulatory harnessing of the private sector
   - Accreditation of doctors and clinics for quality of services
   - Pricing of products and services
   - Allowing dual use of public facilities and dual practice by government providers (public and private clinics)
   - Allocation of licenses for products or services (e.g., hospital beds) based on current levels and projected needs
   - Decreased restrictions on advertising of health products and services

C. Information sharing and improved joint efficiency of private and public services
   - Sharing of health goals and allocation of resources via decision-making forums
   - Training and update of both public and private health providers
   - Allocation of urban services to private sector and rural/remote services to NGOs and the government
   - Limiting access of wealthy to public health services and subsidized products.

These are just a few of the concepts currently being implemented or considered in a number of countries. In many cases, the private sector has been found to be the most efficient provider of services, while in others, the focus on profit making has led to problems in quality of services and access for the poor.
Commonly Used Strategies for Public-Private Partnerships in Health

The major strategy used is contracting of services. Governments can contract specific services within a facility, all services of a facility and finally, complete territories. For medical services (as opposed to, for instance, catering or laundry), the most public health success has been seen with contracting of NGOs. Success also depends on the negotiating and monitoring capabilities of the government, as well as the presence of competition for bids. In Cambodia, the Ministry of Health (MoH) contracted out essential health care packages in five districts to NGOs. Contracted districts performed significantly better than MoH districts, especially when NGOs were allowed to hire their own staff and to obtain key equipment and supplies. This system has also worked well in Senegal, Madagascar, and numerous other countries with good NGOs. In Bolivia, the non-profit group Prosalud is funded by the government to provide preventive services in its clinics for all clients and cross-subsidies from wealthier clients provide for free curative care for 10% of its clients.

In India, contracting out of primary health care services has been successfully tried in Tamil Nadu, Gujarat, and Andhra Pradesh. The Tamil Nadu government encouraged local industry to adopt a PHC, health sub-centre or district hospital. Industry was responsible for building, maintaining, and equipping the facility, while the government provided supplies and staff. (Bhat, 1999) In Gujarat, SEWA-Rural was funded to provide health services to one whole district with the proviso that it meet government health targets. (Bhat 1999) Results have been successful enough to continue the contract. In Andhra Pradesh, a pilot project to contract out facilities to NGOs was so successful that Andhra Pradesh recently contracted out all urban health and family welfare centres to NGOs.

A number of countries have developed schemes to provide medical services when their own staff is not available or facilities are not adequate. Indonesia allows its government medical personnel – doctors and midwives – to practice in the public clinic in the morning and pursue their own private practice in the evening, sometimes using government supplies. Although it can lead to some abuse, government personnel are much more willing to practice in rural areas under this system. Preventive care such as immunizations and family planning methods have increased and it takes a burden off government resources since it leads the wealthier clients to pay for services.

In West Bengal, private doctors have been hired on contract basis to staff PHCs. In Uttar Pradesh, there are similar efforts to contract private doctors to fill empty rural health centres and also special transport funds to provide outreach services. Municipal hospitals have developed arrangements with private doctors- fee-for-service in the hospitals on a revenue-sharing basis. Two pilot districts are providing sterilization services in nursing homes, using government doctors and supplies in private facilities. The key in this case is training of nursing home staff and promotion of service availability to the public.

There are other means of working with the private medical sector to reach public health goals. Important policy initiatives have been explored in Delhi, Rajasthan, and Punjab. These are described in detail in a paper by R Bhatt (1999). Briefly, they involve joint
investment with private sector through offer of land for building of hospitals in exchange for certain agreements such as development of speciality services. In Delhi, the private hospitals were to set aside beds, plus free services and medicines, for the poor. This has been achieved with varying success.

Rajasthan has also been the sight of many recent regulatory advances involving the private sector medical providers and alternative financing. Private practitioners, including non-MBBS doctors, have routinely been involved in training in family planning and other health areas. Medicare Relief Societies have been introduced to supplement existing service provision in public hospitals, through collection of user fees and revenues from in-hospital pharmacies. Societies were provided with seed money by the MOHFW and policy changes were made for retention of fees. In Andhra Pradesh, sterilization acceptors are now offered “Arogya Raksha” or health insurance to cover them and their children for two years for health services from private hospitals (Correspondence, G Narayana, 2002).

**Use of Marketing Contracts and Distribution Systems**

Since chemist shops and the market distribution system reach deep into rural areas, the use of marketing forces is another excellent private sector resource. Many countries provide contracts for social marketing organizations or commercial firms to expand the delivery of health care goods and services. These can include such items as oral contraceptives, condoms, iron folate tablets, ORS, anti-malarials, bed-nets, clean delivery kits, nutrition supplements, and others. Many of these products require the development of a demand, a skill in which these organizations excel. Public sector information, education and communication (IEC) often informs, but seldom persuades so well. Social marketing groups are active in more than 30 countries, while many more advanced market countries contract the commercial companies to develop demand and reach to rural areas. The key condition must be market segmentation so that the wealthy are not buying subsidized products more than the poor. Pharmaceutical firms can also be used to spread public health messages, as research shows that doctors at all levels get most of their updates from medical representatives.

In India, the social marketing programme for subsidized oral contraceptives and condoms has been active for the last 30 years. However, there have been some significant changes because the commercial companies such as Brooke Bond, ITC, and others withdrew from the programme in the early and 1990s, distribution levels dropped sharply. New approaches have been tried in several states. In Uttar Pradesh, SIFPSA has worked with two models. The first is a performance-based contract with Hindustan Latex Ltd to ensure increasing sales of condoms and oral contraceptives (OC), plus availability of product in shops in villages of 1000–5000 population. This has resulted in more product availability, but not always strong promotion. Therefore SIFPSA is trying a new approach—to contract in-depth marketing in an assigned rural territory to an organization on a competitive basis—and fund them to promote many products at once to the rural population. The latest contract with PSI is for oral contraceptives, condoms, iron folate tablets, ORS, disposable delivery kits, and other products.
In Bihar, Janani has developed a system to work with rural doctors to stock condoms and oral contraceptives and refer to urban clinics. In urban North India, a United States Agency for International (USAID) project works with private pharmaceutical firms to promote OC’s ("Goli ke Hamjoli") and recently, ORS. This approach uses the influence of private sector firms with doctors and chemists to encourage use of public health products. It also uses some of India’s top advertising and public relation firms to create demand. In UP, SIFPSA also encourages NGOs and dairy cooperatives to sell oral contraceptives and condoms, rather than give them away free (unproven use). Some NGOs such as Shramik Bharti have found this to be such a good system that they also sell other products, including commercial products.

Private Sector and Health Situation in Uttaranchal

Private medical providers and facilities are available in the newly formed state of Uttaranchal at about the same level as other states. There are now between 1100–2000 doctors of all systems practising in the former Kumaon and Garhwal districts (G Narayana et.al., 1994). The number of unregistered “quacks” is unknown. According to NHFS-2, about 75% use private doctors or clinics for health and even among the poor, only 22% of those seeking health advice use a public source.

However, health seeking is variable by cause. Over 80% of out-patient visits and 56% of hospitalizations are to the private sector. However, only 10% of immunization services come from the private sector. Utilization of health services for pregnancy, delivery, and post-delivery is low for both private and public services. Although 41% of women have some reproductive health problem, 69% of them have not sought any care, 11% went to public sector, and 21% to private sector. Only 21% of births were in a medical facility, of which 50% were private. Therefore, there is a need not only to make use of private sector facilities but also to increase services for preventive and reproductive health care.

Uttaranchal has additional private resources to reach to remote and rural sites. There were at least 88 private voluntary agencies (G Narayana et.al., 1994) and now there would probably be more which could provide outreach and facilities. An updated count needs to be made. Also, there are approximately 2175 chemist shops, of which 50% are in rural areas. These and the many small shops available in all villages could be excellent systems of delivery for health care products and information, as well as providing alternatives to the remedies of unregistered medical practitioners. As in the rest of India, the private medical sector is the major source of oral contraceptives and condoms.

There is also a strong opportunity to promote the use of health services and products in Uttaranchal. Exposure to mass media is fairly good, with 70% of rural villages electrified and 19% with a cable connection.

Considerations for Public–Private Partnerships at Primary and Secondary levels

1. Formulate a contract for outreach services and a package of primary care interventions for underserved areas to NGOs or other medical groups. These could be
area-specific and could be paid on an estimated per capita basis. Performance could be measured on targets achieved and results of indicator surveys.

2. Formulate a contract for marketing of specific health products to build both demand and supply, especially in remote areas. These could be for products generally sold in chemists or kirana shops, such as oral contraceptives, condoms, ORS, iron folate tablets, disposable delivery kits, vitamin A, and others. Contracts could be to social marketing firms, NGOs or commercial groups. Marketing activities tend to succeed more than plain IEC campaigns because they are persuasive in nature and also show a definite outcome in terms of stocking of products and in sales. Sales generally mean use.

3. Improve the quality of both public and private medical services in tandem. This can be done through accreditation of doctors and para-medical personnel, along with training in latest practices in reproductive and child health. Including the medical associations in this effort will ensure sustainability. A promise of publicity for services and possibly discounted supplies (like free vaccines) may encourage private doctors to take up preventive services.

4. Consider schemes for sharing of services and supplies between private and public facilities like contracting private doctors for outreach services, public doctors to perform procedures like sterilization in private nursing homes, and public health centres for dual private/public clinic use with fee-sharing.

5. Develop alternative sources for health financing for client services—community financing schemes, health insurance for special groups, user fees for all but the poorest, and joint ventures with private medical facilities or employer groups.

Policy Review for Public–Private Partnerships in Health

An intensive review of the current allocation of resources—which are adequately covered by private sector, which by public facilities, and which are still underserved—should be undertaken before implementation of the above possibilities. This applies to both geographic coverage and technical health activities.

For geographic coverage, a Global Positioning System study could map out where the underserved areas are located. It could also show urban areas that are adequately covered by private clinics and hospitals where the only need may be to ensure that the poor are also given place in these facilities. For remote areas, a geographic area could be mapped out which could be contracted out to a competent NGO or some other medical group for all essential and even curative services.

For technical and functional areas, a health systems review could highlight those areas where the private sector's role is integral to improved health. For example, if PHCs have difficulty delivering iron folate tablets to all pregnant women, then this is a good opportunity to use the private sector to market use and sales of tablets to pregnant women. A marketing contract could ensure a reach that is state-wide or in rural areas, and use the growing media opportunities. If certain speciality areas are under-represented in the state, such as obstetrics and gynaecology, then special tax concessions or other joint investment activities may be considered to increase services in this area.
State-level policy changes may be required to harness the power of the private providers. These may include accreditation programmes for MBBS and alternative system doctors and may also require consideration of training and/or regularization of “quacks” or unregistered rural medical practitioners. This is where government plays a “stewardship” role in improving health care. It would be best to work with the joint involvement of the professional associations. Consideration may also be given to formalizing the private practices of government doctors, so that there is synergy rather than competition.

A review of successful programmes in other states such as Rajasthan and Andhra Pradesh may provide some valuable lessons in implementing policy changes. These two states have been at the forefront of private–public partnerships, with mostly successful results. They have used tax concession, subsidies, training, joint investment, accreditation, and other tactics to gather the maximum use of their private sector and so save public resources for use with the poorest of the poor.

The primary lesson to be learned from public-private partnerships around the world is that clients are already going to the private sector for most of their health services. Given the public sector’s financial and logistical constraints, it makes sense to use this natural progression to harness private practitioners and the private market system to meet health goals. However, as a government moves more into a financing and regulatory role, there needs to be close monitoring of these health services and products. The private sector need for profit making means that quality is often sacrificed and preventive services do not receive priority. Therefore, a government health department needs to monitor and control carefully to ensure quality services at affordable prices.
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Organizational structure is a network of individuals with a set of well-defined roles and responsibilities to achieve common objectives. To achieve the objectives of the organization, efforts of people with specialized skills in diverse areas are needed. This leads to differentiations in roles and responsibilities. Differentiation improves efficiencies but, at the same time, coordination and communication are crucial to achieve common objectives. The greater the differentiation, the more complex the reporting relationships and accountability.

The health and family welfare organization in India, a simple and less differentiated one to begin with, has grown in complexity with the addition of new programmes over a period of time. The Department of Health and Family Welfare has six clearly defined levels—(1) the Secretariat, (2) the Directorate, (3) the Division, (4) the District, (5) the Block, and (6) the Sub-centre. The main objective of the organization is to provide promotive, preventive, and curative services. This paper describes the structural aspects first and then discusses major innovative policy initiatives taken by the Government of Uttarakhand to address some of the issues.

**The Secretariat**
The Secretary of the Department of Medical, Health, and Family Welfare (DMH&FW) provides leadership in terms of both policies and programmes. In the case of Uttarakhand, the Secretary of Medical, Health, and Family Welfare (MH&FW) is also the Secretary for the Department of Women Development and Child Welfare as well as for the Department of Water Supply. At the state level, the government has taken an innovative decision and created a registered society called the Empowered Committee.
for National Programmes of Medical, Health, and Family Welfare. The main functions of the Empowered Committee are to (1) ensure inter-departmental coordination; (2) carry out independent evaluation of programmes; (3) coordinate training programmes at various levels; (4) encourage community action to improve health standards of people; (5) ensure procurement of all essential equipment; (6) appoint consultants as per requirements; and (7) decide on financial powers of state-level executive committees.

The Chief Secretary of Uttaranchal is the Chairperson of the Empowered Committee (Figure 1); with the Secretary for Medical, Health, and Family Welfare as Vice Chairperson; and the Director-General (DG) of MH&FW as Member Secretary. There are five members and all of them are secretaries drawn from the departments of finance, education, women and child welfare, urban development and rural development. The Empowered Committee has five executive committees each dealing with a different programme— (1) the

**Figure 1**

_Society for the Empowered Committee for National Health Programmes_

- **Chief Secretary (Chair-Person)**
- **Secretary—Medical, Health and Family Welfare (Vice Chair-Person)**
- **Members**
  - Secretary—Finance
  - Secretary—Women and Child Welfare
  - Secretary—Education
  - Secretary—UD
  - Secretary—RD
  - Director-General, Medical, Health and Family Welfare (Member Secretary)
- **Executive Committee for Reproductive Child Health**
- **Executive Committee for Blindness**
- **Executive Committee for Tuberculosis**
- **Executive Committee for AIDS**
- **Executive Committee for Leprosy**
- **District Empowered Committees**
- **District Executive Committees**
Reproductive and Child Health (RCH) Programme, (2) the Leprosy Elimination Programme, (3) the AIDS Control Programme, (4) the Tuberculosis (TB) Control Programme, and (5) the Blindness Control Programme. All executive committees are headed by the Secretary as chairperson and the DG of MH&FW as deputy chairperson. The concerned programme officers are member secretaries for each committee. The other members are drawn from the Directorate, Government of India (GoI), and the non-governmental organization (NGO) sectors. All extra-budgetary funds are routed through the Empowered Committee and its executive committees. Each executive committee has a separate bank account and book-keeping system. Various executive committees in the past year have handled the extra-budgetary support of Rs 110 million. Similar empowered committees and executive committees were formed at the district level. The committee structure has ensured timely flow of financial resources for programme implementation and helped to achieve better coordination. The Empowered Committee has also helped to overcome the problem of having several societies dealing with different projects since there is, within this framework, the flexibility to create more executive committees as and when the need arises.

Structure at the Directorate Level
The DG of MH&FW heads the department at the directorate level. There are two positions of director to assist the DG and these directors in turn supervise the work of additional directors (ADs). There are six AD positions at the directorate level, each with specific functions and job responsibilities.

The AD (Administration) is responsible for administrative matters related to headquarters and office staffs and also looks after the engineering department. The AD (Administration) is assisted by one joint director. The AD (Medical Care) looks after the
homeopathy medical officers and the medical care, paramedical, and nursing personnel. One joint director assists the AD (Medical Care) for functions related to health care, paramedical and nursing, and one deputy director provides assistance in regard to homeopathy medical officers. The AD (Store and Planning), with the help of one joint director, manages stores, prepares plans and budgets, and looks after rural health programmes. The AD (National Programmes) provides guidance to all national health programmes including family planning and MCH. He gets assistance from one joint director and one assistant director. The AD (State Vaccine Institute), with the help of one joint director and one assistant director, is in charge of the institute. The Chief Superintendent of the Tuberculosis (TB) Sanatorium has the rank of AD.

Structure at the Division and District Levels
Uttaranchal has two divisions and in each division’s headquarters, there is an AD to supervise and monitor the work of all health institutions in the division. The AD (Division) supervises the work of the Chief Medical Officer (CMO) of the district, Chief Medical Superintendent (Male Hospital), Chief Medical Superintendent (Female Hospital), and Chief Medical Superintendent (Base Hospital) in each district. The AD (Division) gets assistance from one joint director at the division level. Superintendents of the male, female, and base hospitals provide technical and administrative leadership to the teams working in their hospitals. The rural health outreach programme is with the CMO of the district. The CMO has two Deputy CMOs to provide administrative support; one for personnel and the other for planning and budget. In addition, there is a separate Deputy CMO for the universal immunization programme. Three other Deputy
CMOs are called “area” Deputy CMOs. Three national health programmes have district level officers—the District TB Officer, the District Leprosy Officer, and the District Malaria Officer. All these officers report directly to the CMO. The district is divided into three more or less equal areas. All programmes implemented by all institutions in each area are under the supervision of the Deputy CMO of that area. However, Deputy CMOs do not supervise the superintendents of the community health centres (CHCs), as the rank of Deputy CMO and that of Superintendent of a CHC is the same. CHC Superintendents report directly to the Chief Medical Officers, which has resulted in an increased span of control of the CMOs to unmanageable levels. The Deputy CMOs supervise all state allopathic dispensaries and block primary health centres (BPHCs) and additional PHCs.

Organizational Structure at the Levels of Community Health Centres, Block Primary Health Centres, and Sub-centre

There are two types of major institutions at the block level. CHCs cater to a population of 100,000 or three additional/new PHC areas in the plains or 60,000 population in a hill region. CHCs have four to five medical officers and some of them are specialists. Block-level PHCs have two medical officers and usually cover the same number of new/additional PHCs and a population size the same as that of CHCs. CHCs have 30-bed hospitals and BPHCs have less than 30-bed hospitals. Both CHCs and BPHCs act as first referral units and supervise the work of all new/additional PHCs and sub-centres in the geographical area.

New and additional PHCs have just one medical officer and no sub-centres are attached to these units. The medical officers of new and additional PHCs provide only clinical services. In addition to these, there are state allopathic dispensaries with one doctor.
Sub-centres that cater to populations of 3000 in a hill region and of 5000 in the plains provide a variety of services including antenatal care, assistance at the time of delivery, immunization of children, distribution of contraceptives, help for those opting for sterilization methods, follow-up of sterilization acceptors, health education, and promotion of quality health care. Sub-centres are the backbones of the health and family welfare organization. They are located in villages and serve people living in a cluster of villages. Female and male workers of sub-centres are supervised by female and male supervisors who, in turn, report to a CHC Superintendent or a Medical Officer In-Charge of a BPHC.

Issues and Challenges
The health and family welfare organization faces several issues and challenges at all levels. The main issues and challenges include the following:
1. There are a large number of vacancies at the directorate and division levels. The positions of directors; ADs at the directorate level have officiating officers, who for the most part, have the rank of joint directors.
2. Work in the organization is unevenly distributed. Some staff members are overloaded and others have less work.
3. Long delays in recruitment of officers and other staff members and frequent transfers of officers are major problems faced by the organization.
4. There is no performance-linked reward system. Those who work extra and those who work little are treated the same, often demoralizing the achievers in the organization.
5. Monitoring and supervision of the work at all levels have to be strengthened further to achieve objectives of the organization.
6. In general, urban health infrastructure, particularly for promotion and preventive care, is non-existent and has to be designed and put in place.

Keeping some of the above issues and challenges in view, the state government has taken several innovative steps in the past year. A brief description of policy decisions, taken to improve quality and access aspects of health services, is given below.

Innovative Policy Initiatives in Uttaranchal

1. Involvement of Private Agencies to Provide Pathological and Diagnostic Facilities
The Government of Uttaranchal (GoU), in December 2001, decided to equip major government hospitals with modern diagnostic test facilities with the help of private agencies. In this regard, a set of detailed guidelines were issued to encourage private agencies to set up CT scans, TMT machines, ecocardiogram equipment, and so forth. Five sites (Doon Hospital, Dehradun; B D Pandayale Hospital, Nainital; Base Hospital, Almora; and Base Hospital, Shrinagar at Garhwal) were initially selected for this purpose. The CMS of each concerned hospital will call for bids from private agencies, and a three-member committee headed by the CMS will award the contract to the selected private agency. The space for setting up the diagnostic centres will be provided by the concerned hospital authority. The charges for getting these services will be
decided by the hospital authorities and preference will be given to patients visiting the government hospital.

2. Establishment of Private Telephone Booths in all Government Hospitals
The GoU has decided to provide telephone facilities in all government hospitals with the help of private Public Call Offices (PCOs) on the hospital campus. These PCO owners, selected on the basis of competitive bidding, were given three-year licenses issued by the concerned CMS. The concerned hospital authority will provide space to operate a PCO. Users will have to pay for calls based on Department of Telecommunications rates.

3. Involvement of integrated Child Development Service (ICDS) Workers for Improving Access and Coordination
Considering the topographical problems, lack of infrastructure, inadequate manpower, and higher maternal mortality rate (MMR) and infant mortality rate (IMR) in Uttaranchal, the GoU has decided to improve access and establish effective coordination among different development departments at the village and gram sabha levels. All anganwadi workers (AWWs) were given basic orientation training by the officers of the MH&FW Department. The training programme emphasized the need to register all pregnant women, to identify high-risk pregnancies, and to refer high-risk cases to the nearest referral unit. AWWs would also act as depot holders for iron and folic acid tablets, oral rehydration salts, and contraceptives. The responsibility for registration of births and informing about persons suffering from communicable diseases is also given to AWWs.

4. Privatization of Cleaning, Laundry, and Diet Services in Big Hospitals of Uttaranchal
The GoU, in December 2001, decided to hand over cleaning, laundry, and diet services in big hospitals to private agencies. Nine large hospitals have been identified for the purpose. The decision has been taken to shift the employees currently performing these functions in big hospitals to other hospitals in the district. The decision has also been taken to abolish these positions in future. The selection of private agencies is based on competitive bidding by qualified bidders.

5. Appointment of Medical Officers and Paramedics on a Contractual Basis
The GoU has taken a decision to appoint medical and paramedical staff on a contractual basis for a period of one year, particularly in the hill regions. The government has decided to recruit 241 male medical officers, 33 female medical officers, 18 dentists, 96 helpers, 57 lab technicians, and 28 X-ray technicians. So far the department has recruited 154 medical officers on a contractual basis and 116 are working. There is a rigorous performance monitoring system in place to assess the work of medical officers hired on contract.

6. Uttaranchal Drug Procurement Policy for State Hospitals and Clinics
To improve the quality of drugs purchased, the GoU has taken a series of steps. For example, to qualify for bidding a company should have had a turnover of at least 15
crore rupees in the previous three years and should have either the Director-General of Quality Assurance or World Health Organization certification.

7. Transfer Policy for Medical Officers
The GoU introduced major changes in the transfer policies for medical officers. AD appointments will be for a maximum of two years at one place, and they will not be appointed in their home districts. After serving two years in a particular place, there should be a gap of three years before they are posted to the same place again. Those who worked in less difficult areas will be transferred to more difficult areas. Senior Grade Class I medical officers will be appointed for a maximum of five years in a particular district. These officers will be transferred after ensuring replacement. Those officers who have not served for at least three years in difficult areas will be transferred back to such areas. B Grade Class I officers will be allowed to work in a particular place for a maximum period of five years and within the same district for a period of seven years. Specialists will be appointed in CHCs, tehsil hospitals, and district hospitals in specialist positions that suit their qualifications. Those who have completed five years service in difficult areas will be posted to less difficult areas. Based on these new policies, 208 medical officers have recently been transferred.

These measures and several others being contemplated are expected to bring about major qualitative changes in service delivery systems in Uttaranchal.
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Let us examine a state health system. There are individuals as well as groups, for example, the Secretariat, the Department of Health, the sub-units of the department (at the state level), and the units below the state level (the district, sub-district, and village). Below the state level are two systems, one the departmental (government) system and the other the people’s system (Panchayat Raj). All these individuals, groups, and systems are considered as actors as well as authorities. In the health system, there are both individuals and groups responsible for completion of tasks and assignments. Accountability of both the individuals and groups, therefore, needs to be institutionalized.

Accountability as an Empowering Mechanism
Let us shift our attention to the main philosophy of accountability. There may be two different orientations in relation to accountability, that of control or that of enabling the individual or groups to perform the tasks. The main flaw in the government system is that accountability is generally perceived as a part of the control system. Instead of accountability being interpreted as a way of controlling the performance of individuals or
groups, it must be seen as an enabling mechanism to help the individual or the group to perform the task or assignment. This orientation will make the basic difference.

When we consider accountability as an enabling mechanism, it becomes a part of the process of empowerment. Empowerment can be defined as the process of enhancing power, or creating autonomy in a system to help actors take charge of their efforts, or promoting the ability to act effectively to solve problems, to influence important issues and to contribute to transformational changes to achieve results beyond expectations.

Empowerment is a function of four aspects— (1) clarity of the task, (2) enough autonomy to perform the task, (3) support (human and material) required for working on the task, and (4) accountability (willingness to take responsibility for the results). If accountability is seen as an integral part of the process of empowerment, all the steps of the empowerment process must be ensured, otherwise accountability may not result in any desirable consequence.

Individual members feel empowered if their ideas are valued, they are listened to, recognized for their contribution, encouraged, projected as important members, consulted, and so forth. Empowerment of roles is also important. In fact, motivation can be increased in employees by motivating and empowering the roles (see Pareek, 1993 for a detailed discussion). If different roles have scope for initiative, creativity, discretion, growth, linkages, etc., they are empowered. One role deserves special attention, that of the leaders (senior managers). Even while they can continue to control by using their authority, they may lack real power unless they demonstrate leadership qualities such as vision, strategic thinking and planning, and the ability to seek and nurture talent. Teams have their own dynamics and need to be empowered by clearer goals and freedom to work, with enough support from management. Finally, the organization must also be an empowered organization, inspiring and supporting other units in this process.

**Task**

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An important aspect requiring attention of the top leaders (political, secretariat and directorate level) is social responsibility.
Authority
Authority is the individual or the group to which an individual or a group is accountable. We may have three types of authority—(1) the government system and its custodians, (2) the people's system (Parliament being the highest authority, Vidhan Sabha and Panchayati Raj institutions (PRIs) being relevant for their own purposes), and (3) an autonomous body of experts created for the purpose.

Let me take the last one first. Some policy decisions and the duration of development of the health programmes may require more critical scrutiny in relation to some important criteria like equity, accessibility of all including the marginalized groups, benefiting a larger part of the society, priority in terms of welfare of people, and so forth. The comments by Spencer Klaw, although dated, are still very relevant “...scientists themselves must create a new kind of advisory and critical apparatus... I think that what we need is an independent institute, modelled after the American Civil Liberties Union or, perhaps more precisely, modelled after the Institute for Policy Studies in Washington. The function of this institute would be to produce the kind of advice that we badly need in America. It would be produced by permanent Fellows, or members, drawn from both the natural and the social sciences, and acting in cooperation with people from universities or other institutions serving as consultants. Some of these consultants might serve for a few days or weeks; others might spend a year as visiting Fellows... such an institution should have the broadest possible sponsorship; that its director and staff should have great autonomy... and that it should be totally independent of the government” (Klaw, 1971, pp. 14–15).

Medical and health systems are likely to move away from the main goal of serving the poor people in the rural areas under the pressure of multinational companies peddling expensive drugs and equipment, the lure of privatization of medical services, and with the connivance of medical practitioners dreaming of turning their profession into business. The words of Thomas Brewer about the United States should be a warning to persons in developing countries. “There is no more glaring contradiction in our modern ‘free, democratic, open’ United States society than our medical system, organized and run by representatives of our wealthy business class for its own interests, prestige, and profits. It is only through a correct and scientific understanding of the class structure of our society – including its injustices, cruelties, and contradictions – that we can proceed to lay the foundations for a really modern, efficient, and scientific medical system dedicated to all our people and all their children.” His strong recommendation deserves our full attention: “The drug industry must be nationalized and run for the health of the people, not for profits” (Brewer, 1971, p.162). This kind of accountability of the state system must not be ignored.

The authority of the people's representative systems must be established. This is being done in most states through PRIs. Unless we decentralize all the health functions, and help PRIs to take charge and function effectively, accountability of health and medical functionaries cannot be institutionalized. Of course, their own accountability for
effective functioning needs to be institutionalized. We shall discuss this later while discussing pay-off of performance.

Within the state government system, decentralization is necessary for institutionalizing accountability. For example, all executive functions, including appointments and transfers, must be decentralized from the Secretariat to the Directorate, which should further decentralize down the line. This will release productive time for the Secretariat to work on policy and monitoring issues. The same is true of the Directorate.

**Pay-off**

The last element in institutionalization of accountability is pay-off for performance and conformity to the process. The main lacuna in the government system is the absence of pay-off for high or low performance of individuals or groups. Accountability cannot be institutionalized unless the performance is linked with pay-off. Although it may sound like a revolutionary idea (it is being practised in several Indian corporations), a part of the compensation (salary) should be linked with performance. While there may be fixed salary of individuals in the system, a variable part may be determined by performance of the group or team of which the person is a member and the person's own performance level. Most of the grants must also be linked with performance of the respective groups. For example, those districts or panchayats that show higher performance in terms of health indicators or control of certain diseases may be given more grants, compared with those that have lower levels of performance. This will encourage both individuals and groups to maximize their pay-off by raising their levels of performance.

If such a system is adopted, the first step required is the development of indicators of performance and process. These indicators should be objective and concrete and should not be based on any subjective ratings. Once such indicators are developed, with the appropriate involvement of concerned persons and groups, they can be used for determining the pay-off. Such an approach would require a complete change of emphasis. Even the various systems within the government, like training institutes, must be covered by the performance culture and indicators of performance may also be determined in terms of the importance of health indices. Certainly processes leading to high performance (e.g., competence level of various functionaries, the process of delegation, building and using information control systems, etc.) should also be assessed and linked with pay-off both for individuals and for groups. This will require large-scale exercises in developing indicators as well as relevant pay-off for different individuals and groups in the health system. Without such an effort, accountability cannot be institutionalized.

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8. Provide support to improve performance levels.

References


This paper is a synthesis of four decades of experience in capacity building in health systems provided by non-government and government service providers, community groups, and bilateral and multilateral agencies. An effective logical systems development approach is about initiating, integrating, disseminating, and expanding the socio-technical critical mass of an institution’s mission context.

This paper intends to stimulate reflection and discussion relative to the workshop theme, Reproductive and Child Health Policy Issues in Uttaranchal. In structure, the paper

- advocates exploration of a socio-technical approach to policy and guideline formulation and need-determined structural flexibility for guideline implementation;
- presents some principles of capacity building for health policy implementation;
- describes briefly a systems capacity building concept developed since 1972 in hospitals, health institution networks, and public health programmes; and
- projects a theoretical extension of the capacity building concept.

Introduction

Given the need for standardization, the Government of India (GoI) health policies, guidelines, and implementation strategies are generalized for country wide application. When considering capacity building in large public health systems, it is important to work within a “whole system” perspective; to differentiate the health or specific programme policy, guideline, or plan of operation within regional, state, district, and
local area contexts; and to determine implementation plan flexibility by the general and specific situation. A state policy that endorses such differentiation and integration

- provides a whole system interface perspective;
- legitimizes the existing hierarchical decentralized health organization structure;
- exploits and develops latent human resource and community potential;
- encourages initiative, innovation, personal and collective commitment, and ownership; and
- fosters team building and peer accountability in the work culture.

Too frequently, health policy is determined by (medical) techno-structure on the assumption that the socio-technical aspects of health sector services or programmes will ensue through compliance with hierarchical and traditional patient-doctor dependency. For sustainable implementation to achieve the overall outcomes and objectives of the health policy, it is advisable that the paradigm be inverted—planned socio-technical initiation and expansion of local area critical mass to influence system capacity building and a proactive collaborative organizational culture.

**Socio-technical System Approach**

From the point of view of an impartial third-party process observer, health-staff system communications and service provider interactions with seekers and nonseekers appear prescriptive and mechanical. A compartmentalized chain-of-command culture prevails. Examine the two situations below from a simplistic socio-technical system categorization of the task to be performed, the territory (task area or confines), the technology (the what and how method), and the time for the task's completion:

1. **Health-staff system communications:** The trauma team, emergency room, and surgical theatre staff “in action” provide a few examples of the “four Ts” socio-technical system where clockwork technical interdependencies in confined environs determine effectiveness. The interdependencies and relationships of these team members are, or should be, necessarily different in non-emergency and in action situations; it is not unusual that members “disband” post-action to separate departments and units. The coming together of or separate compartmentalized provision for health-service tasks by service providers is a common practice. Patient records - in the form of case notes, tests ordered, prescriptions, and reports – summarize the provider's input for possible records integration and analysis at some post-dated time.

2. **Provider service seeker or nonseeker interactions:** Most often seekers of corrective and curative health services are reluctant and psychologically agitated customers—quick fix, least times, and money outlay stakeholders. In other public health promotion (and episode or situation) prevention situations, individuals or the community are often equally reluctant and psychologically unprepared—non-committed and non-stakeholders. In the public health context, social, economic, cultural, and other community issues are significant determinants of individual member, family group, and collective community health behaviour.
With whom and how much do health service providers and communities in Uttaranchal need to share a GoI whole system and/or a Uttaranchal health service or a reproductive health services perspective? The possibilities of enlarging latent service provider and community "who and how" is a meaningful and doable challenge.

Many other significant and wide-ranging development initiatives can be considered. Udai Pareek has done insightful research on organizational ethos and culture. We used his instrument “Motivation Analysis of Organizations-Climate (MAO-C)” first to assess pre-intervention (base) group culture profiles of
- participants in a postpartum health service provider workshop for four Rajasthan districts;
- a cross-section of National Leprosy Eradication Programme (NLEP) workers - directorate through paramedical workers - from districts of Madhya Pradesh (undivided), Orissa, and Tamil Nadu states; and
- a cross-section of public health staff in Tamil Nadu.

The data across the three groups indicated that health service staff was generally extension oriented. Their affiliation need was high and followed by a need for control. They were expert-influenced, dependent, and low risk-takers.

At two later stages, we reused the instrument in the second and third groups above to assess culture change in the socio-technical intervention-driven group. The results were encouraging to the extent that, in one example, the Tamil Nadu NLEP and primary health centre (PHC) staff went on to design a workshop to present achievements and to project programme integration strategy and plans to an invited audience of state officials, national and international consultants, and nodal NLEP officers.

Also, in the “projects influencing programmes” context, we used focus group discussions, search conferences, logical frameworks, and other participatory interventions with service providers and community groups to develop perspective, commitment, collaboration, and proactive programme-support culture. The investment in adaptive-role-change influences change in community health culture (D’Souza, 1992).

**Principles of Capacity building**

Capacity building is necessary at all levels of the public health service hierarchy; it is important to anticipate the ripple effect of interventions on other organizational areas. The intent of capacity building is to qualitatively alter the status quo in health services delivery and the community health culture towards a desirable development objective, for example, the improved health status of the people of Uttaranchal. The reality of this workshop confirms an initial set of stakeholders—central and state governments, possibly multilateral and bilateral partners, and others. By invitation, we participants are potential stakeholders in this workshop’s objective. Perhaps our role is to achieve population stabilization as an intermediate objective that will contribute to the facilitation of the development objective. If this is the case, suggested capacity building principles are described below.
Resource Building and Pooling
My interpretation of the above-mentioned development objective and intermediate objective may or may not be accurate. This may indicate that I have some catching up to do, since I am challenged by the task. On the other hand, the workshop sponsors may want to induce participant stakeholders’ commitment by providing clarity on the workshop background and terms of reference. Stakeholder development by exploring partnerships and developing present and potential partnerships is a preliminary capacity building need.

Another personal assumption is that a cause–effect problem and objective assessment, using the Logical Framework Approach (LFA) or some other process, has contributed to the suggested objectives formulation. If this is so, to develop commitment and implementation plans, with justified flexibility, it is advisable that representative stakeholders become familiar with the planning process used and review and modify, if needed, the general problem and objective assessments in the context of the state and its different regions.

The cause–effect conditions raise issues of stakeholder interdependencies and personal and infrastructure resource application that demand attention to required support linkages or networking and coordination.

Operational Management
Short- and long-term decentralized activity prioritizing, planning, implementation, and accountability through self and peer-group monitoring contribute to developing a proactive work culture and achievement orientation. Such initiatives should be encouraged and developed. In comparison to their private sector counterparts, government health service providers are not, as a rule, concerned with revenue generation, viability, and cost-effectiveness issues. There is advantage in developing financial and other managerial capacities, especially when exploring alternative intervention options and innovations, for example, optimizing and valuing community contributions in cash and kind, or comparing the cost benefit of alternative options in terms of accelerating achievement of activity outcomes and objectives. Participatory activity planning, implementation, review, and reporting at the peer level are important motivators.

Development Management
The scope and time scale of intra-sector, inter-sector, community, and other possible interfaces in large public health systems interventions extend beyond technical operations management. Such interfaces entail vision, scenario-building capacity, development strategy, and management inputs, such as understanding and promoting development communication and management practices.

Sustainability
The notion of sustaining a development initiative within the available resource restraints and potential of a targeted system impacts policy formulation, operation
strategy, and implementation planning. In instances of external donor support, the sustainability objective compels informed negotiation and cultural levelling in intervention and activity or input decisions. In the in-house change agent situation, institutional viability considerations to sustain development prompt innovation and resource application accountability. Importantly, the sustainability objective requires a thorough appraisal of the reality of the host organization; to begin capacity building on a viable foundation. In sum, the suggested capacity building principles imply serious attention to human resource development beyond technical competencies (D’Souza, 1991; DANLEP, 1992).

**Systems Capacity Building Concept**

Among other practised approaches to systems capacity building, I prefer the expansion of critical human resource mass as an option that allows adaptation, flexibility, rapid dissemination, and self-renewing sustainability in a situation-determined, altered-paradigm structure.

**Organizational Development**

The significance of the change potential of expanding critical mass developed from the experience of progressive organization culture eroding to militant union activity in the period 1961–67, in our premier, non-profit hospital in New Delhi. As a result of a large, physical facility expansion programme, the 60 self-discipline valuing staff – many of whom provided the critical proactive mass in later organizational development (OD) – grew to 400-plus with new inductees with varied organizational backgrounds.

The management decision to contract an applied behavioural science (ABS) consultant group to conduct an organizational climate survey and initiate organizational development processes was a unique development in the Indian health sector context. Investments in professional hospital management education and training and internal ABS competency building culminated in a four-member internal resource group that replaced the external consultants by 1972. The OD process was sustained through 1984, first by the OD cell and from the mid-1970s by a top management team.

Modelled on Likert’s New Patterns of Management, a participatory management concept, an organizational structure of five groups of five department head clusters was adopted with a potential “change agent” as coordinator of each cluster. The change agent’s managerial, ABS skills, and team capacity were developed and disseminated through their respective clusters and eventually across the whole organization. Institutional norms were developed through a transparent participatory process.

- **Department head meeting:** All department heads were required to attend a weekly meeting at which only organization-related matters were discussed and decided. Nominated proxies with authority to make decisions were allowed only when the department head was on authorized long leave. An early task of the department heads was to interpret the organization’s mission statement - patient-centred quality of service irrespective of caste, creed, religion, or socio-economic means - within their departmental context. For example, the paramedical department cluster
decided that accuracy of reporting was an indicator of quality. Medical reports and billing prior to patient discharge, preventive maintenance, and prompt repair of all equipment with priority given to group A (life-saving) were other examples. Another major activity was the preparation of a five-year plan based on retrospective community health, out-patient department (OPD), emergency, ambulatory care, and in-patient data and on projected development and changes in the Delhi Master Plan and the national capital region (NCR) resulting from the growth and development of other health facilities.

- Department meetings: Minutes of deliberations at department head meetings were circulated within 24 hours to enable prompt and uniform intra-department sharing, deliberation, and upward reporting.
- Cluster groups and meetings: The cluster group members developed a complete understanding of other departments in their group and jointly developed annual activity, revenue, and staffing plans, and expense and capital budgets. By 1979, department clusters, instead of the chief executive officer (this consultant), were presenting the hospital annual reports, budgets and activity plans to the Governing Board and Registered Society, with a department head member presenting an aspect - revenue and expenses, capital budget, activity plan, staffing - of the respective group cluster.

By 1980, the employee's union had transformed to a recognized and supported institution, the Employee Welfare Society.

**Networked Institutional Development**

The OD initiatives described attracted interest from other non-profit hospitals and medical colleges. We, the core management team, conducted an organizational climate survey, assisted by the institution's change agent team, in each of the six collaborating institutions, and planned the 6+1 human resource institutional development (HID) concept. We also were the core critical mass and six potential change agent teams from collaborating facilities— one group in North India around our nodal New Delhi base, and later, a second 6+1 group in South India with a facility in Bangalore as a base and our team as external resource. An organizational climate survey to develop baseline profiles led to the planning of institutional need-specific interventions. The experiences of the disparate interventions were disseminated among the other organizations— OD model building.

This briefly described critical mass institutional development concept resulted in its extension to community health and inter-sector socio-economic collaborative projects. Also the initiative contributed to the advancement of professional health administration programmes and a year-long post-MBA administrative residency with accreditation by the Voluntary Health Association of India (VHAI).

**Projects Influencing Programmes**

The three phases - 1986 and continuing - of the Danida Assistance to the National Leprosy Eradication Programme (DANLEP) provide an example of a small bilateral
support project making a significant impact on the NLEP. It has mushroomed by design to support Orissa, Madhya Pradesh (undivided), and Tamil Nadu states and the nodal NLEP organization for specific project innovation dissemination, including models for dismantling the vertical programme and integrating it into the public health services.

1. Phase I – Sub-districts and block-level critical mass influencing districts.
   An appraisal mission used the donor-required LFA to design DANLEP, Phase I. The project districts were Cuttack, Orissa, Durg, Rajnandgaon in Madhya Pradesh, and Salem in Tamil Nadu. The project included a project support team, software inputs, multi-drug therapy (MDT) blister-packed drugs, and infrastructure. The project introduced the District Leprosy Eradication Society (DLES) structure to expedite direct nodal NLEP to the DLES of the four project districts. The GoI extended this structure across the NLEP and to other health programmes.
   - The nodal NLEP stressed active case detection and MDT treatment.
   - The three states had varied completeness of staff infrastructure—Tamil Nadu with full cadre staffing, Orissa with incomplete staff, and Madhya Pradesh with medical officers officiating as District Leprosy Officers (DLOs) and the programme operation dependent upon acting non-medical supervisors (NMSs).
   - Leprosy was viewed as a “punishment posting.”
   - Leprosy-related stigma and superstition prevailed.

In the prevailing under-staffed and unmotivated staff situation in Orissa and Madhya Pradesh, the first project initiative was for the whole support team to work with NLEP staff and 12 village communities across Dongargarh block of Rajnandgaon district—to mobilize communities to “expose leprosy” and bring it into open discussion in each village community. Next, with support of the community of the 12 villages, leprosy patients and their families converged to a new jail premises, with the Collectors willing sanction, for a 14-day MDT Intensive Phase launch and disability treatment camp in full public view. The activity tempo increased and spread to other blocks of Rajnandgaon and adjoining Durg district. Similar community mobilization initiatives with some local-need determined innovations multiplied and spread to Cuttack and Salem. The community mobilization and workers’ morale boosting interventions spread to non-DANLEP districts of the three states through dissemination by worker deputation for field experience to and from the DANLEP districts. By the end of Phase I, the NLEP workers of Rajnandgaon had institutionalized an annual district-wide leprosy eradication and disability prevention and treatment yatra during the January leprosy week, with community support in the form of hospitality, cash, kind, and volunteered services (Sorensen, 1992).

3. Phase II – Districts to states and specific central support
   The DANLEP Support Unit team, in consultation with State Directorate officers and DLOs, used the LFA to develop a draft Plan of Operation and Plan of Implementation for eight districts in the three DANLEP states. Software inputs were provided to three states and the central NLEP. A month-long, NLEP-staff-initiated, community mobilization campaign across South Arcot district accelerated voluntary case reporting beyond expectations. Two WHO Independent Evaluation teams visited the district to verify data and WHO invited the project to present DANLEP community mobilization and NLEP staff capacity building at workshops in Sri Lanka and Nepal.
Chennai district provided a model for urban leprosy control in six other cities of Tamil Nadu.

4. Phase III – Leprosy elimination NLEP-PHC interface
   The Tamil Nadu workshop on integration, referred to earlier, was followed up in Orissa and Madhya Pradesh in Phase II. In preparation for Phase III, the NLEP state and district staff assumed ownership of the LFA exercise. The DANLEP Support Unit began a weaning out process. This consultant chose not to renew his contract since the capacity of NLEP and PHC staff to eliminate leprosy in the project areas was established.

In sum, DANLEP Phase I focused on building critical mass and work culture in block-level NLEP staff, interfaced with community mobilization to address the social stigma associated with leprosy. NLEP staff and community attitudes towards leprosy had to be addressed before the NLEP objective of MDT treatment would be accepted. The NLEP data confirms that many fewer patients were actually covered under the initial intensive phase compared to the NLEP guidelines requirement. Presumably, the NLEP guideline did not take into account the community, workers, and states stake in the programme. In the Cuttack (Orissa) situation, the district activity influenced the state’s Health Secretary and Director of Health Services in having DANLEP organize the earlier referenced workshop, for the purpose of developing an NLEP guideline, based on the Orissa experience.

In DANLEP Phase II, the eight project districts were the critical mass for the DANLEP state support activity. In each of the three states, a search conference of DLOs, WHO consultants, and a central nodal NLEP representative determined the group’s priorities.

- Case detection, holding and release
- Deformity prevention
- Health education and community participation
- Training and manpower development
- Monitoring and evaluation.

While NLEP-PHC integration was also listed, there was resistance to its inclusion as an NLEP priority early in Phase II, primarily from the Leprosy Inspectors (LI) Union in Tamil Nadu. At the start of the vertical NLEP MDT, the state recruits to fill vacancies were young jobless graduates and post-graduates concerned with status drop in the integrated programme context. The two state LI groups – older, less qualified, senior and younger, more qualified, junior – were split on the PHC integration issue. Representatives of both groups participated in a special workshop on integration. The participants were unanimous that integration was inevitable and developed scenarios of what that would mean for patients, community, and NLEP staff. The workshop concluded with participants’ recommendations to the State Leprosy Officer on inputs necessary to safeguard the interest of three groups in the integrated NLEP future.

To facilitate socio-technical change interventions, NLEP staff formed zonal district clusters in each state. The criteria for cluster formation were inter-district access.
convenience and zonal business meetings at a fixed location to maintain a minimum requirement of Travel Allowance (TA) and Daily Allowance (DA). A DLO from each zone opted to be a member of a committee for each priority area. That individual was required to disseminate respective committee deliberations and activity plans to other members of their zone, to facilitate zonal plans for each priority area. The arrangement induced inter-zonal collaboration and competition and also peer group pressure within zones on DLOs whose performance lowered the group performance average. Interestingly, Medical Officers at Leprosy Control Units and their staff modelled the zonal committee arrangement at the sub-district level.

Later, a Health Systems Research Priority committee was introduced. The committee vetted drafts of proposals by staff and approved those that met acceptable standards set for presentation at state, national, and international conferences and forums. Finally, the committees started a journal for wider dissemination of experiences.

Theoretical Extension

The first annex (Table 1)

Project Design Summary Matrix: DANLEP Phase III, extracted from the Project Operation and Implementation documents, outlines the project's status at the end of Phase II, in terms of an LFA objective hierarchy and supportive output of activities to attain the project objective.

The second annex (Table 2)

Capacity building in Public Health Systems: Project Area and Activity/Component Interface is an adaptation of DANLEP to stimulate exploration in the Uttaranchal context. The project area could be the state (shown) or zone or district within a zone. The sub-project area would be a next lower level of the project area in the pro forma. The suggested activity components A–G may vary in type and number. The shaded grey areas – monitoring and evaluation (M&E), coordination, and health systems research (HSR) - are across project consideration of other activity components within the vertical sub-project columns. These can also be increased or decreased as needed. The pro forma helps to assess decentralized situations and evolve activity plans, and sub-project and project areas.

A stakeholder's socio-technical search conference and/or LFA activity could help develop the concept in the Uttaranchal context. It is recommended that any such project or programme development process review the earlier enumerated principles and others that may result from this workshop or future deliberations. It is important that the stakeholder base be as wide as necessary and socio-technical processes be introduced to harness stakeholders' potential and empowered commitment to achieve the desired Uttaranchal state public health objectives.
References


ANNEX

Table 1. Project Design Summary Matrix (DANLEP Phase III 1996–2001)

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Objectively Verifiable Indicator</th>
<th>Means of Verification</th>
<th>Assumptions and Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Development Objective</strong></td>
<td>Leprosy services are integrated into the PHC services in project states making it possible to eliminate leprosy as a public health problem</td>
<td>Numbers of cases given MDT and POD services by PHC staff: routine and special</td>
<td>Records and field visits</td>
</tr>
<tr>
<td><strong>Intermediate Objective</strong></td>
<td>Active cases of leprosy are identified and receive treatment in the NLEP and/or within the PHC system</td>
<td>Prevalence rate decline % of estimated cases receiving MDT</td>
<td>Service statistics</td>
</tr>
<tr>
<td><strong>Immediate Objective</strong></td>
<td>Leprosy elimination strategies are planned and implemented in the context of prevailing and anticipated NLEP situations in the project states, with active participation of NLEP and PHC reach primary and secondary target service staff</td>
<td>Elimination plan and implementation processes</td>
<td>Documents and field visits</td>
</tr>
</tbody>
</table>

**Table 1. Project Design Summary Matrix (DANLEP Phase III 1996–2001)**
Table 2. Capacity Building in Public Health Systems: Project Area and Activity/Component Interface

<table>
<thead>
<tr>
<th>Activity Components</th>
<th>1.1 Zone</th>
<th>1.2 Zone</th>
<th>1.3 Zone</th>
<th>1.1 Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Area</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Sub-project zones</td>
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<tr>
<td>(district/block cluster)</td>
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<tr>
<td><strong>F. Coordination</strong></td>
<td></td>
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<tr>
<td>Socio-technical consultancy</td>
<td></td>
<td></td>
<td></td>
<td>Develop and sustain state and zonal district Learning Organization Mechanisms and Coordination structures...</td>
</tr>
<tr>
<td>Inputs and coordination</td>
<td></td>
<td></td>
<td></td>
<td>Develop working partnerships: commitment, implementation roles, and accountability...</td>
</tr>
<tr>
<td>Planning and implementation</td>
<td></td>
<td></td>
<td></td>
<td>Competency building for participatory decentralized system perspective and local situation-specific operational planning and implementation with peer group and state performance accountability...</td>
</tr>
<tr>
<td>Competency building</td>
<td></td>
<td></td>
<td></td>
<td>Participatory experiential and socio-technical collaborative culture building</td>
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<tr>
<td><strong>G. Action Research</strong></td>
<td></td>
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<td></td>
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<tr>
<td>State Zone Interventions</td>
<td></td>
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<td></td>
<td>Focused HSR with cost-effective indicators and dissemination plans</td>
</tr>
<tr>
<td><strong>B. HR Development</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Strategy design and implementation plan: integrated and zone-specific</td>
<td></td>
<td></td>
<td></td>
<td>Planned proactive collaboration...</td>
</tr>
<tr>
<td><strong>C. Service Provider Networking</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Present and potential SP strategy design and implementation plan: integrated and zone-specific</td>
<td></td>
<td></td>
<td></td>
<td>Planned proactive collaboration...</td>
</tr>
<tr>
<td>Local area networking at Secretariat, Directorate, State, Zone, District, Block and other levels, including inter-sector collaboration...</td>
<td></td>
<td></td>
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<tr>
<td><strong>D. IEC Empowering Community Collaboration Interface</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Present and potential stakeholders’ identification; involved SH strategy design and implementation</td>
<td></td>
<td></td>
<td></td>
<td>Qualitative and quantitative IEC activity M&amp;E</td>
</tr>
<tr>
<td>Develop planning and implementation interface with IEC organization (including local area-specific IEC organization competency building) for State and zone mass media campaigns, and point of service and direct contact IEC for present and potential (e.g., potential male and other support group role in RCH programme)</td>
<td></td>
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<tr>
<td><strong>E. Monitoring and Evaluation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome/indicator focused self/peer monitoring and reporting plan and implementation strategy</td>
<td></td>
<td></td>
<td></td>
<td>Short- and long-term indicators, regional and national comparison network</td>
</tr>
<tr>
<td>Competency and self-M&amp;E team and peer culture building for activity outcome review, re-planning and reporting...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A. Infrastructure Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short- and long-term zone/area specific local decentralized planning and budgeting; IS plan and budget integration and implementation</td>
<td></td>
<td></td>
<td></td>
<td>Area-determined variance/flexibility</td>
</tr>
<tr>
<td>Reverse paradigm, bottom-up component – area, district, zone, state – specific activity and infrastructure planning and implementation...</td>
<td></td>
<td></td>
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</tbody>
</table>
Introduction

Objectives of a Reproductive health information system
The main objectives of reproductive health information systems in Uttaranchal are to provide timely and useful management information on (1) the reproductive health status of the population and (2) the rate and efficiency of implementation of reproductive and child health (RCH) programmes. Of particular concern in Uttaranchal, as in other states in India, is ensuring that in pursuing these objectives, that the interests of the poor and of women are addressed.

Constraints on Policy Issues
A vibrant information technology (IT) sector exists, but the health sector is not yet taking advantage of it. The Indian IT industry has achieved remarkable expansion in the recent years by responding to offshore demands for IT development. India’s large cadre of highly skilled IT engineers is now making major contributions to the global growth of the industry. While IT companies focus on high-value software export opportunities, the domestic IT industry has not expanded as rapidly. In health, large-scale private sector institutions are beginning to take advantage of computerized hospital management, logistics, communications, accounting, and management information systems (MIS). However, most public sector institutions are not yet reaping the potential benefits of IT. There are no market incentives for Indian IT companies to get involved in the public health sector.
RCH information systems suffer from too much data and too little information for decision support. Public health workers in Uttaranchal are overburdened with routine data collection in the large numbers of registers and forms. Monthly summaries are rubber-stamped and sent from the lowest to the highest levels in an attempt to assess system performance at all levels. As new programmes are initiated and expanded, the load of data collection increases. More data is collected with little or no rationalization of what data is required for better programme management. As a result, the system does not work; the data is incomplete and inaccurate. In addition, programme supervision lacks feedback based on accurate statistics, and health planners lack critical data for decision making. To fill these information gaps, more health data is collected each year through research studies and surveys. Although this health information is often more reliable, many data gaps exist largely due to the high levels of funding required for surveys to adequately cover India's large population. National surveys often only produce state-level estimates that are not useful to decentralized planners. Long periods between surveys and variations in data collection methodologies confound the analysis of trends in health indicators. In addition, attempts to strengthen information systems are constrained by weak policies governing data systems and limited budget allocations.

Critical gaps exist in the available reproductive health information. Information vital to improved reproductive health sector management in Uttaranchal is either missing or weak. Gaps in health indicators include demographic data, infrastructure data, health accounts, public sector RCH record-keeping, private sector activities, and linkages between poverty, morbidity, mortality, and RCH programmes. Other critical gaps exist in the geographic levels of health information available to state and district government planners. In Uttaranchal, not much useful reproductive health planning information exists at the sub-district (block) or community levels, where communities (Panchayati Raj Institutions [PRIs]) are now being encouraged to assume responsibility for the management of local programmes.

Policy Issues and Options

Public Sector

1. Health Management Information System (HMIS) and RCH Information System

   The Government of India developed standardized formats in the HMIS to be implemented uniformly in all public sector health facilities across the nation. HMIS forms 6–9 have information related to RCH programme implementation.

   **Policy Issue:** Implementation of HMIS standardized forms conforms to the policy for strengthening national health information systems through uniform data capture. However, Uttaranchal may find some additional information helpful, which implies the adaptation of HMIS formats to meet state needs.

   **Option:** RCH information system needs assessment with a detailed review of the impact of the HMIS formats on the data management requirements of the state.

2. RCH Programme Information at the Community Level

   HMIS formats may not adequately address data capture of key RCH programme information at the community level, especially related to family planning activities.
Policy Issue: Community-based information is vital to the successful implementation of RCH programmes in Uttaranchal. Public sector RCH functionary activities may not be adequately recorded and tracked under the current systems.

Option: An RCH information system needs assessment, with a detailed review of the data recorded and reported by public health workers at the community level, should be done in conjunction with the review of the HMIS formats, auxiliary nurse midwives (ANMs) registers, and recommendations of the Ministry of Health and Family Welfare (MOH&FW) for RCH programme implementation based on community needs.

3. Logistics Management Information System (LMIS)

A critical factor in the successful implementation of the RCH programmes in Uttaranchal is the implementation of an efficient LMIS to control the distribution of reproductive health commodities.

Policy Issue: Implementation of the LMIS for Uttaranchal involves the following policy issues and commitment of resources—(1) state-level LMIS cell for RCH commodities, (2) development of LMIS software adapted to state needs, (3) implementation of state-wide uniform LMIS procedures documented in a manual, (4) management training for all levels of LMIS functionaries, and (5) allocation of office space, computer equipment, telecommunications, and staff to operate the system.

Option: In a partnership of the Government of India, Government of Uttar Pradesh (UP), The World Bank, and the United States Agency for International Development (USAID), a UP LMIS was piloted in three UP districts—(1) Agra, (2) Varanasi, and (3) Lucknow. This system was designed based on study tours to review other systems in Tamil Nadu, Andhra Pradesh, Kenya, and Bangladesh. Uttaranchal could review this LMIS and adapt it to the needs of the state.

4. Warehouse Management System

In addition to the LMIS, another critical factor in the successful implementation of the RCH programmes in Uttaranchal is the implementation of an efficient warehouse management system. New warehouses are being built in Uttaranchal to improve the storage and distribution of RCH commodities.

Policy Issue: Implementation of a warehouse information system for Uttaranchal, integrated with the LMIS, would involve the allocation of resources for the development and operation of the system. Two other policy issues related to warehouses are (1) increase in the number of warehouses to one per district and (2) the linkage of RCH commodities with the broader scope of the distribution of all public sector health commodities in the state.

Option: Again, in a partnership of Government of India, Government of UP, The World Bank, and USAID, a UP warehouse management system has been piloted, which could be reviewed for adaptation for Uttaranchal, along with a review of the system in Tamil Nadu.

5. Mapping and Geographic Information System (GIS) for Strengthening the RCH Information System

Mapping and GIS technology can be used to strengthen the RCH information system in Uttaranchal. This technology can be used to identify all RCH programme-related
infrastructure and human resources in the state. The system can also be used to generate maps at many levels: state, district, sub-district, sub-block, village, Primary Health Centre/Community Health Centre, and so forth, and to study implementation problems of access roads, rivers, and mountains. The basic layers of the system can be linked to population and programme needs assessment data to ensure that programme resources are allocated efficiently.

Policy Issue: Implementation of mapping and GIS for Uttarakhand RCH programmes involves allocating resources to develop a library of digital maps, establishing the system in the RCH management cells, and training a technical cell in implementation of the system.

Option: A mapping and GIS application can be developed for RCH programmes in Uttarakhand from off-the-shelf software packages. Base maps and population data may be available from the Registrar-General, India, for Census 2001.

6. RCH Accounts Strengthening

Information systems can be used to assist Uttarakhand in planning and monitoring RCH financial data and to strengthen the processes of long-term planning, annual programme implementation, transparency in reporting, and efficiency in the use of resources.

Policy Issue: Implementation of RCH accounts information system involves the allocation of resources for the adaptation of accounting and administrative procedures supported by planning and accounting software applications.

Option: An RCH accounts information system for RCH programmes in Uttarakhand can be developed from off-the-shelf software packages.

Private Sector

7. Private Sector RCH MIS

An important element of the implementation of RCH programmes in Uttarakhand is the partnership between the public and private sectors, especially at the grassroots level. Implementation of RCH programmes can be strengthened by an MIS designed to assist in the planning and implementation of community-based RCH programmes.

Policy Issue: Implementation of a non-governmental organization (NGO) MIS for Uttarakhand RCH programmes involves allocating resources to develop standard procedures and software applications, which can be adapted to the specific needs of each NGO RCH project in the state. The scope of this private sector RCH MIS should include societies, cooperatives, urban development groups, and industries.

Option: A private sector RCH MIS can be developed for RCH programmes in Uttarakhand from similar systems used in RCH programmes in other Indian states, including UP. These systems are designed to monitor the following elements of the programme: baseline survey and needs assessment, family card for eligible couples, referral card, daily diary for community RCH workers, monthly summary report of activities by RCH workers, monthly supervisor's reports, and quarterly project reports.
Health Infrastructure

The health infrastructure in Uttaranchal, excluding private clinics and hospitals, has 28 different types of institutions. Some of these institutions provide primary health care services and others provide secondary hospital services. Some are located in rural areas and others are in urban areas. Some are exclusively meant for females and others offer services for both men and women. Some are funded by the Government of India (GoI) and others by the state government. Some offer only specialized services to control and manage particular diseases, such as tuberculosis (TB) and leprosy, and others offer services for a particular category of people, such as police, employees in the organized sector, and so forth. The GoI-funded institutions follow the staffing norms and functions laid down by the Ministry of Health and Family Welfare (MoH&FW).

Health Infrastructure in Rural Areas

Health and reproductive health services, including family planning, are provided in rural areas by sub-centres (SCs), state allopathic dispensaries (SADs), additional primary health centres (APHCs), block PHCs (BPHCs), and community health centres (CHCs). As shown in Table 1, there are 1527 SCs serving people in rural settlements in Uttaranchal. In addition there are 84 main centres (MCs) attached to BPHCs. An SC is designed to cover a population of 3000 in a hill region and 5000 in the plains. With the increase in rural population over time, the SCs, in general, serve more population than the prescribed norm. More SCs are, therefore, needed. There are 329 allopathic dispensaries in the state. These dispensaries have one medical officer, with either Allopathic or Ayurvedic qualifications, and provide clinical services. SADs are located in both rural and urban areas.
There are 173 APHCs with one medical officer position sanctioned for each unit. At the block level, there are 23 CHCs and 84 BPHCs. Some districts like Tehri Garhwal have no CHCs. Creation of CHCs or upgrading of BPHCs to CHCs is not uniform in all districts.

In addition, Uttarakhand has 38 rural female hospitals and 15 combined hospitals or base hospitals. The highest number of rural female hospitals is in Pauri Garhwal (10) and districts like Bageshwar and Champawat have only one rural female hospital each. These rural hospitals exclusively cater to females. Out of the total 13 districts, 7 districts also have combined and/or base hospitals catering to both men and women.

**Urban Health Institutions**

Postpartum centres (PPCs) located at district and tehsil headquarters cater to both urban and rural clients. The centres have been established under the GoI postpartum scheme. As shown in Table 2, there are 10 district-level PPCs. Newly-created districts do not have district-level PPCs. At the tehsil level, 14 tehsil PPCs are functioning. Of the total districts, 4 districts have two tehsil PPCs, 6 districts have one tehsil PPC, and three districts have no tehsil PPC. Dehradun has the unique distinction of having 9 revamped health posts; none of the other districts have these health posts. In the entire state, there are only 7 urban family welfare centres—one each in Pauri, Chamoli, Almora, Uttarkashi and Pithoragarh, and two in Dehradun.

Employees State Insurance (ESI) Dispensaries provide health services to the employees of the organized sector. Of the total four dispensaries in the state, three are located in Dehradun and one in Udham Singh Nagar. The central government hospitals are captive hospitals, catering to employees of big corporate units, such as the Oil and Natural Gas Corporation Ltd. and Bharat Heavy Electricals Ltd., or major national institutions, such as

<table>
<thead>
<tr>
<th>Number of Institutions</th>
<th>CHCs</th>
<th>BPHCs</th>
<th>APHCs</th>
<th>SADs</th>
<th>SCs</th>
<th>MCs</th>
<th>Rural Hospitals (F)</th>
<th>Combined/ Base Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauri</td>
<td>2</td>
<td>15</td>
<td>16</td>
<td>67</td>
<td>203</td>
<td>15</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Dehradun</td>
<td>3</td>
<td>4</td>
<td>18</td>
<td>25</td>
<td>129</td>
<td>4</td>
<td>3</td>
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<td>Tehri Garhwal</td>
<td>—</td>
<td>9</td>
<td>16</td>
<td>32</td>
<td>128</td>
<td>9</td>
<td>5</td>
<td>1</td>
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<td>2</td>
<td>7</td>
<td>7</td>
<td>23</td>
<td>91</td>
<td>7</td>
<td>3</td>
<td>—</td>
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<td>Rudraprayag</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>23</td>
<td>62</td>
<td>3</td>
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</tr>
<tr>
<td>Uttarkashi</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>22</td>
<td>66</td>
<td>4</td>
<td>3</td>
<td>—</td>
</tr>
<tr>
<td>Hardwar</td>
<td>3</td>
<td>5</td>
<td>19</td>
<td>2</td>
<td>139</td>
<td>5</td>
<td>—</td>
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<tr>
<td>Almora</td>
<td>3</td>
<td>11</td>
<td>21</td>
<td>40</td>
<td>181</td>
<td>11</td>
<td>2</td>
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<td>Bageshwar</td>
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<td>59</td>
<td>3</td>
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<td>—</td>
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<tr>
<td>Pithoragarh</td>
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<td>13</td>
<td>32</td>
<td>145</td>
<td>8</td>
<td>4</td>
<td>—</td>
</tr>
<tr>
<td>Champawat</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>10</td>
<td>45</td>
<td>3</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>4</td>
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<td>28</td>
<td>8</td>
<td>152</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Nainital</td>
<td>1</td>
<td>8</td>
<td>11</td>
<td>32</td>
<td>127</td>
<td>8</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23</td>
<td>84</td>
<td>173</td>
<td>329</td>
<td>1,527</td>
<td>84</td>
<td>38</td>
<td>15</td>
</tr>
</tbody>
</table>

CHC=Community Health Centre; BPHC=Block Primary Health Centre; APHC=Additional Primary Health Centre; SAD=State Allopathic Dispensary; SC=Sub-centre; MC=Main Centre
as the Indian Military Academy or the Indian Institute for Forests. Uttarakhand has 29 voluntary hospitals run by charitable trusts. All districts except Tehri Garhwal, Chamoli, and Bageshwar have voluntary hospitals. These hospitals are located in both rural and urban areas of Uttarakhand.

Other Health Institutions
Other health institutions include, institutions catering to infectious diseases or a particular infectious disease; units serving a particular segment of the population, such as police or prisoners; and units following other systems of medicine, such as Ayurvedic, Homeopathy, and Unani. As shown in Table 3, there are 14 TB hospitals or clinics in the state. All districts except Rudraprayag, Bageshwar, Champawat and Udham Singh Nagar have at least one TB hospital or clinic. There are two TB sanatoriums in the state, both located in Nainital district. Of the total 13 districts, five have infectious diseases hospitals. Three leprosy hospitals located in Dehradun, Tehri Garhwal and Pithoragarh districts cater exclusively to leprosy patients. In addition, there are nine urban leprosy centres. Uttarakhand has a large number of Ayurvedic dispensaries. Tehri Garhwal has the highest number of Ayurvedic dispensaries (51) and Bageshwar has the lowest number (7). Uttarakhand also have 60 homeopathy dispensaries and three Unani dispensaries. All three Unani dispensaries are located in Hardwar district while homeopathy dispensaries are present in all districts.

Staff Positions in Uttarakhand
As shown in Table 4, of a total of 6379 sanctioned positions of various functionaries in the Department of Medical, Health, and Family Welfare Department (DMH&FW), 4777 staff are in position. However, these include 474 staff members who are likely to move to Uttar Pradesh (UP) soon, as they preferred to serve in UP. If the staff members who
may be working for UP are taken into consideration, one-third of the total positions in the DMH&FW will be vacant. There is an acute shortage of medical officers, and this is particularly so in the case of male medical officers. Nearly two-thirds of Grade I medical officer positions and 60% of Grade II male medical officer positions are vacant in Uttarakhal. Similarly more than three-fourths of laboratory technician positions and 60% of X-ray technician positions are vacant. The only positions where the vacancies are minimal are those for female workers. There is an urgent need to improve the staff positions to make essential health services available to people at various health institutions in both rural and urban areas. There are inter-district variations in regard to the number of positions vacant; some districts have a higher number of vacancies than others. This further accentuates the problem of shortages of staff in some districts.

Training Institutions
Training is an essential component of any organization to improve the efficiency and effectiveness of personnel and systems. Uttarakhal is relatively deficient in the number and type of training institutions to cater to both induction and in-service training. There is only one training institution at the divisional level, located in Dehradun, to provide in-service training to medical officers. There are seven training institutions for auxiliary nurse midwives (ANMs) covering seven of the 13 districts. There are two nursing training centres, one in Chamoli and the other in Nainital. Uttarakhal has only one medical college in the private sector, located in Dehradun, and two Ayurvedic colleges, both in Hardwar. Given the training needs of various categories of staff, the training infrastructure is grossly inadequate in Uttarakhal.
Sterilization Service Centres
Sterilization and Medical Termination of Pregnancy (MTP) services are not uniformly available in all institutions of Uttaranchal. As shown in Table 5, only 44 of a total 105 CHCs/BPHCs/PPCs provide female sterilization (FS) services. The number of institutions providing FS is as low as 11% in Pithoragarh and as high as 100% in Udham Singh Nagar. Out of the total 13 districts, in 9 districts sterilization services are offered in less than 50% of institutions. Similarly, only 49% of the total institutions provide male sterilization (MS) services. MS services are available in 85% of institutions in Dehradun, 88% in Pithoragarh, and 100% in Udham Singh Nagar, but in only 9% of institutions in Tehri Garhwal. The case with MTP services is similar, with only 33% of institutions in the state offering them. In the districts of Dehradun, Champawat, and Udham Singh Nagar, MTP services are available in 50% or more institutions and, in six districts, they are available in less than one-fourth of institutions.

Number of Hospital Beds
Uttaranchal has 9057 allopathic hospital beds in the state. Of these, 6881 beds (72%) are in the government sector and the remaining 2626 (38%) are in the private sector. Nearly 60% of the government hospital beds are in four districts—Pauri, Almora, Dehradun, and Nainital. Similarly, nearly 80% of the private hospital beds are in Dehradun and Hardwar districts. Dehradun, Hardwar, and Nainital have more than 60% of the total hospital beds in the private and public sectors put together.
As shown in Table 7, the total budget allocation for medical, health, and family welfare programmes in Uttaranchal in 2001–2002 was Rs1546 million. Of the total budget allocated, the contribution of GoI was Rs 440 million (28.5%) and that of the Uttaranchal government was Rs 1106 million (71.5%). In terms of specific allocations to different budget line items, 75.1% was allocated to salaries and allowances, 0.5% to travel, 0.2% to transfer allowances, 1.9% to electricity and water tax, 2% to small construction and maintenance, and 10.2% for medicines and drugs. The remaining 10.1% was allocated to miscellaneous items.

Of the total allocated budget for 2001–2002, 82% was expended. Of the total expended amount, 73% was spent on salaries and allowances, 0.5% on travel, 0.2% on transfer allowances, 2.3% on electricity and water, 2.3% on small construction and maintenance, 11.7% on medicines and drugs, and 17% on miscellaneous items. In terms of expenditure, the main savings were in staff salaries and other allowances. This could be due to the large number of vacant positions at various levels in the department. In other line items, the unspent money was insignificant. Budget allocations, in general, are meagre for travel and small construction and maintenance.

### Table 5. Number and Percentage of Institutions Offering Female and Male Sterilization and MTP Services in Uttaranchal

<table>
<thead>
<tr>
<th>CHCs/ BPHCs/ PPCs</th>
<th>Providing FS Number</th>
<th>Providing FS %</th>
<th>Providing MS Number</th>
<th>Providing MS %</th>
<th>Providing MTP Number</th>
<th>Providing MTP %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauri Gerhwal</td>
<td>15</td>
<td>4</td>
<td>22.2</td>
<td>4</td>
<td>22.2</td>
<td>4</td>
</tr>
<tr>
<td>Dehradun</td>
<td>7</td>
<td>6</td>
<td>85.0</td>
<td>6</td>
<td>85.0</td>
<td>5</td>
</tr>
<tr>
<td>Tehri Gerhwal</td>
<td>11</td>
<td>2</td>
<td>9.09</td>
<td>1</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>Chamoli</td>
<td>9</td>
<td>3</td>
<td>33.0</td>
<td>2</td>
<td>22.0</td>
<td>4</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>3</td>
<td>1</td>
<td>33.0</td>
<td>3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>6</td>
<td>2</td>
<td>33.0</td>
<td>2</td>
<td>22.0</td>
<td>16.0</td>
</tr>
<tr>
<td>Hardwar</td>
<td>7</td>
<td>4</td>
<td>57.0</td>
<td>5</td>
<td>71.0</td>
<td>4</td>
</tr>
<tr>
<td>Almora</td>
<td>13</td>
<td>7</td>
<td>53.0</td>
<td>6</td>
<td>46.0</td>
<td>3</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>3</td>
<td>1</td>
<td>33.0</td>
<td>1</td>
<td>33.0</td>
<td></td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>9</td>
<td>1</td>
<td>11.0</td>
<td>8</td>
<td>88.0</td>
<td>1</td>
</tr>
<tr>
<td>Champawat</td>
<td>5</td>
<td>2</td>
<td>40.0</td>
<td>4</td>
<td>80.0</td>
<td>3</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>6</td>
<td>6</td>
<td>100.0</td>
<td>6</td>
<td>100.0</td>
<td>5</td>
</tr>
<tr>
<td>Nainital</td>
<td>11</td>
<td>5</td>
<td>45.0</td>
<td>5</td>
<td>45.0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>105</strong></td>
<td><strong>44</strong></td>
<td><strong>40.74</strong></td>
<td><strong>53</strong></td>
<td><strong>49.07</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

### Table 6. Number of Public and Private Sector Allopathic Hospital Beds in Uttaranchal

<table>
<thead>
<tr>
<th>Number of Allopathic Beds</th>
<th>Government</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauri Gerhwal</td>
<td>943</td>
<td>44</td>
<td>987</td>
</tr>
<tr>
<td>Dehradun</td>
<td>1,025</td>
<td>1,165</td>
<td>2,190</td>
</tr>
<tr>
<td>Tehri Gerhwal</td>
<td>306</td>
<td>65</td>
<td>371</td>
</tr>
<tr>
<td>Chamoli</td>
<td>410</td>
<td>—</td>
<td>410</td>
</tr>
<tr>
<td>Rudraprayag</td>
<td>186</td>
<td>—</td>
<td>186</td>
</tr>
<tr>
<td>Uttarkashi</td>
<td>286</td>
<td>10</td>
<td>296</td>
</tr>
<tr>
<td>Hardwar</td>
<td>464</td>
<td>930</td>
<td>1,394</td>
</tr>
<tr>
<td>Almora</td>
<td>800</td>
<td>105</td>
<td>905</td>
</tr>
<tr>
<td>Bageshwar</td>
<td>118</td>
<td>—</td>
<td>118</td>
</tr>
<tr>
<td>Pithoragarh</td>
<td>518</td>
<td>102</td>
<td>620</td>
</tr>
<tr>
<td>Champawat</td>
<td>126</td>
<td>18</td>
<td>144</td>
</tr>
<tr>
<td>Udham Singh Nagar</td>
<td>442</td>
<td>112</td>
<td>554</td>
</tr>
<tr>
<td>Nainital</td>
<td>1,257</td>
<td>75</td>
<td>1,332</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,881</strong></td>
<td><strong>2,626</strong></td>
<td><strong>9,507</strong></td>
</tr>
</tbody>
</table>

### Conclusions

Uttaranchal has a large variety of health institutions, and there are substantial variations among districts in terms of number and type of institutions. Establishing
linkages between institutions for optimum utilization of resources is a major challenge. Many of the positions of medical officers and middle and top management level are vacant. These positions have to be filled as soon as possible to ensure availability of health services. The private sector is largely confined to two or three districts. The number of institutions providing all services, such as MS and FS, should be increased to improve access to services. Budget allocations of Uttaranchal are just sufficient to provide salaries to personnel, perhaps only because of the large number of vacancies.

<table>
<thead>
<tr>
<th>Items</th>
<th>Allocation of Total Allocation</th>
<th>Percentage of Total Allocation</th>
<th>Expenditure</th>
<th>Percentage of Total Expenditure</th>
<th>Difference between Allocation and Expenditure</th>
<th>Percentage of Money Not Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Allowances</td>
<td>1,160,758</td>
<td>75.1</td>
<td>923,341</td>
<td>72.7</td>
<td>237,417</td>
<td>20.5</td>
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<tr>
<td>Travel</td>
<td>7,460</td>
<td>0.5</td>
<td>6,699</td>
<td>0.5</td>
<td>761</td>
<td>10.2</td>
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<tr>
<td>Transfer</td>
<td>2,813</td>
<td>0.2</td>
<td>2,697</td>
<td>0.2</td>
<td>116</td>
<td>4.1</td>
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<tr>
<td>Electricity and Water</td>
<td>29,744</td>
<td>1.9</td>
<td>28,685</td>
<td>2.3</td>
<td>1,059</td>
<td>3.6</td>
</tr>
<tr>
<td>Small Construction and Maintenance</td>
<td>30,350</td>
<td>2.0</td>
<td>29,576</td>
<td>2.3</td>
<td>774</td>
<td>2.6</td>
</tr>
<tr>
<td>Medicines and Drugs</td>
<td>158,317</td>
<td>10.2</td>
<td>148,174</td>
<td>11.7</td>
<td>10,143</td>
<td>6.4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>156,821</td>
<td>10.1</td>
<td>130,214</td>
<td>10.3</td>
<td>26,604</td>
<td>16.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,546,263</strong></td>
<td><strong>100.0</strong></td>
<td><strong>1,269,386</strong></td>
<td><strong>100.0</strong></td>
<td><strong>276,877</strong></td>
<td><strong>17.9</strong></td>
</tr>
</tbody>
</table>

CHC=Community Health Centre; BPHC=Block Community Health Centre; FS=Female Sterilization; MS=Male Sterilization; MTP=Medical Termination of Pregnancy
Specific Population and Reproductive and Child Health Policy Issues

Summary of Proceedings

Session 1: Fertility Behaviour in Uttaranchal

Session 2: Contraceptive Prevalence and Behaviour in Uttaranchal

Session 3: Reproductive and Child Health Issues

Session 4: Education, Gender Issues, and Empowerment of Women

Session 5: The Role of Agencies in Reproductive Health Services

Session 6: Other Reproductive and Child Health Issues

Session 7: Reproductive and Child Health Programme Management
The following population and reproductive and child health (RCH) policy issues, specific to Uttaranchal, have been identified from the proceedings of workshops on the topic Workshop on Reproductive and Child Health and Population Policy Issues in Uttaranchal held on 2–3 May 2002. The information is based on papers presented, remarks of chairpersons and discussants, and observations and group reports by participants.

**Session 1: Fertility Behaviour in Uttaranchal**

- Uttarakhand has considerable variations in social development indicators within the state. Hill districts, in general, perform better on all social development indicators compared with the districts in the Terai region. Inter-district variations call for district-specific strategies to improve RCH services.
- The overall sex ratio (number of females per 1000 males) has increased by 28 points between 1991 and 2001 in favour of females. However, the juvenile sex ratio has declined by 43 points during the same period, and this is a major cause for concern.
- Based on indirect estimates, the total fertility rate (TFR) of Uttarakhand is between 3.1 and 3.6. The Uttarakhand fertility rate is lower than the all-India average. However, its TFR is higher compared with all neighbouring states, with the exception of Uttar Pradesh (UP).
- Nearly 72% of women with two children would not like to have another child, indicating the high level of acceptance of the two-child norm. Given this positive attitude, reaching replacement-level fertility may not be difficult.
- Women in Uttarakhand have a strong preference for sons. This son preference may act as a major deterrent to the efforts to reduce fertility levels.
- In general, Uttarakhand performs better on all fertility indicators than its parent state UP, but it has a long way to go to reach the level of Himachal Pradesh (HP) and other states in south India.
Given the potential demand for contraception, if the TFR declines at the same pace as it has been for the past 15 years, Uttaranchal may reach replacement-level fertility by 2010. Alternatively, if the methodology for fertility projections is used, as suggested by the Technical Advisory Group constituted by the Planning Commission, Uttaranchal will not reach replacement-level fertility until 2021.

Session 2: Contraceptive Prevalence and Behaviour in Uttaranchal

- Contraceptive prevalence for modern methods declined by 5% between 1995 and 1999 in Uttaranchal. The decline in modern method use is higher in rural areas than in urban areas.
- After the introduction of the community needs assessment approach (CNAA), sterilization performance declined from 42 sterilizations per 10,000 population in 1995 to 30 sterilizations per 10,000 in 2001. Use of other modern contraceptive methods (pills, intra-uterine devices, condoms) also declined during this period.
- About 94% of currently married women using contraception are using a modern method. Nearly 31% of these currently married women are sterilized; female sterilization accounts for 63% of contraceptive prevalence. Female sterilizations outnumber male sterilizations by about 14:1.
- The use of modern spacing methods is low at 9%.
- The use of any contraception is positively correlated to the standard-of-living index (SLI). Contraceptive prevalence is 34% among the poorest women and 52% among women with a high value on the SLI.
- The public medical sector is the predominant source for obtaining sterilization methods, while the majority of spacing method users depends on the private sector for obtaining supplies or services.
- The unmet need for family planning is high in Uttaranchal compared with other states and the national average. The extent of unmet need is more or less the same for spacing and terminal methods. Compared with other states, Uttaranchal does poorly in meeting the need for contraception.
- There are no major variations between districts with regard to unmet need. However, the unmet need for family planning is higher in rural areas compared with urban areas. The very poor also have high unmet need compared with the non-poor. This calls for strengthening of the reproductive health service delivery system in the state.

Session 3: Reproductive and Child Health Issues

- The infant mortality rate (IMR) in Uttaranchal is 50 infant deaths per 1000 live births, which is lower than the national average of 68. The IMR is 73 per 1000 live births in rural areas and 26 in urban areas. The child mortality rate in Uttaranchal is 19. One in every 10 children dies in the first year of its life and one in every 14 children dies before reaching age five.
- The IMR is 60% higher among children born to mothers under age 20 than among children born to mothers aged 20 to 29. Infant mortality is four times higher among children born with a birth interval of less than 24 months.
Coverage of pregnant women for antenatal services is low in Uttaranchal. Only 44% of pregnant women have received any antenatal services, which is 11 percentage points lower than the national average. Slightly more than half of pregnant women received two doses of tetanus toxoid (TT) and 26% received a sufficient quantity of iron and folic acid (IFA). Almost 83% of deliveries in Uttaranchal were at home.

The proportion of pregnant women who received antenatal services is higher in urban areas compared with rural. Highly educated women are more likely to have received antenatal services than those with lower levels of education. Women with higher order births were less likely to obtain antenatal care (ANC).

The basic requirements to improve the quality of antenatal services and assistance at the time of delivery in Uttaranchal include creating a new group of service providers, such as community midwives; training auxiliary nurse midwives (ANMs) and traditional birth attendants (TBAs); building better infrastructure facilities and referral systems; and networking with a variety of service providers.

Only 41% of children in Uttaranchal were fully immunized. Full immunization coverage was half that of HP. Low immunization coverage is due to high drop-out rates between doses. The drop-out rate for polio is 25%; for DPT, between the first and the third dose, the drop-out rate is 16%.

Wide variations exist between districts in terms of immunization coverage. The fully immunized varied from 48% in Hardwar district to 83% in Nainital district. Intense pulse polio immunization campaigns to eliminate the disease have adversely affected the routine immunization programme.

Session 4: Education, Gender Issues, and Empowerment of Women

Uttaranchal has a high literacy rate compared with the national average. Female literacy in the state is 60% and male literacy is 84%. The gap between female and male literacy is a reflection of gender inequities in the society. More emphasis should be given to female literacy to reduce the gap.

At present, there is no reproductive health education in the secondary or senior secondary schools in Uttaranchal. There should be a reproductive health education curriculum focused on the quality of life and ways and means to achieve the desired quality.

Teachers are often reluctant to provide any reproductive health education and there are no appropriate and relevant training and education materials.

Other major issues of concern were the focus on women for fertility control, the inordinate use of terminal rather than reversible contraceptive methods, and the number of inadequately tested drugs and methods injurious to women's health.

Women's health issues should be seen from a holistic perspective and not primarily as an issue of population control. Medical personnel should be trained in gender sensitivity. Women's health issues include availability and access to health-related services. Access issues should be addressed including patriarchal control of female mobility that impacts the capacity to use available health services.

Power is derived from controlling resources as well as ideology. Control over resources is maintained and perpetuated by caste, class, and gender. Therefore, the
The empowerment of women must entail changing the allocation of resources and challenging the ideology that perpetuates this inequality.

- The human rights framework emphasizes that certain conditions for human existence, growth, and development are inherent rights; the right to health is one such right. Women's health in India is often equated with their reproductive roles as mothers and as care-givers rather than viewing women as individuals bearing rights. Health interventions for females need to begin with primary health care for girls.
- The woman's role in decision making in a family has to be addressed to ensure that a woman is truly an equal partner in choices regarding fertility control and child-bearing.
- Domestic violence increases women's vulnerability to sexually transmitted diseases (STDs) and reproductive tract infections (RTIs) and also acts as a major barrier to family planning services among women with unmet need.

Session 5: The Role of Agencies in Reproductive Health Services

- The health and nutrition indicators of Uttarakhand, with respect to women and children, leave much to be desired. Nearly 38% - 45% of the rural population suffers from chronic energy deficiency (CED). The health infrastructure is poor.
- The Integrated Child Development Services (ICDS) programme lacks an integrated and inter-sectoral approach and, therefore, is not in a position to achieve its objectives. Several essential areas of concern are not covered as part of ICDS, and anganwadi centres have become “doling out” centres.
- By and large, both ICDS and the Health Department have been working in isolation. Convergence of their roles requires a complete reorientation of both departments.
- The intention of the 73rd Constitutional Amendment is to strengthen the Panchayati Raj institutions (PRIs) as institutions of self-government. Hence, they are not to be seen merely as subordinate agencies of the state government.
- Zila Panchayats and Ksethra Panchayats have four broad categories of functions—(1) promotion and development; (2) provision of assistance to the government; supervision, review, and monitoring; (3) and (4) implementation. Most of the functions assigned to Zila and Kshetra Panchayats fall into the first three categories, and only a few fall into the last category.
- The powers of Gram Panchayats to actually initiate activities are subject to the transfer of the necessary powers by state government departments. As yet, only a few of these powers have been transferred.
- Proper programme planning and implementation for social and human development can only be accomplished on a decentralized basis in a state like Uttarakhand, which has a high level of geographic, economic, social, and cultural diversity.
- Non-governmental organizations (NGOs) play many critical roles, such as provision of clinic-based reproductive health services, development and testing of innovations, application of community-based distribution models, use of social mobilization to create an enabling environment, experimentation with creative education and information methods, and advocacy for national and local policies.
- Issues involved in NGOs providing RCH services are costs, geographic coverage, sustainability, coordination, transparency and accountability, documentation, and institutional strengthening and capacity building.
Challenges faced by NGOs are irregular supply of commodities, inadequate resource allocation, lack of encouragement to participate in the policy and planning process, lack of information, and inflexible systems and procedures.

Session 6: Other Reproductive and Child Health Issues

- In Uttaranchal, 46% of women have anaemia and 77% of children aged between 6 and 35 months face similar problems. 42% of children are underweight, 47% are stunted, and 8% have wasting problems. Nutrition issues should be treated as an integral part of the RCH policy.

- Two important goals of increasing male involvement in family planning are to increase use of male methods, specifically male sterilization and condoms, and to encourage men to support women’s contraceptive choices.

- The current use of condoms in Uttaranchal is 6.2% and the use of male sterilization is 3.8%, almost twice the national average. There is a 21% unmet need for terminal and spacing methods in Uttaranchal. The challenge is to serve this large unmet need for family planning through increased male involvement.

- There are three important ways to increase male involvement in broader reproductive health by (1) improving men’s knowledge and behaviour for prevention of STDs; (2) addressing men’s reproductive health needs; and (3) encouraging men to play a critical role in improving women’s reproductive health, including pregnancy outcome, as well as child health.

- Urban health systems have to be designed for the urban poor, keeping either “income” or “geographical area,” such as slums, as criteria. Interventions that involve local representatives, private partners, and cost sharing are more sustainable and effective.

- Although the government invests in health facilities and a system designed to provide primary, secondary, and tertiary care, 62% of health care users obtain services from the private sector.

- Public and private partnerships can be designed to work at primary, secondary, and tertiary levels. The range of private and public partnership activities include financial incentives to private sector partners; regulatory harnessing of the private sector; and information sharing and improved joint efficiency of private and public services.

- An intensive review of the areas covered by the public and private sectors and areas that remain underserved should be carried out for better resource allocation and planning.

Session 7: Reproductive and Child Health Programme Management

- Work in the Health and Family Welfare Department is unevenly distributed. Some staff members are overloaded and others have small workloads. There is no performance-linked reward system, and this often demoralizes achievers.

- Monitoring and supervision of programme performance at all levels is weak and needs to be strengthened further to achieve programme objectives.

- In general, the urban health infrastructure, particularly for promotive and preventive health care, is non-existent and has to be designed and put in place.
• Accountability in the Health Department should be seen as an enabling mechanism to help the individual or the group to perform their tasks. Accountability cannot be institutionalized unless performance is linked with pay-off. While there may be a fixed salary for individuals in the system, a variable part of the salary may be determined by performance of the group or individual. Decentralization is another essential prerequisite for accountability.

• The RCH information system in Uttaranchal is inadequate and incomplete and suffers from too much data as well as too much information for data support. Critical gaps exist in reproductive health information.

• Uttaranchal has to develop, for the public sector, an effective health management information system (MIS), RCH programme information at the community level, a logistics MIS, a warehouse management system, and a mapping and geographic information system.

• There is a need to develop a private sector MIS. The scope of the private sector MIS should include societies, cooperatives, urban development groups, and industries.
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