



Population Growth and Environment: Examples from Nepal

Krishna Prasad Bista

Director General

Family Planning Association of Nepal

Serving people with care

Crowded Kathmandu

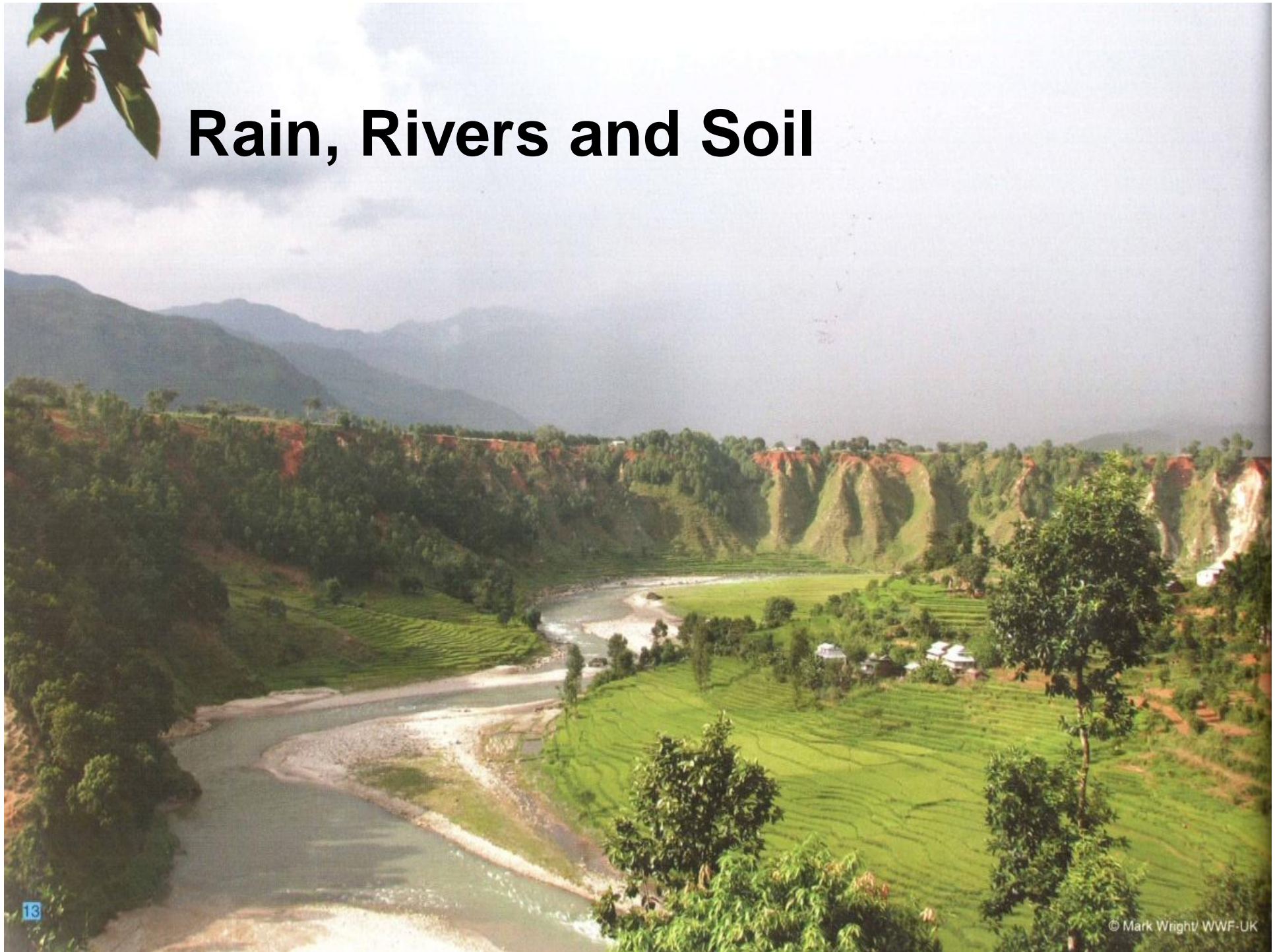


Introduction...





Rain, Rivers and Soil



Forest Resource

- Covering 37% of the country's total area (JAFTA 2000), forest is the largest natural resource of Nepal.
- Forest area declined from 38% in 1978 to 29% in 1999; deforestation rate 1.7% per year
- Estimated that about 10% forest has been increased since 2000 through community efforts.
- Increased concentration of CO₂ in atmosphere - due to burning fuel wood, contributing emission of 7.8 million tonnes of carbon.
- Threatening to 47 identified endemic plants

Water Resources

- Ecological Balance - moisture & biodiversity
- Economic & Social Developments:
 - (a) domestic uses (72% drinking access) - 3% of total withdrawal
 - (b) irrigation -96% (for agriculture), (c) hydropower, & Industries 0.3%



Urban Environment



Stream changed in to sewer in Kathmandu



Waste dumping along the Bagmati river in KATHMANU

Water Environment



Koshi water flowing on the Road



Landslides, floods kill eleven more

October, 2009

POST REPORT
KATHMANDU, OCT. 7

At least 11 people were killed and 11 others went missing in the western part of the country due to landslides on Wednesday.

Four people died in landslides that buried a house at Thapliyan in the Parbat district and the other three at Achham taking the total death toll to 21. Eighteen people were killed on Tuesday.

Flooding in Kailali district has killed two people and injured 10 others at Tikapur-2 area. A man, who was swept away by floodwaters, went missing, police said.

In Syangja, floods have killed a 10-year-old girl in Bichha district. Continuous flooding in neighbouring Baglung and Dhaulagiri districts. Another person was killed in a local stream in Lamjung.

In Banke, a man died and 10 people went missing in floods. The River swept them away in Jumla.

Meanwhile, 22 Nepalese people were posted at Gairidham National Park after flood waters receded.

Landslides kill 36, floods ravage

POST REPORT
KATHMANDU, OCT. 6

At least 36 people were killed in the western parts of the country on Tuesday due to landslides and floods triggered by incessant rain since the last couple of days. Scores were displaced.

LATE MONSOON HAVOC

- Floods in Kailali and Kanchanpur
- 2 including toddler die in Bajhang
- Rain destroys large farmland areas

Twelve people, including seven children, were killed at Gorkhagaon settlement of Mastamandu VDC-1 in Dadeldhura district when a landslide buried two houses belonging to Dambar Bahadur Bhul and Bijay Bhul.

The landslide has rendered the settlement inhabitable, said

police personnel involved in the rescue. Besides Goragaon, other parts of Dadeldhura were also struck by landslides but no casualties were reported.

The unceasing rain also destroyed large farmland areas in different villages. Floods at Rangoon and Pantura rivers have deluged three inner Tarai VDCs in the district. Hundreds of people have been displaced.

In Achham district, 18 people in the VDCs of Patalkot, Siddeshwor and Bindebasini were killed in landslides. Thirteen were killed in Patalkot-9 alone.

Gyan Prasad Dhakal, chief district officer, said altogether 64 houses in Patalkot-9 were hit by the landslide most of the villagers managed to escape.

Two people, including a toddler, died in Bajhang district



Bishna Bhul, 16, of Mastamandu-1 in Dadeldhura undergoing treatment at Team Hospital. She was rescued along with her brother after a landslide buried her house.

POST PHOTO: DR PANTA

when a house belonging to Dhanraj Upadhyaya was buried in a land-

slide at Majhigaon VDC-3, police said. Two deaths owing to landslides were also reported in Baitadi and Doti districts. The two victims were aged 11 and 5.

Meanwhile, flooding in the far-western districts of Kailali and Kanchanpur killed two people and displaced scores.

Two people, including an eight-year-old boy, died after drowning in flood waters at Bahuniya and Bhajani VDCs of Kailali district, while over 1,000 were displaced across the district. The district headquarters of Dhangadi has been completely submerged. The southeast part of the district is waterlogged.

Rainwater has deluged a large part of Kanchanpur, including district headquarters Mahendranagar, and displaced hundreds of people.

Rescue, relief elude flood-hit

• Toll rises to 46 • More than 25,000 families become homeless

Himalayan News Service

Banke/Kailali, October 7

The flash floods and landslides continued to take their toll on the western districts as 12 more deaths were reported today. The toll has now risen to 46.

Seven persons are still missing. While more than 25,000 families have been rendered homeless due to the nature's fury.

Three more deaths have been reported from Achham, where 17 succumbed yesterday.

Likewise, four of a family died in Parbat and two in Kanchanpur today. One more person died in Bajhang, taking the toll to three in the district.

Two others — one each in Doti and Jumla — also died today, the police said.

Seven persons — two each in Kailali and Dang, and one each in Rukum, Lamjung and Banke — are missing after they were swept away by rivers in spite.

Durga Bahadur Bhandary, Binu Bhandary, Sima Bhandary and Dipachan Bhandary were killed when their houses in Thapathana VDC-5, Parbat, collapsed in a landslide early this morning, the police said.

Three fresh deaths were reported from Achham's Marku VDC-7, said CDO Gyan



A father, carrying his son on his shoulders, heading for a safer location, on a waterlogged street of Kailali on Wednesday. Relief is yet to reach most of the flood victims in the Tarai district.



Prasad Dhakal. More than 150 families have been displaced in the district.

Members of around 100 households have been marooned in Kailali's Dhanasinghapur and Narayanpur areas due to swollen Karnali.

Kailali CDO Hari Krishna Poudel said that the landslide victims could not be rescued due to the unavailability of he-

licopters. Some 1,000 families have been displaced in flood-hit Bajapur. Search parties are yet to reach the area.

The search parties are yet to reach the area. The search parties are yet to reach the area.

Nature's fury wreaks havoc, 34 dead

• 17 perish in Achham, 12 in Dadeldhura • Over 1,800 families displaced • Affected areas cut off

Himalayan News Service

Dadeldhura/Achham, October 6

At least 34 people died in landslides and flash floods, triggered by torrential rains across the remote far-western districts this morning. More than 1,800 families have been displaced. Collapsed bridges, road closures and overflowing waterways have cut off the far-flung areas from the rest of the country.

Seventeen people died in Achham and 12 in Dadeldhura. While, two persons died in Bajhang and one each in Doti, Baitadi and Kailali, the police said. Seven members of a family and five of another were killed in Garkhagaon of Mastamandau VDC-1 of Dadeldhura in the nature's fury, said the po-

lice. The houses of Dambar Bhul and Bijay Bhul were buried in a landslide, killing them on the spot. Along with Dambar, his wife Matadevi, daughters Suma Kumari, Thapu and Hema died in the incident. Similarly, Bijay, his wife Padma, mother Lalidevi, three sons Ramesh, Mahadev and Binod and an infant daughter were killed in the tragedy.

Locals and police, however, managed to rescue two of Bijay's kin — Punadevi and Bisna. At least 17 families in the area are living in fear of an imminent landslide.

The floods also swept away a large swathe of farmland in Dadeldhura. Many passengers have been stranded after Bhimadutta, KI Singh, Dasharath Chanda highways

that are lifeline for the locals have been breached at several points due to landslips. In Achham, 11 people lost their lives when four houses in Bhasuban of Patakot VDC-9 caved in this morning. Achham Chief District Officer Gyan Prasad Dhakal said that separate police teams, from Sanphebagar and Chaukhutte, had been sent for rescue and relief operations. The torrential rainfall has swept away 10 houses in Gadesara VDC and Dipayal-Silgadhi Municipality. Twenty-eight families of Barchhen VDC-9 were displaced. Dhangadhi Bazaar is completely waterlogged due to the unseasonal rain.

Locals said there was no let up in the downpour in the last three days.



Vehicles wading through a waterlogged Dhangadhi Bazaar in Kailali on Tuesday.

Narrow street of Kathmandu



Hindu's Biggest Holy Pashupatinath









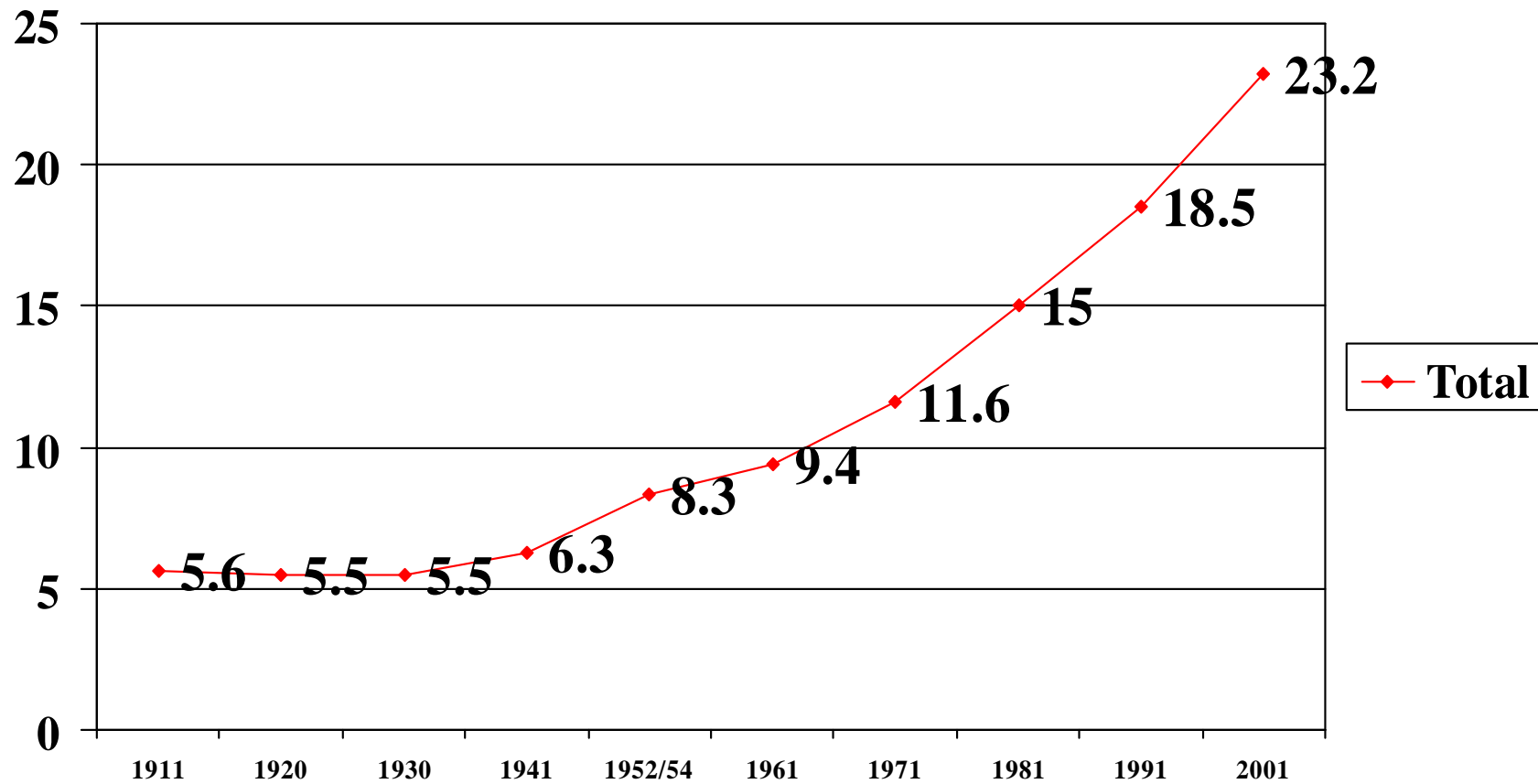




Climate Change

- Global warming in the Himalayas has been much greater than the global average. Nepal Himalaya has been regarded to be highly vulnerable to climate change impact, particularly to biodiversity (Sharma 2008).
- Observed warming is 0.01 to 0.60/c/year
- Need to establish systematic long term research at all levels, generating knowledge to predict climate change.
- Nepal has started the process of developing the National Adaptation Plan of Action (NAPA). The project is being coordinated by MoEST.
- No concrete plan of action for implementation

Population Size: Nepal (Million)

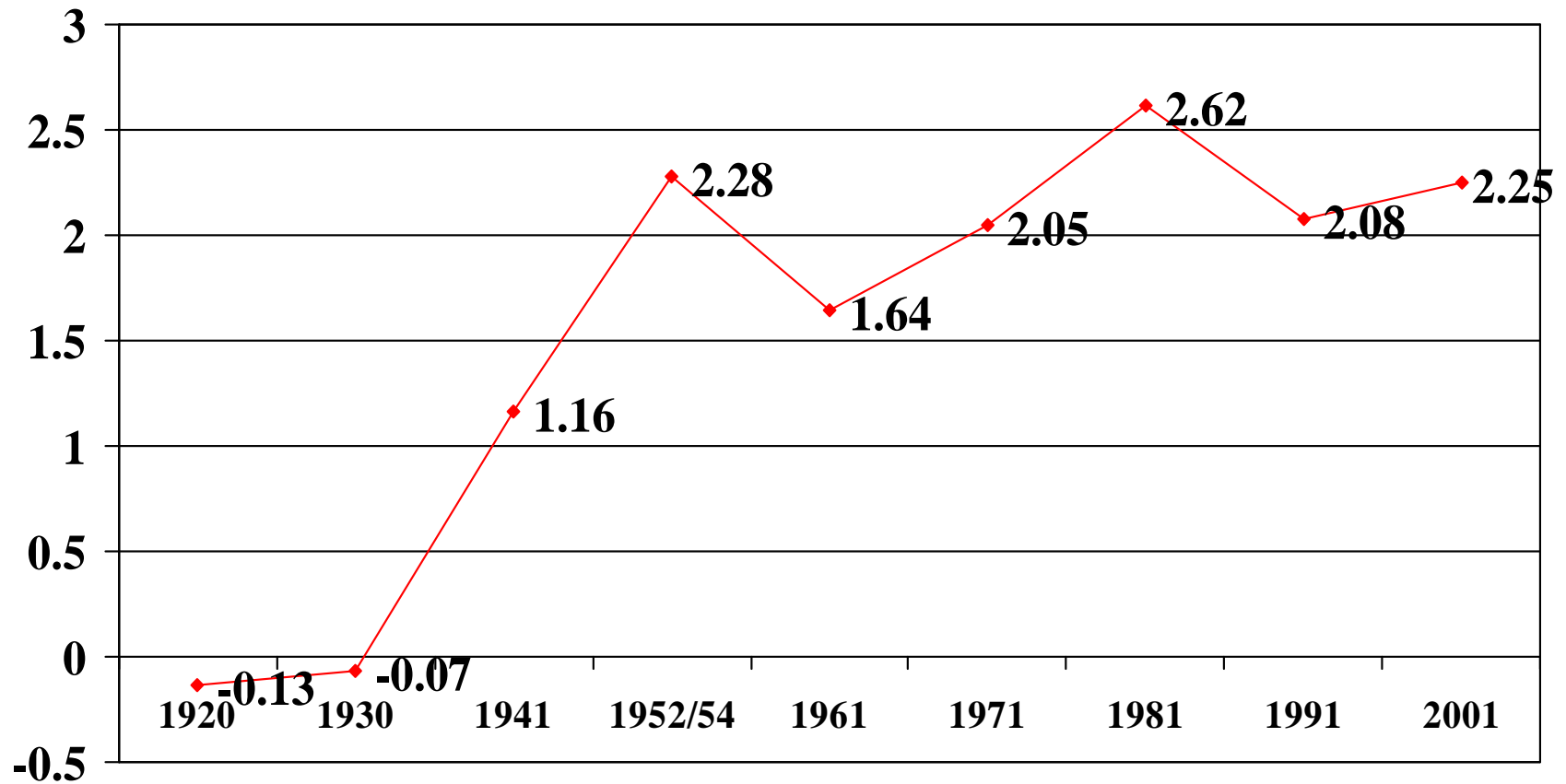


Population Projection Nepal 1951-2051

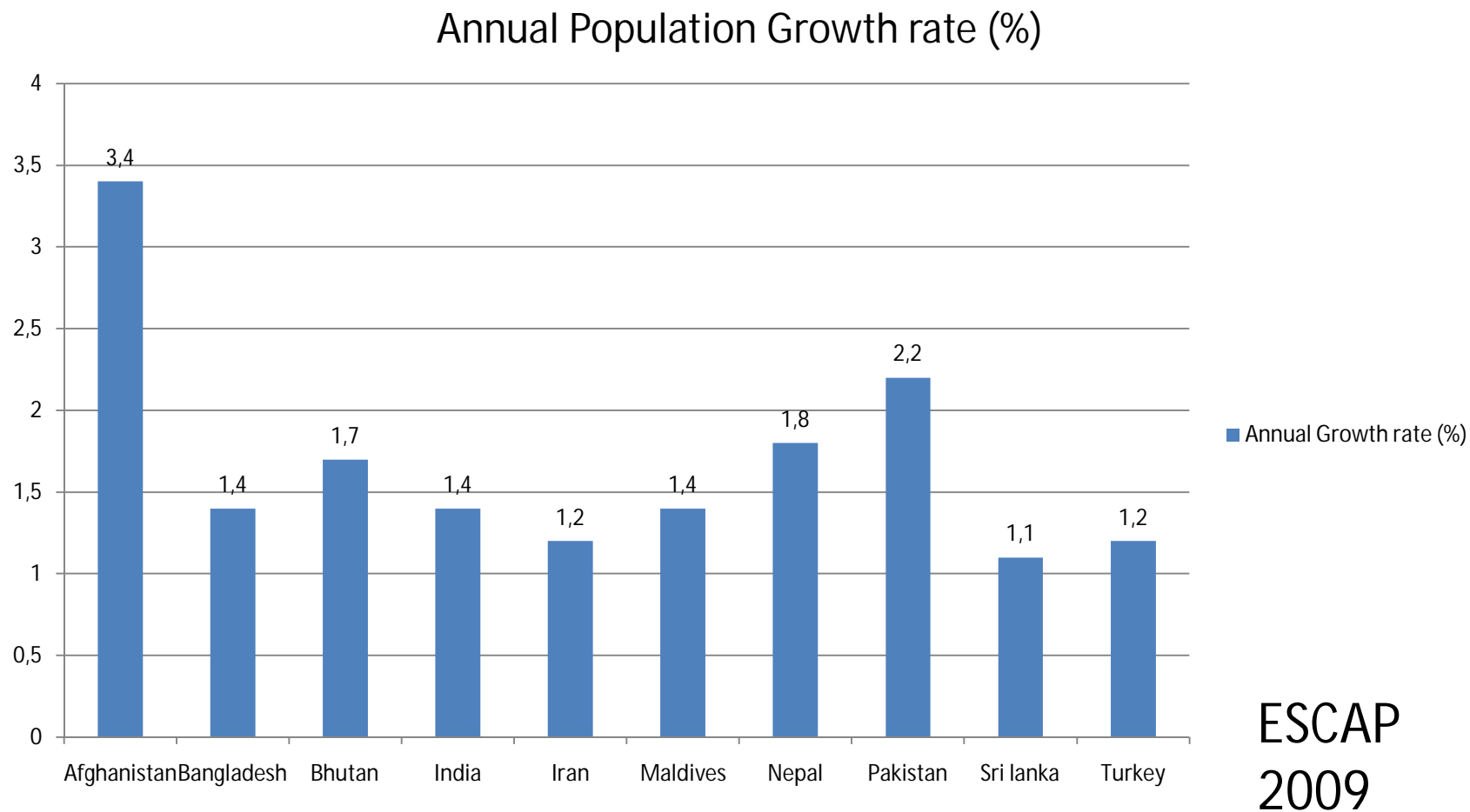
1951	8341,0	2005	30055,0
1961	9413,0	2011	30055,0
1971	11556,0	2015	32929,0
1981	15022,8	2021	35731,0
1991	18491,1	2025	38368,0
1995	21456,0	2031	40770,0
2001	23077,8	2051	60661,0

Population growth rate

The growth rate is still very high

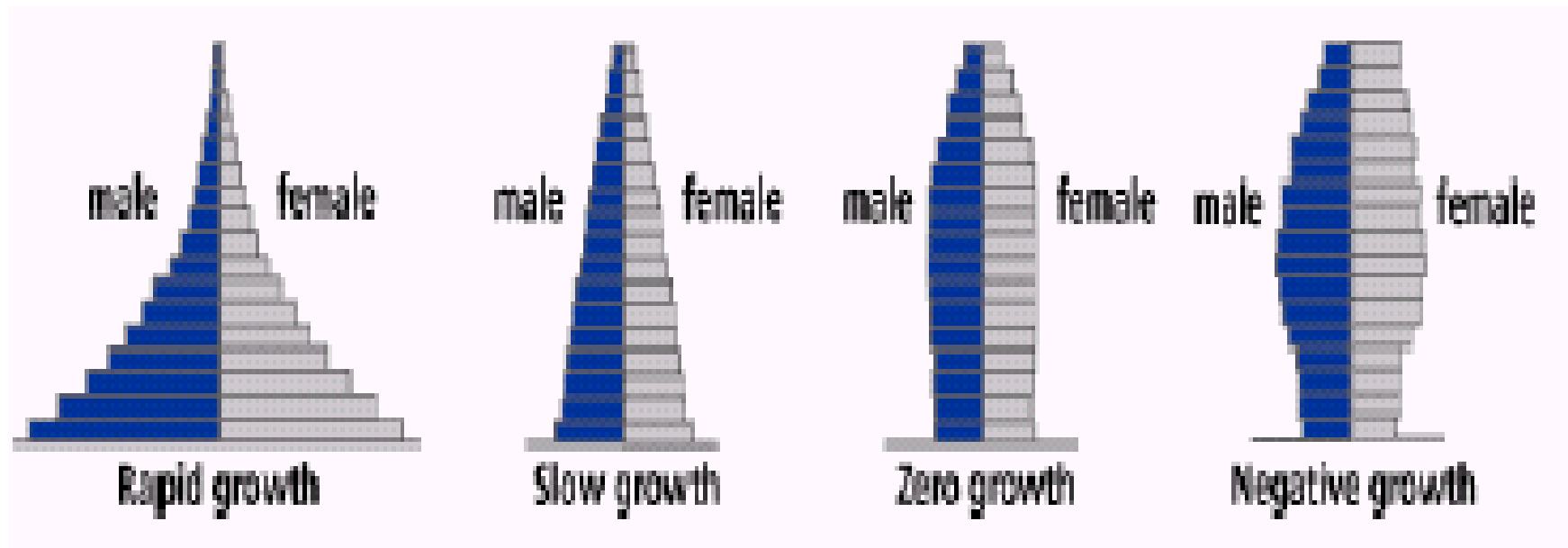


Annual Population Growth rate SAWA region

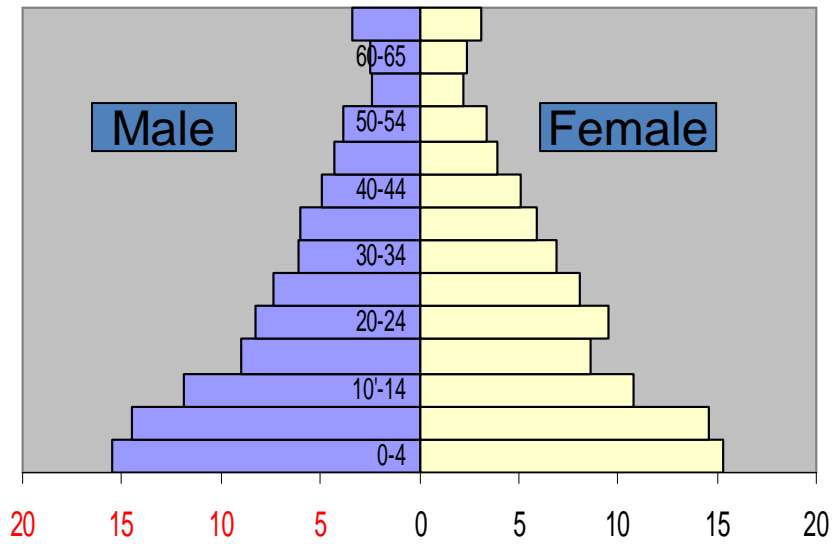


Patterns of population Change

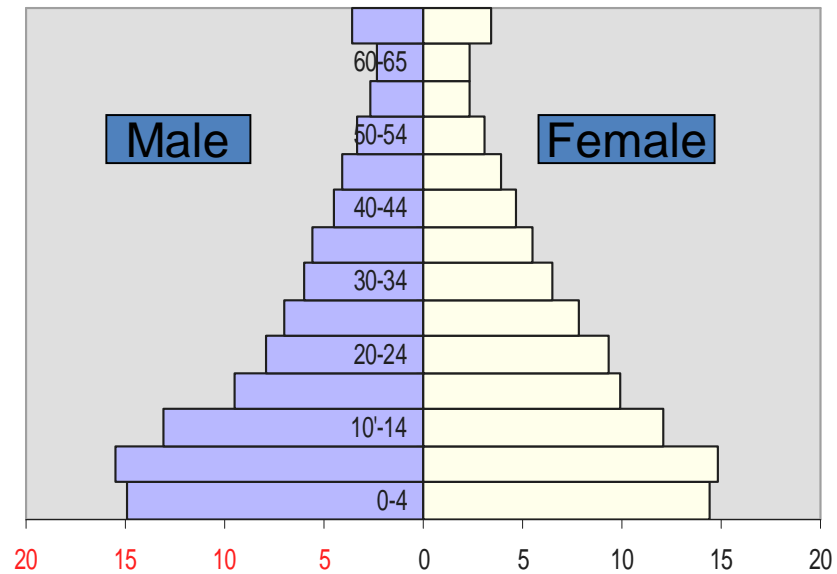
Figure 2.3: Patterns of population change.



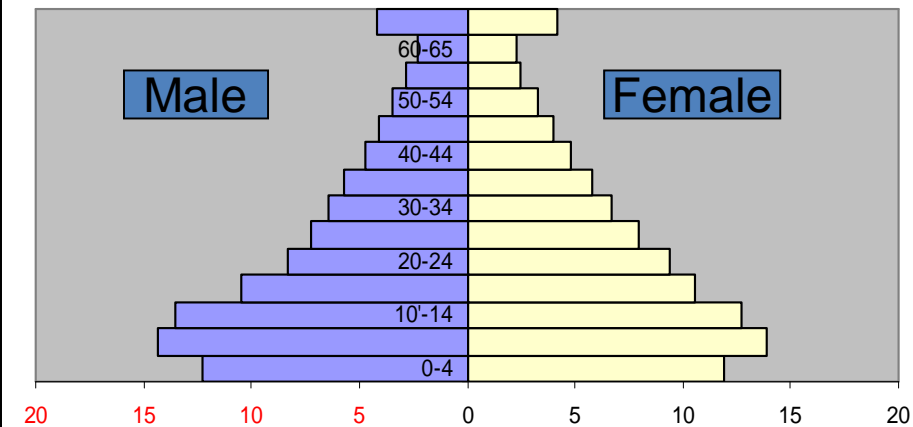
Population Pyramid 1981



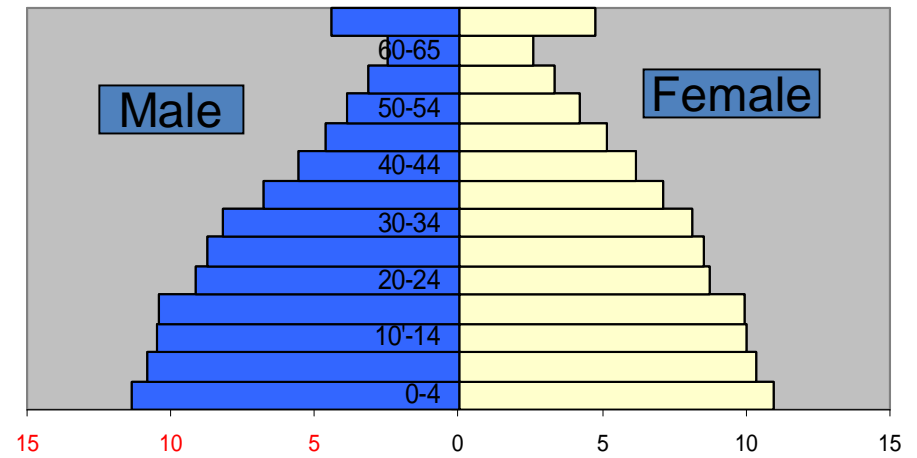
Population Pyramid 1991



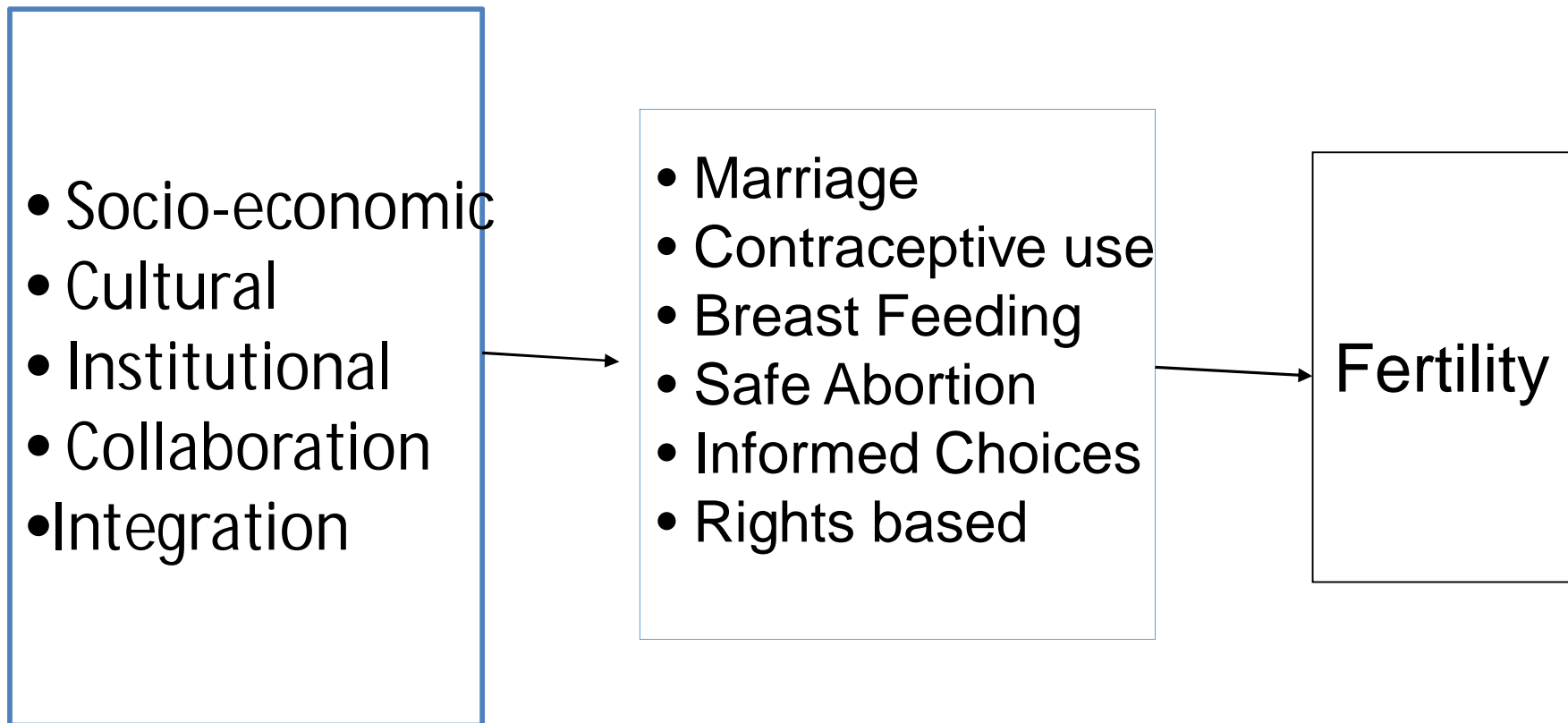
Population Pyramid 2001



Population Pyramid 2021

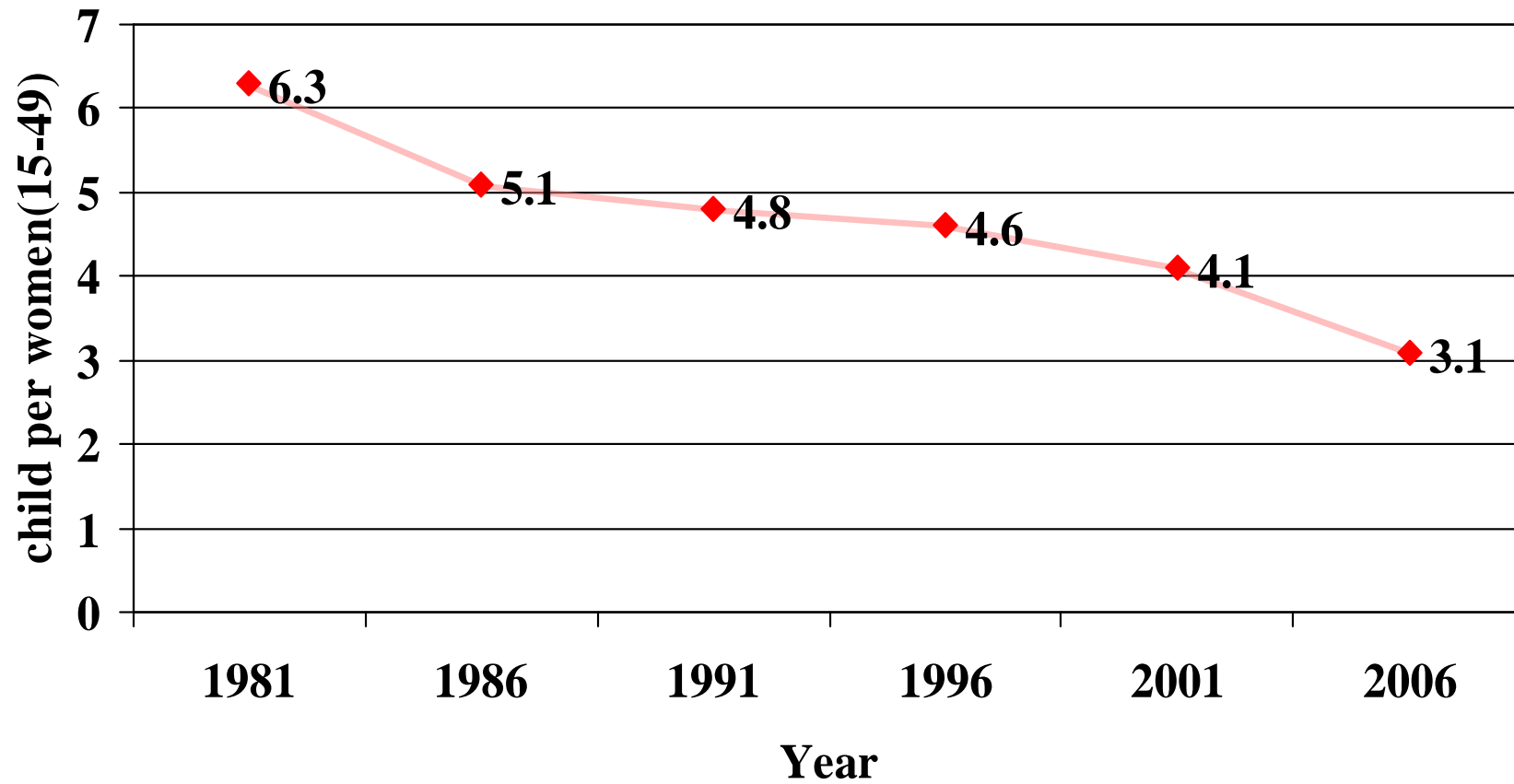


Proximate Determinants of Fertility



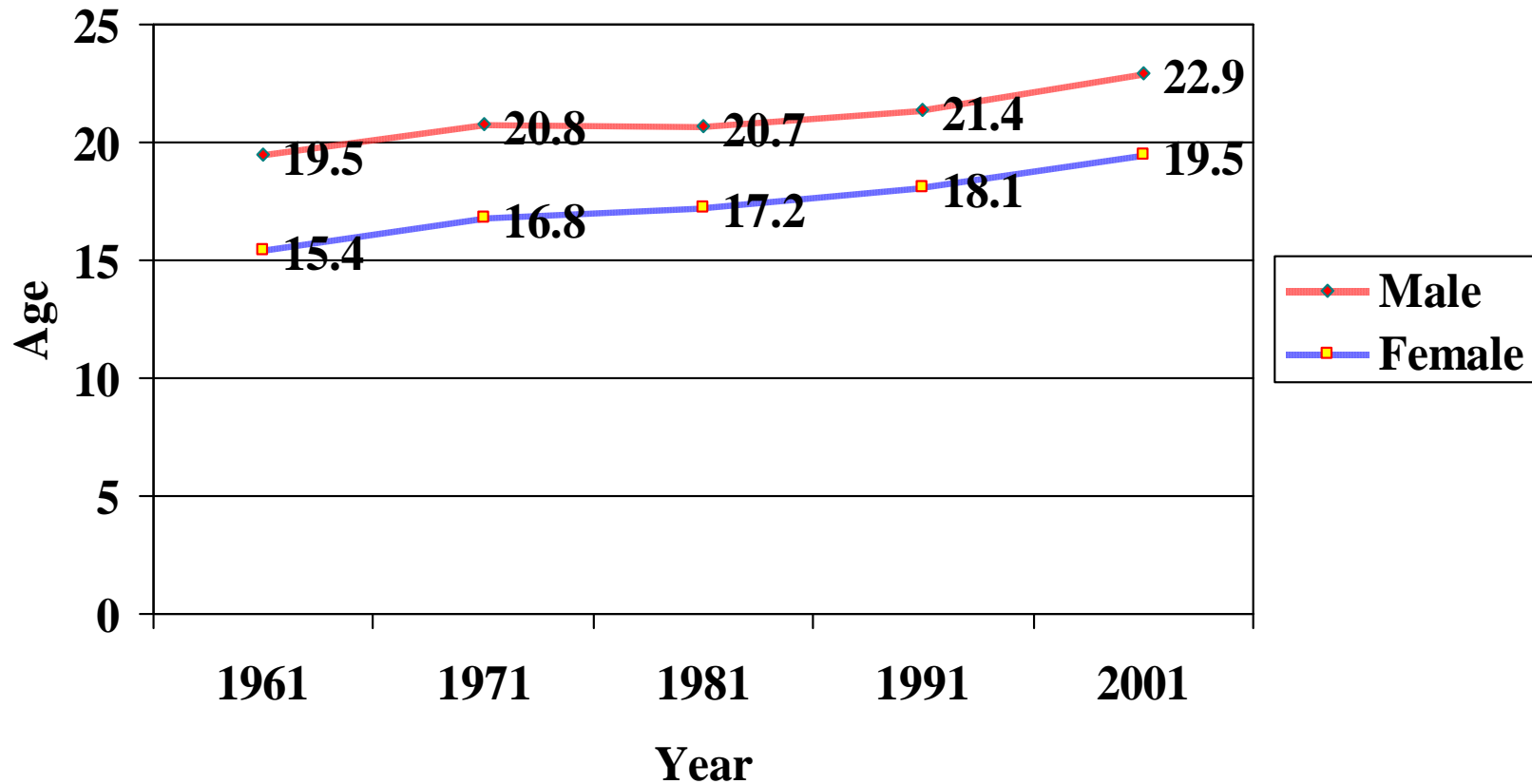
Fertility

Total Fertility Rate(TFR) reduced over time



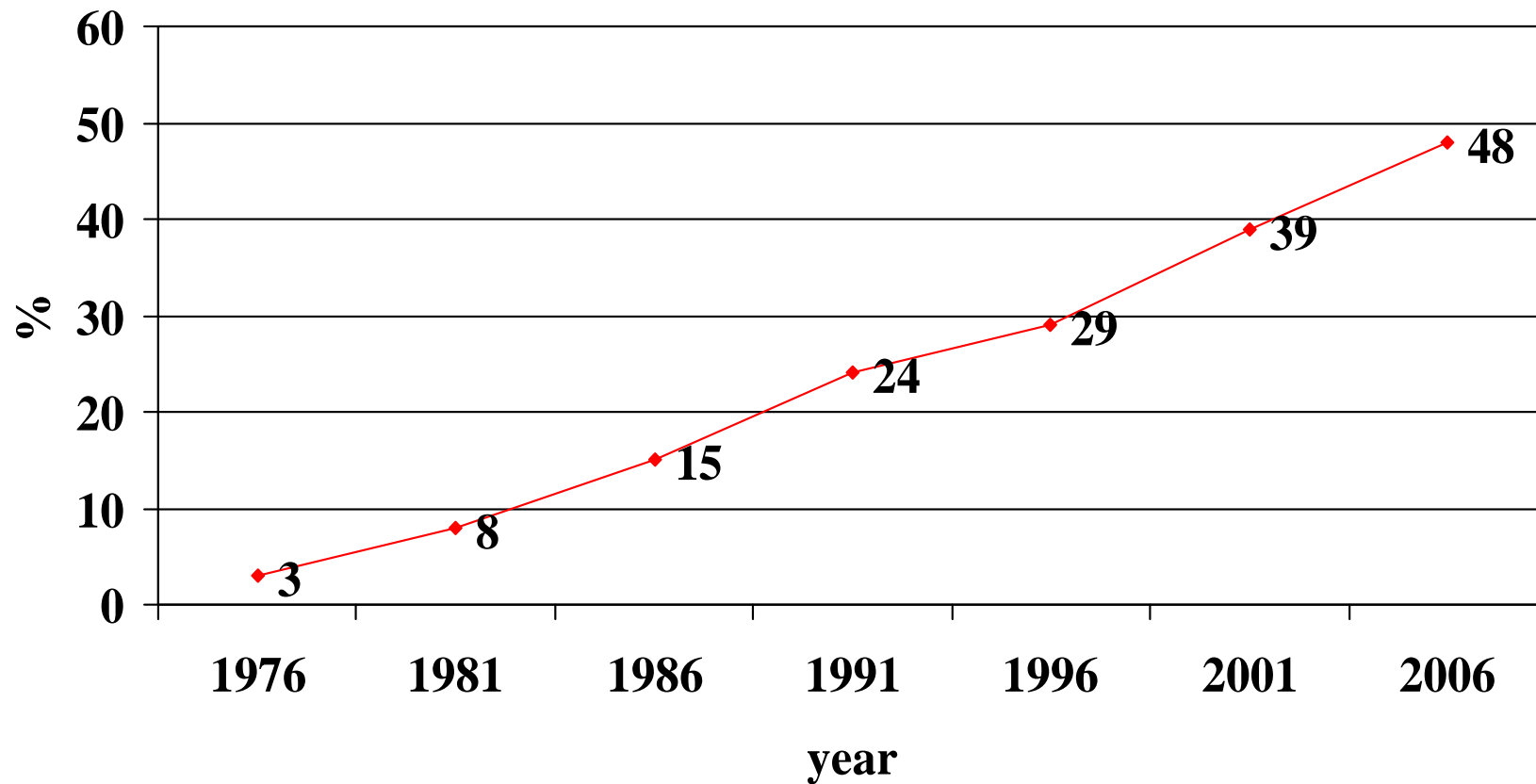
Age at marriage

Age at marriage of both sexes have gone up over time

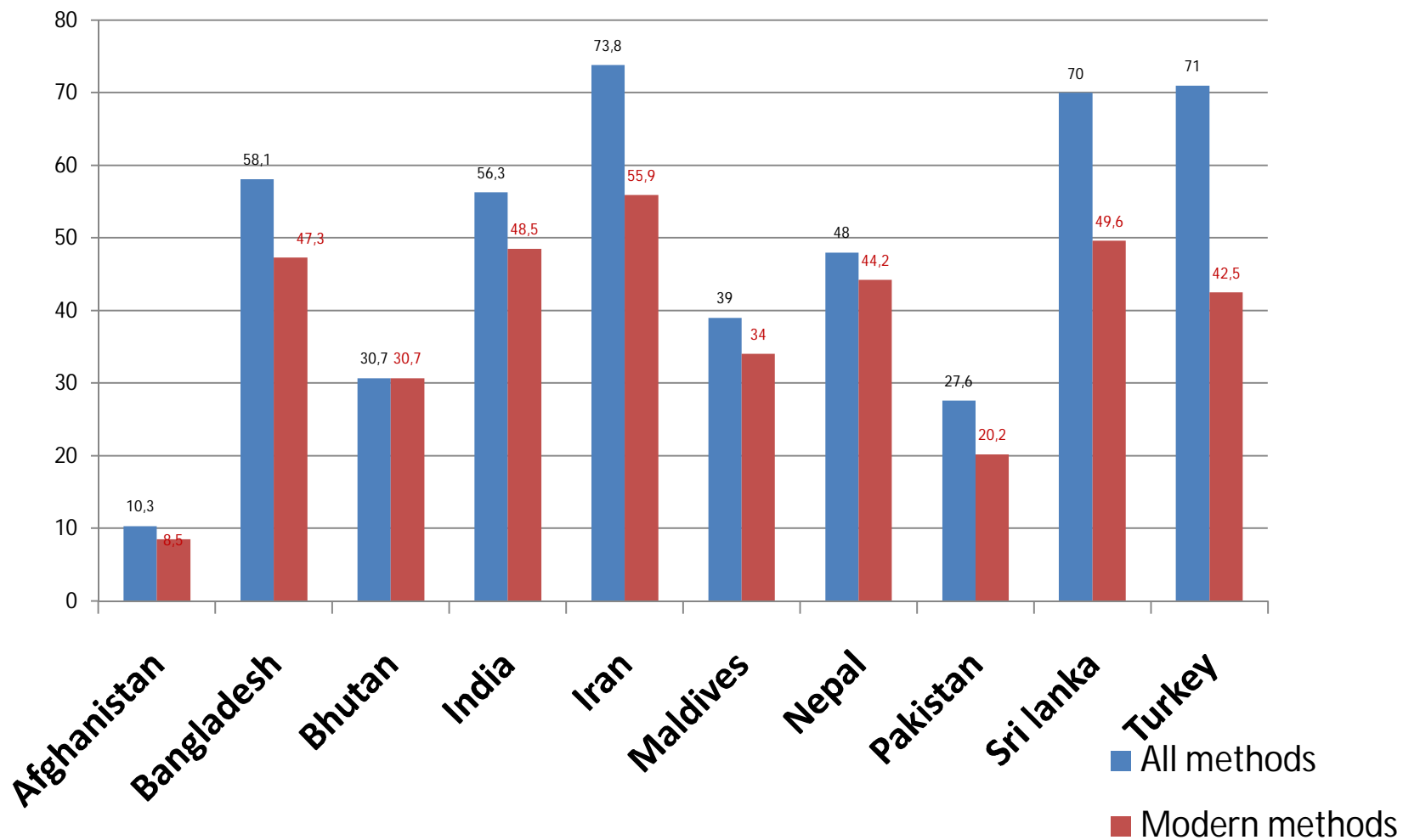


Contraceptive Use

CPR(any method) has been rising markedly



CPR in South and South West Asian Countries



Data source: ESCAP 2009

Abortion

- Legalized in October 2002, services started in 2004, FPAN took leadership role of advocacy.
- CAC has been Initiated and available in 69 district.
- 167 CAC sites (82 Gov and 85 Pvt/NGO) have been established (FPAN 20)
- More than 85000 abortion per year.

Population Momentum

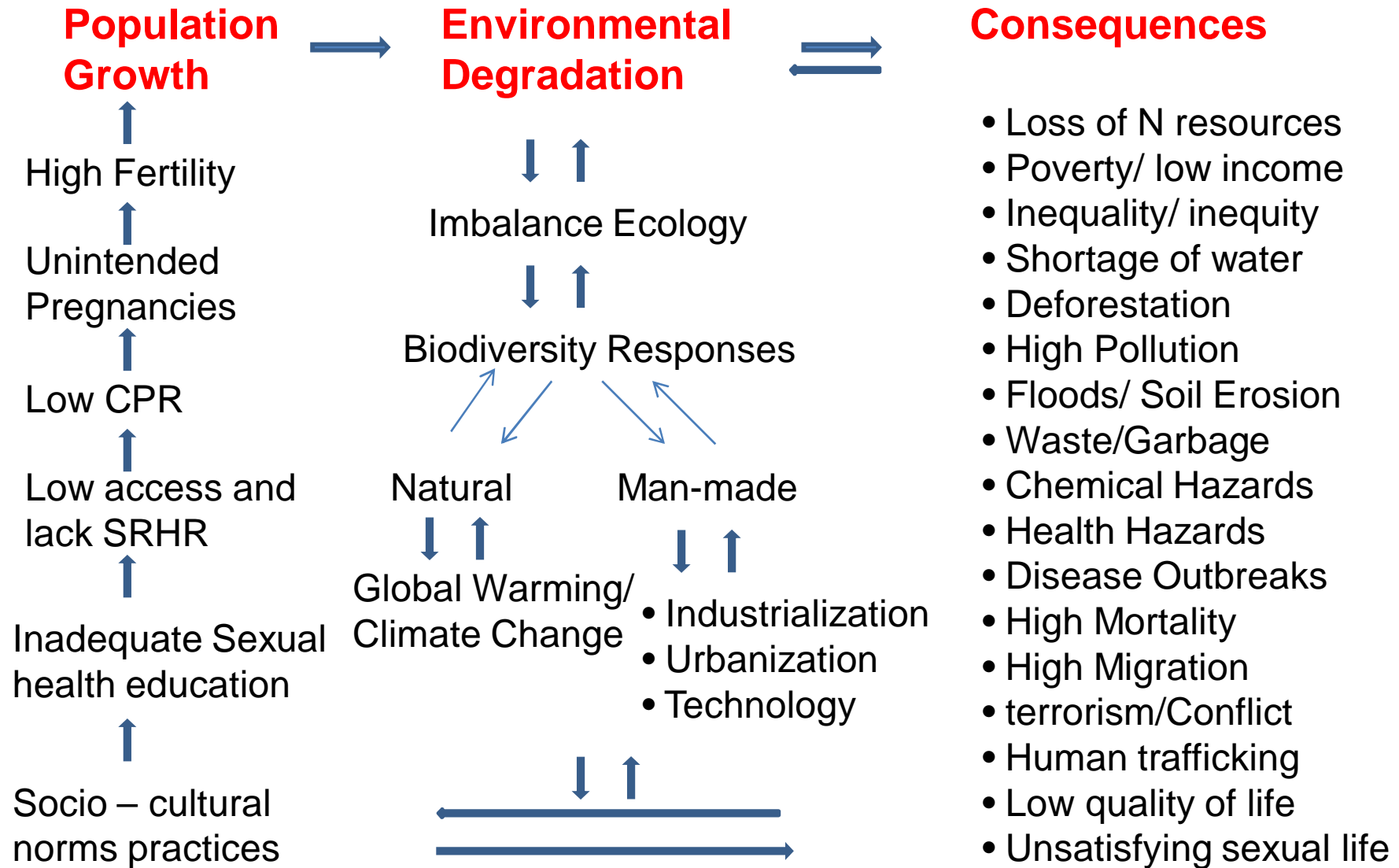
- Population with a present age structure heavily weighted toward the young age are potentially most rapidly growing population in the future.
- Dramatic decline in fertility can not prevent the continuing growth of the number of adults of childbearing age for at least two or three decades.
- Populations continue to grow even after reaching replacement level of fertility not because women are having many children, but because there are so many women of childbearing age.

Population Policy and Population Perspective plan

Population Policies have become the integral part of development planning since First Plan 1956/61

- Tenth Plan on Community empowerment , small and quality family norms, Integration population issues into development process and environment

Concepts, Consequences and Linkages



Consequences

- Loss of N resources
- Poverty/ low income
- Inequality/ inequity
- Shortage of water
- Deforestation
- High Pollution
- Floods/ Soil Erosion
- Waste/Garbage
- Chemical Hazards
- Health Hazards
- Disease Outbreaks
- High Mortality
- High Migration
- terrorism/Conflict
- Human trafficking
- Low quality of life
- Unsatisfying sexual life

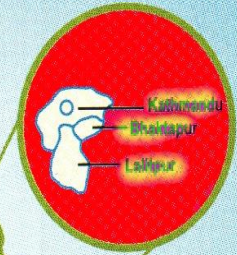


FPAN

Family Planning Association of Nepal

FPAN's Operational Areas

A Member Association of
IPPF International
Planned Parenthood
Federation
South Asia Region



- FPAN Branches
- FPAN Projects
- ● FPAN Branches and Projects

FPAN at a Glance in 2009

1968	3 districts	2009	42 Districts
Population Coverage	10 Million	Total VDC/MC	818
Total Clinics	651	Branch Clinics	28
Total Volunteers	11,000	Trained Ays PE	4000
Professional Staff	450	Community Workers	1000
Youth Information Center	83	YFS/SIC Centers	81
Youth MPRC	7	Birthing Centers (FHC)	5
VCT Integrated Centers	20	CAC Integrated Centers	20
Partnership with CBOs	278	Hotline Counseling	1
Partner NGOs	20	Donor Partners	11

Technical Backstopping from IPPF

Role of FPAN

- Demand generation for SRH from the community level
- Advocacy on SRH and Rights
- Delivery of comprehensive SRH services
- Complement & supplement to the national health and population programmes
- Demonstrates innovative, integrated & cost effective approaches

FPAN Contributions to the National Program 2007/2008

SN	Services/Coverage	National	FPAN	
			Number	Percentage
1	Family Planning Services	889,057 (2006/2007)	181,604	20.43
2	Abortion Services	85,245	12,572	14.07
3	Abortion Centers	167	20	9.6
4	VCT Services	6,752	1,700	25.17
5	VCT Centers	65	20	30.7
6	Districts	75	42	56
7	Municipalities	58	39	67
8	Village Development Committees	3,915	1012	26
9	Population (million)	25	10	36

Source: annual report, DoHS 2006/2007

There are 11 projects supported by non-IPPF sources in 2009

1. Network for Addressing Women's RH Rights- PPFA
2. MPRC Initiatives – Finnish Government/Vaestoliitto
3. Combating Girls Trafficking - DFID
4. Increasing Access to Contraceptives- KfW
5. Hotline Counseling- Through IPPF
6. HIV and Adolescent SRH- UNFPA
7. Increasing access of safe abortion services- Anonymous
8. Micro-credit –Price Foundation
9. Comprehensive Sexuality Project- DANIDA
10. HIV Prevention among Labor Migrant and MSM- TGF
11. Guaranteeing Adolescent SRHR- Ford Foundation

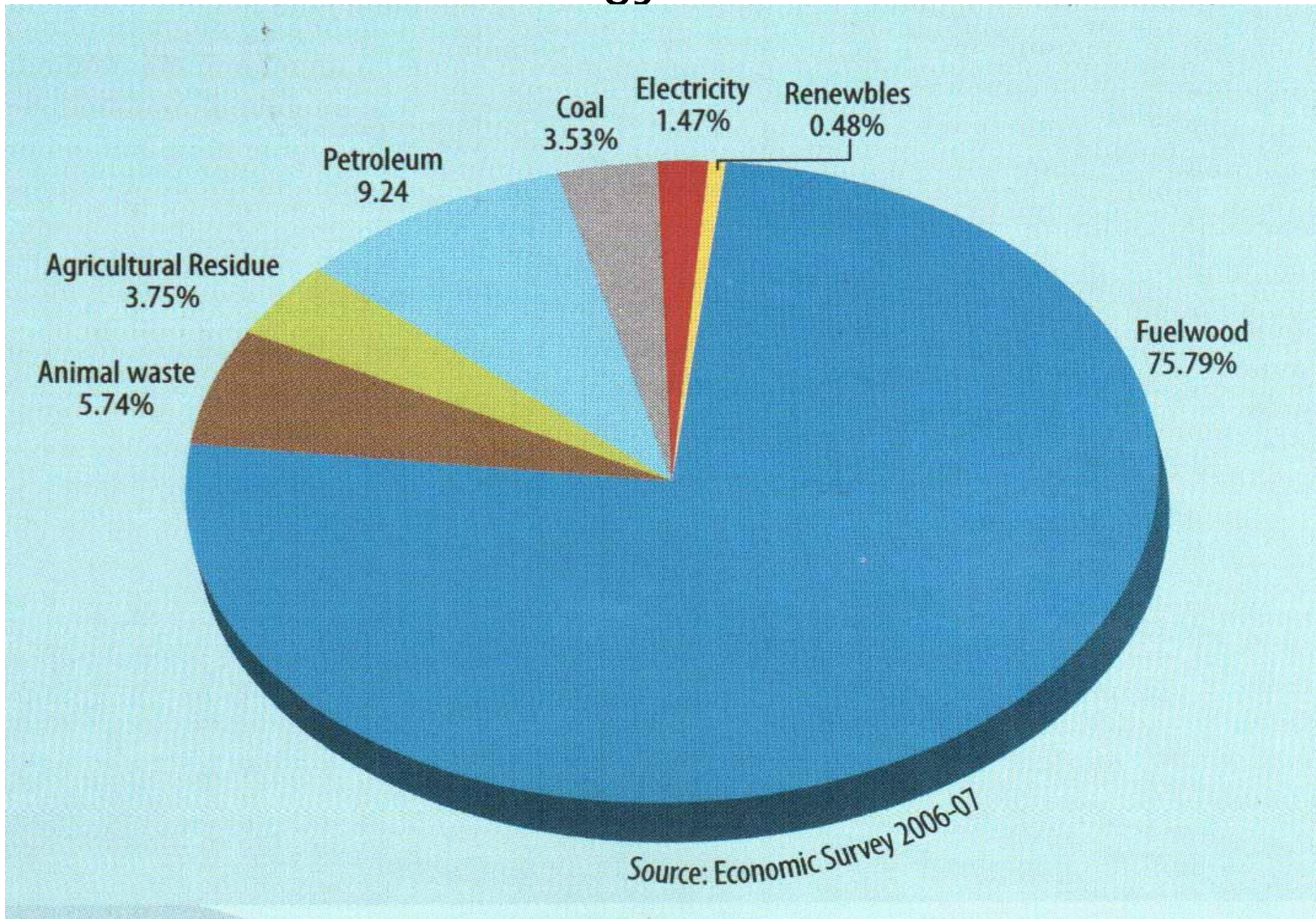
Successes

- The most successful results have been in areas as expressed by the present acting secretary of the Ministry of Environment, Science and Technology :
 1. Community Forestry (10% of the forests increased)
 2. Family Planning (community awareness by community people/volunteers RHFV/FCHVs)
 3. Appropriate Technology for Alternative Energy
- All of these programmes have active involvement of civil societies, NGOs/ CBOs and ownership of community users groups, local leadership, advocacy efforts and empowerment process.

Energy Sector Assistance Programme

- Alternative Energy Promotion Center (APEC) was established in 1996
- Improved cook Stove (ICS) was introduced in 1950
- Biomass Energy Support Programme:
- Solar Photovoltaic (PV)

Energy Sources

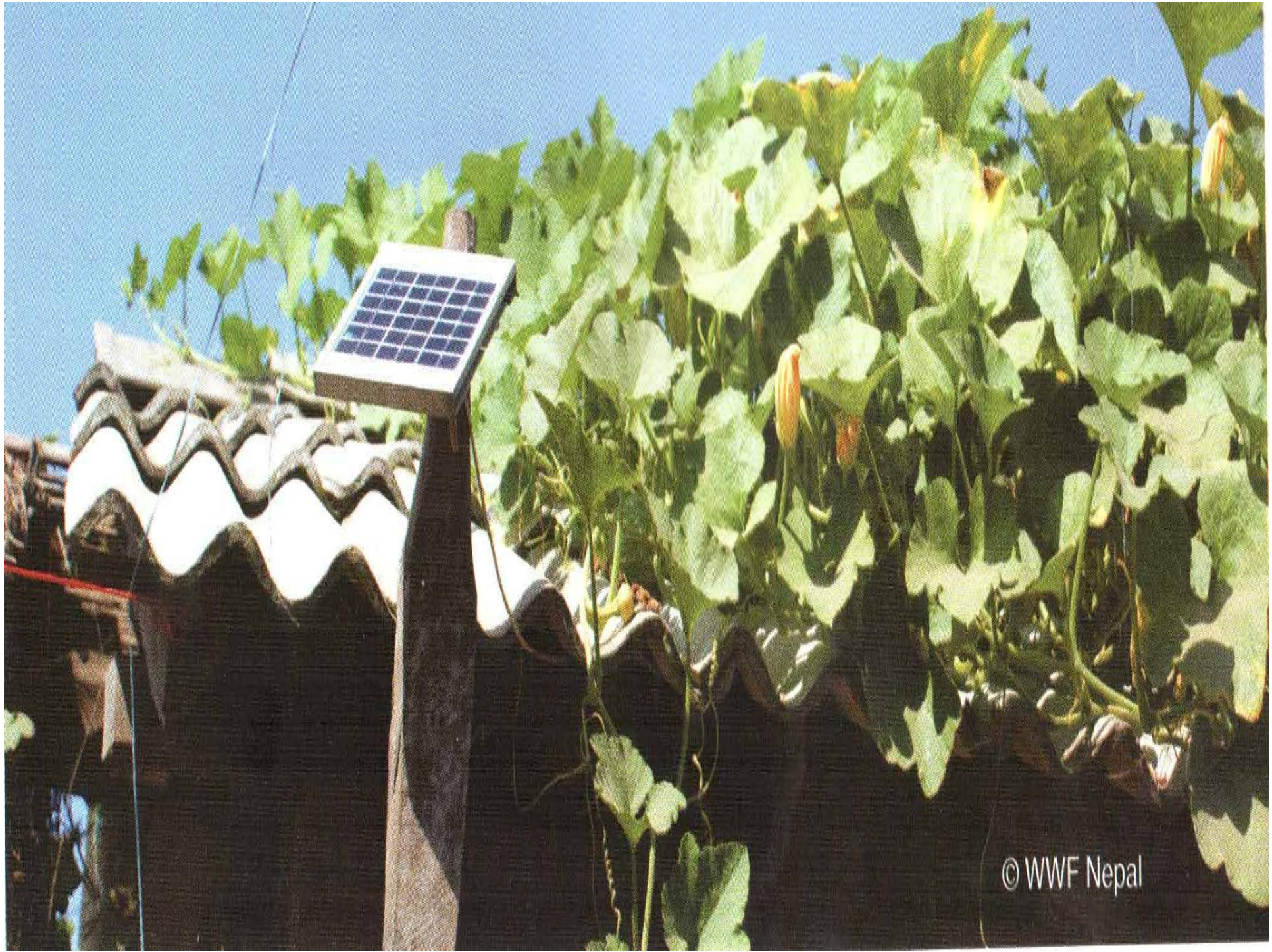


Solar PV in Rural village





Highest micro hydro powered plant TShO Rolpa Approx
4500 meters



© WWF Nepal



Policy, legislation and conventions

- GoN has emphasized the implementation of population, environmentally sound economic development program and growth of private sector through economic liberalization process. Nepal's law's and National Policies have emphasized on the protection of environment, forests and wildlife.
- Legislation

- Conventions
 - International Environmental Conventions to which Nepal is a Party and has a membership
 - Constitutional Provision
- Responsible bodies identified
- Inclusion of Environment subject in the schools and University curriculum since 1988
- Who are the key players beside government bodies:
 - WWF, IUCN, NTNC, UNEP, ICIMOD, Community Forestry Programme, Environment Journalist Group, FM/TV Sagarmatha,

A photograph of a mountain range. In the background, a prominent peak is covered in snow. The middle ground shows a range of dark, forested mountains. The foreground is a valley with terraced fields, some green and some brown, indicating agricultural activity. The sky is a clear, pale blue.

Beautiful...and difficult

What it really means for development

Conclusion (1)

- Changing people's attitude towards environment for long term sustainability is a key.
- Nepal's population will reach 60m in 2050 almost 3 times more than that of 2001; we need have effective PPP in place now. Human population growth is the number one threat to the world environment.
- Continued climate change will cause major changes in freshwater flows with dramatic and adverse impacts on biodiversity, people, and livelihoods. Nepal Himalaya Conservation Area is in in great danger of Glacier Lake Outburst Flood (observed already few events).

Conclusion (2)

- Climate change is a surprising and a new topic for many people. Education for all and equitable distribution of resources to prevent climate change must be ensured.
- South – south, north to south and west to south cooperation will be necessary to learn, adopt and address changes.
- Integrated, multi-sectoral and participation of beneficiaries are lessons learnt strategies for achieving effective and desired results (WWF Nepal has initiated integrated program of Environment and SRH together).

Conclusion (3)

- Environmental data is incomplete and difficult to discover. Relevant data are scattered and many are not published.
- Simplifying lifestyle and using much less stuff and items. Manage self esteem and sexual health
- Living in a clean environment must be a basic human rights endorsed by the state and that should be monitored.
- Easy access to contraceptives and SRH services required during all kinds of disasters

Final Key Thoughts

- Call for priority to quality reproductive health care, in the context of ensuring sustainable and balanced population development and addressing issues of climate change. (5thAPCRSHR); as a cross cutting.
- Community Approach Works:
 - Felt need, it has will power, has ownership, community from the community groups, community sees benefits
- Involvement of civil societies/NGOs/CBOs/ is a must. Community programme managed by them are successful.
- Attention must be given to the adolescent and youths (the bonus in many counties) of today; their needs, uses their empowerment and their generation with a long term plan to protect environment and themselves

Thank you for your attention

Mount Everest, Nepal



Population growth in Nepal: Terai

Regions	Population (million) by Census Year				% change 1971-'01
	1971	1981	1991	2001	
Mountain	1.14	1.30	1.44	1.69	48.25
Hill	6.07	7.16	8.42	10.25	68.86
Tarai	4.35	6.56	8.63	11.21	157.70
Country	11.56	15.02	18.49	23.15	100.26

- Rapid growth rate: >2% per annum since 1971
- This is the most important factor behind putting tremendous pressure on natural resources

Population Growth Rate: Rural

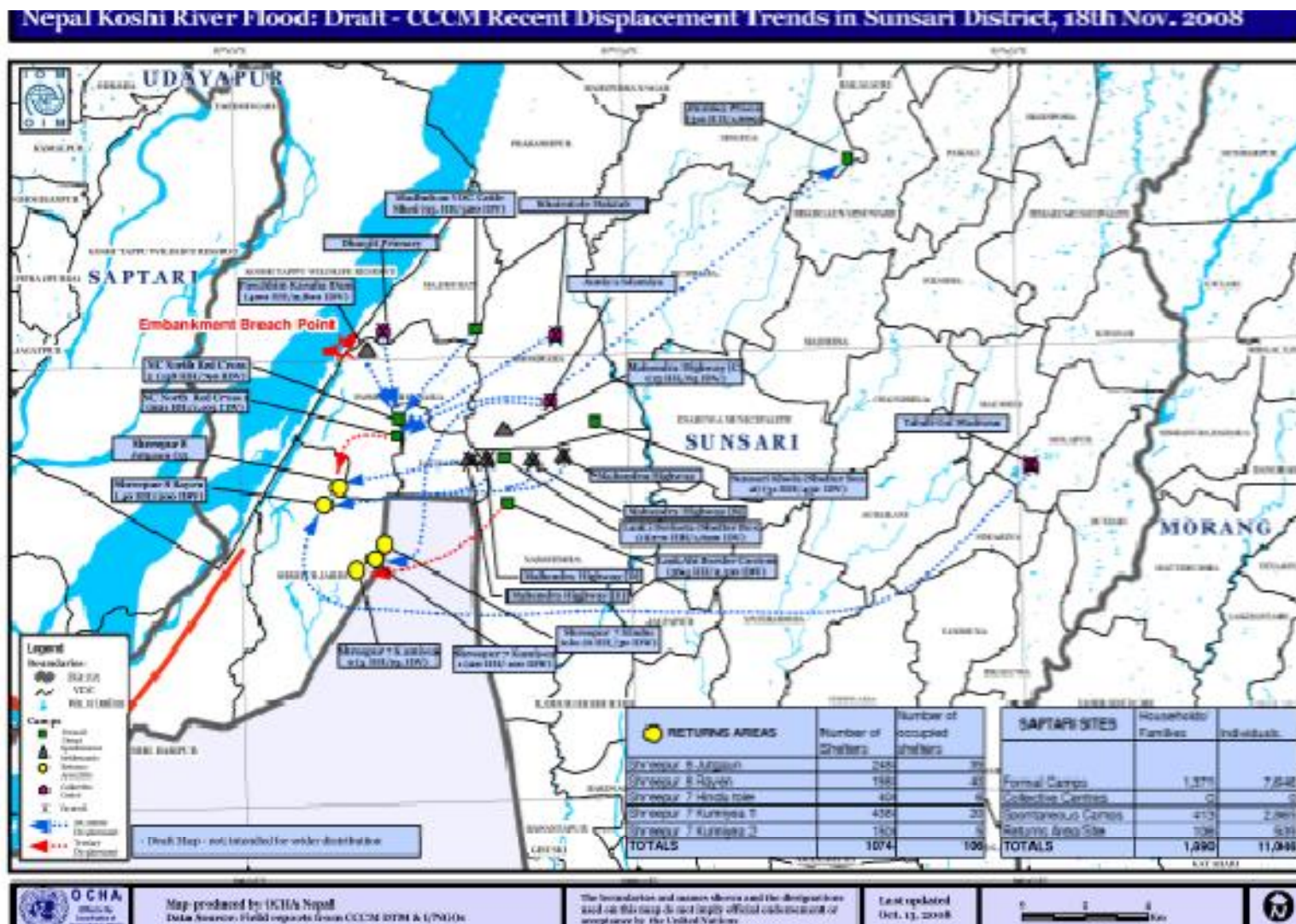
Census Year	Total Population	Annual National Growth Rate (%)	Rural Population	% of total	Annual Rural Growth Rate (%)
1952/1954b	8,256,625		8,018,350	97.11	
1961	9,412,996	1.7	9,076,774	96.43	1.2
1971	11,555,983	2.1	11,094,045	96.00	2.0
1981	15,022,839	2.6	14,066,118	93.63	2.4
1991	18,491,097	2.1	16,795,378	90.83	1.8
2001	23,151,423	2.3	19,922,311	86.05	1.7

Source CBS 2003

Koshi River Damaged its embankment

An estimated 80% of the Koshi River flowed through the gap in the embankment where the river breached its limits on 18 August 2008. Four VDCs remained fully or partially submerged. The East-West highway was damaged for 14km, including 1 km completely washed away, and about 4km submerged in flood water, and thus remained impassable, effectively cutting off Eastern Nepal from the rest of the country. The water level has receded, but it remained unmanageable for more than a year and until the monsoon season lasted and historically the worst floods ever occurred. Thousands of people became homeless.

Koshi River's breach point



Road Accidents in Nepal 2008/2009 (12 Months)

Accident	Total vehicles	Total injuries	Total deaths
Kathmandu valley	4650	3168	137
Nepal	8353	10066	1356

**Hilly roads are narrow and difficult,
Occurring accidents are common phenomena**

Data Source: Traffic Police, MoH, Nepal