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Assessment of District Health System within Inter-Sectoral Context in Nepal

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ABSTRACT

Background: Inter-sectoral coordination has been one of the different factors in the district health system that produces efficient output which has been identified by the Alma Ata declaration as an essential component to achieve notion of 'Health for All'. This study was therefore aimed to describe the major four key functions of the health systems and to find out the situation of inter-sectoral coordination in Nepal.

Methods: A mixed method with Focus Group Discussion (FGD) and In-Depth Interview with relevant personnel to collect the majority of the data was carried out from June 2012 to November 2012 from six districts selected purposively based on the health performance indicators.

Results: The major findings in relation to the key functions of district health systems showed that the overall management of the district health system happens under the leadership of chief of District Health Office of Public health office with the cooperation of all the personnel in different sections in a predetermined pattern and inter-sectoral coordination and collaboration exist only to a very limited extent.

Conclusions: The major constraints for inter-sectoral coordination to be effective is lack of its planning and enforcement where inter-sectoral coordination could be important for both preventive and promotive health care, waste management, water supply and sanitation, health service utilization, pesticides and human health, agriculture and nutrition, air pollution. The main components in the district health system needs an immediate attention and inter-sectoral effort should be initiated from the central level and implemented in all the levels.

Keywords: analysis; assessment; district; healthservice; inter-sectoral; system.

INTRODUCTION

The WHO defines health systems as "all the organizations, institutions, and resources that are devoted to producing health actions". There are four key functions of health system i.e. stewardship, financing, human and physical resources and organization and management of service delivery. District health system can be described as the review of the organization and management of a health system in terms of its structures, managerial processes, priority health activities, community participation and the availability and management of resources.[1]

The Alma Ata declaration has addressed inter-sectoral coordination as one of important strategies to achieve 'Health for All' and is required among different sectors and level of government or non-governmental organizations[2] for health outcomes. Health outcomes in populations are the product of three factors: the size of effect of the intervention; the reach or penetration of an intervention into a population and the sustainability of the effect.[3] Thus, improvements in public health are determined not only by effective health services and interventions, but also through an approach that

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includes other sectors and influences broader structural and systematic barriers to health.[4]

Nepal spends over 5.6 percent of its GDP on health, yet health outcomes change only marginally.[5] And the recent evidence suggests that many low-income countries including Nepal are unlikely to achieve the MDG health targets by 2015.[6] Therefore, there is a need to understand how well public funds target the poor and how benefits are distributed across socio-economic groups.[7] The concept of performance of health system is centered on three fundamental goals: improving health, enhancing responsiveness to the expectations of the population, and assuring fairness of financial contribution which need to be to contemplate for major policy challenges.[8] This study therefore aims to to describe the major four key functions of the district health systems, and identify the various factors which affects it. Also, it aims to explore the situation of inter-sectoral coordination and collaboration in the district and identify the potential areas of inter-sectoral coordination towards improvement. Thus it aims to provide information to policy makers, researchers and human health to evaluate and revise policy. The study targets to analyze the mismatch of responsibility and authority at local level by exploring the evidence based information within the inter-sectoral context.

METHODS

A mixed method using combined quantitative and qualitative methods of Focus Group Discussion (FGD) and In-Depth Interview (IDI) to collect the majority of the data was carried out from June 2012 to November 2012. Six districts were purposively selected based on the performance indicators in terms of health indicators for the year 2066/67. Two categories of the districts from each of three ecological regions were selected as Bajura (Mountain), Kaski (Hill), and Rupandehi (Terai) among better performing districts while Manang (Mountain), Bhaktapur (Hill), and Sarlahi (Terai) as the lowest performing districts. Kathmandu which was on the top of the list was purposively omitted and Kaski was chosen which stood second in the ranking. Districts chosen from Mountain could not be accessed due to the geographical location and unavailability of transport facilities on time. Hence, Bajura and Manang were replaced by Rasuwa and Sindhupalchowk. The study was done at District Health Office (DHO) or District Public Health Office (DPHO) as well as one selected Primary Health Care Centre (PHCC).

Ethical approval was taken from the Ethical Review Board of Nepal Health Research Council (NHRC). Written consent was taken with chief of D(P)HO and HF in charge respectively in case of district and HF. None of the individual details of any of the personnel in district or HF has been used during analysis and report writing.

The sample population comprised of D(P)HO and PHCC personnel in which the D(P)HO participants comprised chief of the D(P)HO, public health administrator, personnel from finance and administrative section while the PHCC comprised of PHCC in charge, medical officer, senior level personnel as well as members of the Health Facility Operation and Management Committee (HFOMC) who were selected purposefully. For the FGD the participants were from different organizations within the health and non-health sectors in the district.

Semi structured questionnaire was adapted from the guidelines developed by the WHO regional office for Africa for the assessing the operationality of district health systems for the interview in D(P)HO and PHCC. The tools were adapted to the country context by considering the local reality in terms of the health system and its components. However, some questions related to inter-sectoral coordination was added to the adapted questionnaire. The questionnaire was pre-tested in the DPHO Kathmandu and Bishnudevi PHCC of Kathmandu district for district and HF (HF) questionnaire respectively. The modifications were made wherever required in terms of content, language and coherence of the questions.

Guideline for the FGD was developed as per objectives designed to understand the issues of inter-sectoral coordination, its situation and importance from the participants of organizations within health as well as non-health sectors within the district. The sessions of the FGD was facilitated by one of the investigators and the other investigator functioned as a rapporteur and noted down the issues raised. The discussion was facilitated step by step using the guideline and finally concluded with the key points on which almost all of the participants came into consensus.

The data from the questionnaire was entered in a format developed in MS Excel which was then tabulated as per the major sections of the questionnaire. Following the tabulation of the data the interpretation was written in terms of the major headings. This process was done for the data of district as well as HF. The issues covered in the FGD were transformed to the soft copy including major consensus areas. The data processing, analysis and interpretation were done by the investigator himself.

The investigator himself was involved in the data collection for both quantitative and qualitative methods ensuring the validity of the participant's responses. The information gathered in each visit to the D(P)HO or HF was checked on the same day. The points noted down

by the rapporteur were rewritten simultaneously after completing the task of FGD. Additional information collected apart from the set questionnaire or detail information within the set questionnaire for the quantitative part was also transformed to another sheet/diary on the same day. Information about the district profile was noted down from the annual reports of the districts taken during the data collection. Expert meetings were held during the proposal finalization and tools development which included senior level representatives from Ministry of Health and Population (MoHP).

RESULTS

The total population of the six districts taken for the study ranged from about 50 thousand to above 900 thousand. Similarly, the under 1 year population ranges between just above 1000 to above 21000 whereas, the under 5 year population ranges between nearly 6000 to nearly 10500. For PHCs the catchment population ranged from 57,188 to 13,129 (Table 1,2).

The top five diseases for various districts and PHCs varied (Table 1,2). The personnel of Lalbandi felt that Pneumonia, PID, Enteric Fever, Skin Diseases could have the high burden in the district as these cases might not have been reached the HF to be included in the Health Management Information System (HMIS). HIV/AIDS is the condition that might have high burden in Sishuwa whereas in case of Changunarayan there could be a high number of Non Communicable Diseases (NCDs) such as hypertension (HTN), Diabetes Mellitus (DM) and not being included in the HMIS to the extent it should have been. The personnel of Jibjibe also have the similar opinion as NCDs such as HTN, bronchial asthma could have a high burden in the community.

Table 1. Background Characteristics of Districts.

Characteristics	Sarlahi	Rupandehi	Kaski	Bhaktapur	Rasuwa	Sindhupalchowk
Total Population	759,780	918,282	380,527	274,469	53,770	376,088
Women of Reproductive Age	140,319	242,209	83,402	80,667	13,428	95,278
Under 1 Yr Population	16,434	21,467	6,531	7,761	1,176	8,261
Under 5 Yr Population	102,776	104,245	20,602	21,242	5,850	39,695
Top 5 Diseases as per HMIS	PUO, Intestinal Worms, Impetigo/Boils/ Furunculosis, Headache, Gastritis (APD)		LRTI, URTI, Gastritis, Headache, Tonsilitis	Dental Caries/ Toothache, Gastritis/APD, URTI, ARI/LRTI, Falls/Injuries/ Fractures	ARI/LRTI, Gastritis(APD), Falls/Injuries/ Trauma, Headache, URTI	Headache, ARI/ LRTI, Gastritis, URTI, Falls/ Injuries/ Fractures
Top 5 Diseases as per Chief of D(P)HO	Hepatitis B, Kalazar, Cancer, Renal Disease, Cardiac Disorder	Skin Diseases	ARI, Skin Diseases, STI, Nutrition disorders	HTN, DM, Cancer, Renal Diseases	ARI, Diarrhea, Skin Diseases, Worm infestation, Alcoholic Disorders	HIV/AIDS

The overall human resource and financial management issues of the district offices mainly happen in a predetermined pattern that is decided and directed from the central level. All the districts have overview of HR of the HFs in the district with them. Various issues of HR such as job descriptions, housing and incentives were tried to be explored whether that exists in the district. It shows that all of the district offices have job descriptions for all members except BhaktapurD(P)HO. Almost none of the districts have rotation system and training plan for the staffs (Table 3-5).

Table 2. Background Characteristics of PHCs.

	Lalbandi	Basantapur	Sishuwa	Changunarayan	Jibjibe	Melamchi
Catchment Population	44,281	37,879	57,188	23,014	13,129	31,507
Women of Reproductive Age (15-49)	10,037	9,909	14,307	6,832	3,349	7,971
Under 1 Yr Population	932	878	1,513	657	300	691
Under 5 Yr Population	5,553	4,298	5,249	1,780	1,489	3,327
Proportion of Rural Population	0.00	0.00	10.28	0.00	100.00	
Proportion of Urban Population	100.00	100.00	89.72	100.00	0.00	
Major Means of transportation	Motorcycle, Bicycle, Bus, Cart	Bicycyle, RIckshaw, Tractor, Trolley/Cart	Public Buses	Local Bus, Walking	Walking, Stretcher (home made), Doko	Bus, Motorbike, Walking
Area Inaccessible for ORCs for more than a week	Narayan Khola, Kalinjor, Patharkot, Parwanipur Monsoon for about 3 months	Basantapur, Flood, Monsoon 3 Months	Malepatan, Too far difficult to reach, no vehicle		Thaibung, Kalikasthan - Monsoon Landslides, Slippery way 3 mths	
Top 5 Diseases (HMIS)	Skin Diseases, Gastritis, ARI, Diarrhea, PID	LRTI, Impetigo/ Boils, Headache, Dermatitis, Scabies	URTI, Gastritis, Falls/Injuries/ Fractures, Viral Influenza, Presumed Non Infectious Diarrhea	URTI, APD, LRTI, Falls/Injury, Skin Diseases	ARI, Typhoid, Acute Gastro Enteritis, Viral Fever, APD	
TOp5 Diseases (HF Personnel)	pneumonia, PID, Enteric Fever, Skin Infection		HIV/AIDS, Medical Abortion	URTI, Fall Injury, Enteric Fever, Diarrheal Diseases,HTN,DM	HTN, Arthritis, Bronchial Asthma, PID, Prolapse	AGE/ APD, ARI, Enteric Fever, Viral Fever

Table 3. Management Structure of Districts.

Characteristics	Sarlahi	Rupandehi	Kaski	Bhaktapur	Rasuwa	Sindhupalchowk
District Level Committees	Yes	Yes	Yes	Yes	Yes	Yes
Citizen Charter	Yes	No	Yes	Yes	Yes	Yes
Placement of Citizen Charter	Infront of main building, wall of generator room		Side of Main Entrance	Front Wall	In the Front wall of Hospital	Infront of Hospital
Frequecny of Staff Meeting	Once a Month	Once a Month	Once a Month	Once a Month	Once a Month	Once a Month
Last Meeting	1 Month Ago	1 Month Ago	1 Month Ago	1 Month Ago	1 Month Ago	6 Months Ago

Table 4. Management Structure PHCs.

	Lalbandi	Basantapur	Sishuwa	Changunarayan	Jibjibe	Melamchi
HFOMC and it Functioning						
HFOMC Guidelines	Yes for all Members	Yes for all Members	Yes for all Members	Yes for all Members	No	No
Number of Members	13	9	13	11	12	9
Members Oriented	Yes for all Members	Yes for all Members	Yes for all Members	Yes for all Members	Yes for all Members	No
Last Orientation (months ago)	4	1	24	48	6	
Members Understanding roles & responsibility	Yes All Members	Yes Some Members	Yes All Members	Yes All Members	Yes All Members	Yes Some Members
Participation in Meetings by Marginalized	Yes All Members	Yes All Members	Yes All Members	Yes All Members	Yes All Members	Yes Some Members
Participation in Decision making Process by Marginalized People	Yes All Members	Yes All Members	Yes Some Members	Yes All Members	Yes All Members	Yes All Members
Frequency of HFOMC Meeting	Once a Month	Once every 3 Months	Once every 3 Months	Once every 3 Months	Once a Month	Once every 2 Months
Number of Meetings in the past year	12	4	6	3	7	7
Meeting Minutes	Yes	Yes	Yes	Yes	Yes	Yes
Last Meeting Minute Available	Yes	Yes	Yes	Yes	Yes	Yes
Reference of Last Meeting	Yes	Yes	Yes	Yes	Yes	Yes
Last Meeting	1	1	1	1	6	1
Main Actions by HFOMC last year	Free Cancer Examination Campaign, FCHV Uniform & Allowance, Mosquito net, 24 Hrs Emergency	Boundary, Incinerator	Buidling Construction	Vaccine Campaign, land for Building, Dashain Allowance for Driver, prize distribution FCHV	Drugs purchase, minor equipments, small buildings constructed, Inititation for Infrastructure	Health Camp, HR in contractual Service
Inclusion of HFOMC information in annual report	Yes	Yes	Yes	Yes	Yes	Yes

Table 5. Human Resource Management.

	Lalbandi	Basantapur	Sishuwa	Changunarayan	Jibjibe	**Melamchi**
HR Overview in the District	Yes	Yes	Yes	Yes	Yes	Yes
Job Descriptions	Yes All Members	Yes All Members	Yes All Members	No	Yes All Members	Yes All Members
Rotation Plan	None	Some	None	None	None	None
Training Plan	Some	All	Some	None	None	None
Career Plan	None	None	None	None	None	None
Housing	None	Some	None	None	All	Some
Incentives	None	Some	Some	None	None	Some
Probable Reasons of Deficient Number of Staffs	retention problem, VHW decreasing no new recruitment, No exams by PSC, no authority for district to hire, local production nil	Not deficient as such but personnel do not want to go to remote area		As per norms ok. but the alooted posts are not enough, No provision of helpers	Living Cost very high, Facility less, Central level planning, no bottom up approach	No New posts created, and no vacancy for existing posts also, AHW, HA,LAb, Xray, Peon not being sent
Ways to improve Retention of HR	Provide housing, and train/produce local people	Incentives, More salary for contractual staffs, lonr term training for remote staffs		Provision of local contract of helpers, clear distinction between diff posts, do not give PADNAAM	separate pacjage required location specific, need based supply by seeing exact situation, discuss with people serving there, remote allowance	Whole system needs change, doctors required, need based planning required
DHO out of Office	hardly once a month	Very Infrequent		Around 25 to 30 %	for a month	Almost nil
Reasons for not being in Office	Due to the work load in office do not generally go out	Field Visit, Occasionally to the centre		Usually in the meetings/ seminars	Central level meeting	Doesn't usually go to the centre/ region
Proportion of Hours Spent in the Office (%)	25	50		40	99	100
Purpose of being out of Office	meeting in the district with other organizations, DDC, DAO, Women's Office	different programs, training, workshops, district (DDC, DAO) meeting, Line agency meeting, supervision, joint supervision		meetings in other different offices		

All of the PHCs have guidelines required for Immunization, management of child with diarrhea, management of child with fever, referral of obstetrical emergencies. The last one is not available in only one PHC that is Changunarayan. Reproductive Health (RH) services including Family Planning (FP) services, Antenatal Care (ANC), Postnatal Care (PNC) are provided by all the PHCs. PHCs except Sishuwa and Changunarayan also provide assisted delivery service. The diseases prevention and control activities for major diseases of importance for the area have been undertaken by all PHCs wherever applicable. In the other hand the situation with NCDs (mainly DM, HTN, Mental disorders, Malnutrition) is also some what similar, partial activities happen for these diseases in all the PHCs but can be done more with emphasis on prevention and control. IMCI and DOTS are implemented in all the PHCs and Lalbandi PHC has more number of patients and is having difficulty to manage with current number of staffs in HF (Table 6).

Table 6. Priority Health Activities of the PHCs.

Priority Health Activities																	
Public Health Intervention	Lalbandi	Basantapur	Sishuwa	Changunarayan	Jibjibe	Melamchi											
	Undertaken	Should it be Undertaken	Remarks	Undertaken	Should it be Undertaken	Remarks	Undertaken	Should it be Undertaken	Remarks	Undertaken	Should it be Undertaken	Remarks	Undertaken	Should it be Undertaken	Remarks	Undertaken	Should it be Undertaken
Health Information & Education	Yes	Yes		Yes	Yes	People can't understand materials, better in local language	Yes	Yes	Directives from district is required	Yes			Yes			Yes	
Basic Immunizations																	
National Immunization Program	Yes	Yes	No VHWs	Yes	Yes	VHW Not Available	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Immunization Days	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Reproductive Health																	
FP Services	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
ANC	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Asst Deliveries	Yes	Yes	Space Less, Privacy Difficult	Yes	Yes	Partly, with Episiotomy	No	No		No	No		Yes	Yes		Yes	Yes
PNC	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
ASRH	No	No		No	Yes	No in the Program	No	Yes	No separate program, goes combined, can be done better	Yes	Yes	Less Effective, No Separate Counseling	Yes	Yes		Yes	Yes

Inter-sectoral coordination and collaboration of the health system within the health sectors was tried to be explored in all districts and PHCs for three major actors' namely traditional healers and traditional medicine practitioners, non public health services, non public sectors working in health related areas (Table 7, 8). All the districts have certain level of activities with non public sectors especially NGOs working in the areas related to health directly and indirectly. In all these districts these organizations work jointly with D(P)HO in many instances and maintain a good level of coordination. Inter-sectoral coordination with the sectors beyond health was also tried to be explored with special focus to education system, agriculture, livestock services, administrative system, local development, Water Sanitation and Hygiene (WASH), building and roads, economic system, industry and commerce as well as NGOs.

Table 7. Community Involvement & Inter-sectoral Coordination (District).

Inter-sectoral Coordination and Collaboration - Health Sectors						
Traditional Healers/Ayurveda Practitioners	Yes	No	No	No	Yes	No
Activities with Traditional Healers	TB, Leprosy, Health Education	Reporting but not continuous			Meetings	
With Non Public Health Services	No	Yes	Yes	Yes	Yes	Yes
Activities with them		Health Programs, Camps	Preventive &promotive health service, monitoring, supervision	Immunization, Urban Health	Monthly meeting	Safe motherhood, TB
Non Public Sectors working in Health or Health Related Issues	Yes	Yes	Yes	Yes	Yes	Yes
Activities with them	FPAN - FP, Safe motherhood, Delivery incentive, NRCS - Disaster. BDS - AIDS. Chetana - FP,RH	AMDA- MCH, WVIN - Nutrition, SUAAHARA - Nutrition, NGOs - AIDS	NRCS - Disaster, WASH, ASRH. Nauloghumti - Promote coordinate gov activities	Submission of reports by almost all non public facilities	Red Cross, SUAAHARA, Eye Clinic - Camps, Events breast feeding, old age day, condom day	SUAAHARA - Nutrition, MDM - Safe Motherhood
Representation in the Committees in District						
Traditional Health Practitioners	No	No	Yes	No	Yes	Yes
Non Public Health Services	No	No	Yes	No	Yes	Yes
Inter-sectoral Coordination and Collaboration - Non Health Sectors						
Any Activities in Coordination/ Collaboration						
Education System (DEO)	Yes	Yes	Yes	Yes	Yes	Yes
Agriculture and Animal Offices	Yes	Yes	Yes	No	No	Yes
Economic System (Banks Cooperatives)	No	No	No	No	No	No
Industry & Commerce	No	Yes	No	No	No	No
Administrative System (DAO, DDC, Security)	Yes	Yes	Yes	Yes	Yes	Yes

Physical Environment (DWSS)	No	No	Yes	Yes	Yes	Yes
NGOs	No	Yes	No	No	No	Yes
Representation in the Committees in District						
Education System (DEO)	Yes	Yes	Yes	Yes	Yes	Yes
Agriculture and Animal Offices	Yes	Yes	Yes	Yes	No	Yes
Economic System (Banks Cooperatives)	No	No	No	No	No	No
Industry & Commerce	No	No	No	No	No	No
Administrative System (DAO, DDC, Security)	Yes	Yes	Yes	Yes	Yes	Yes
Physical Environment (DWSS)	Yes	Yes	Yes	Yes	Yes	Yes
NGOs	No	No	No	No	No	No
Major Activities with Non Health Sectors	Education - School Health, Diff days celebration. Animal - Prevention and control of Zoonotic Diseases	Education System -School health, Agri/ Animal - meetings/ Discussion, Industry - joint monitoring, Admin - Close Coordination every activity, representation in committees	Education - Immunization, Dworming, School health. Agri/Ani - Malnutrition, Zoonotic Diseases, Influenza. Admin - MCH Clinic, Urban health	Education - School health, Immunization, Deworming. Admin - Urban health, Market Monitoring. Phy - WASH	school health, adolescent peer group, deworming, health camps with FNCCI, meetings with admin, water with DWSS	Education - School Health, TB awareness, Deworming. Agri - Nutrition, Behavior change, sustainable approach for food habit, env - sanitation, discussion on health &env impact of road n building

Table 8. Community Involvement & Inter-sectoral Coordination (PHCs).

	Lalbandi	Basantapur	Sishuwa	Changunarayan	Jibjibe	Melamchi
Community Involvement						
Top 5 Diseases in the Community (By Community representatives	HTN, DM, TB, Kalaazar, Malaria	TB, Diarrheal Disease, Pneumonia, Typhoid, Skin Diseases	TB, Typhoid, Pneumonia, Respiratory Illness	TB, Diarrheal Diseases, Respiratory Problems, Wounds/Boils, Dysentery	Uterine Prolapse, Hydrocele/ Hernia, Pneumonia, Bronchial Asthma, Jaundice	Arthritis (Hyperuricemia), HTN, DM, Diarrheal Diseases
Community Groups involved in Health	Women's Group	Women's Committee, Social Mobility Committee, Women's Savings Committee	Women's Group	Women's Group, Youth Group	Women's Group, Youth Group	Women's Group, Youth Group
Major Activities of the Groups	Health Education, Awareness and Counseling	Health Awareness and Communication, mobilization of resources, income generating projects, water supply projects, care for environment	Immunization, Health Awareness	First Aid, DOTS, Health Camps	Health Awareness, health camps, Water supply projects, Care for the environment	Health Camps, Health Awareness, Alcohol Prevention, Gender Issues, Domestic Violence
Community Contribution to HF		Materials and Buildings but from VDC with land contribution from Community	Materials and Buildings	No	Communal Labor, Financial resources, materials & buildings	No
Fund Support for the Community	government	Government	No	No	No	Occasionally from Community members
Feedback Mechanism by Community		Through the meeting, CSOs, Ward Representatives	Review of Complaints, Involvement of Community Representatives in Meetings	Direct in Person	Community representatives in Meetings	Representatives in meetings
Areas where HF Staffs could do more	If it could be upgraded to Hospital more people could take service	Continuous Doctor Service, Maternity Services, Addition of number of beds, Staff increment	Services are enough, however, maximum utilization of existing manpower			
Inter-Sectoral Coordination						
With Traditional Healers/Health Practitioners	Traditional healers refer pts to HF	No	No	Occasionally Pt referral by Traditional healers	Traditional healers (Ayurveda) - Pt referral	Occasional Pt referral by traditional healers
Non Public Health Providers	No, there are some organizations but they function on their own, some coordinate with DPHO	Yes with a NGO (Namuna) in TB Program	Yes with Community Hospital, Combined Service with ASHA Clinic for ORC (Vehicle)	Health camps Health Education by private/NGO	Yes Community Hospitals - Provide basic medicines	Yes, family planning camps, health camps

There were also varied opinions from the responders in FGD and Interview.

"In the name of coordination and collaboration there are meetings held but the decisions made in the meetings are weakly implemented", a staff of DPHO.

The chief of DHO says *"there are about 50 different programs related to TB in the district but many a times DDC is not aware of that. Discussion environment is not available."*

"*Treated water is an issue far, only raw water is also not available"* says one of the participants.

NGO Federation representative believes, *"Increased awareness will increase the access and thus utilization of health services".*

The culture of working together in coordination and collaboration has not yet developed. Everyone works individually

One of the participant mentions *"There are a number of health institutions in the city as well as the periphery but most of them are registered neither with the region nor with the district".*

The major areas the most of the participants believe that require a strong inter-sectoral coordination and collaboration are Food and Nutrition, Water Supply, Market Monitoring for food products, Waste management, Sanitation and Hygiene and Agriculture.

"*Drug abuse is another important area where we can work together",* believes DAO.

DISCUSSION

There does not seem to be any special structure in any of the districts such as District Health Management Team (DHMT) or District Health Committee (DHC) to take care of the issues of managing the D(P)HO and HFs. This is instead being managed by the whole team of DHO or DPHO under the leadership of the chief. The PHCs on the other hand have HFOMC in all of them as a management structure where members from marginalized, women and dalit are included and participate in the meetings in all the PHCs.

The overall management issues of the district offices mainly happen in a predetermined pattern that is decided and directed from the central level. None of the districts received budget on time and none of the finance head and chief of D(P)HO are satisfied with that. In this context decentralization in health system with decentralizing resource allocation can be kept in the horizon. An assessment of the processes associated with the allocation of health resources in the decentralized system in New Zealand after a system of purchasing health services by a centralized purchasing agency was replaced by 21 district health boards (DHBs) which are responsible for both providing health services directly and for purchasing services from non-government providers in 2001. The assessment showed that Decentralized decision-making is starting to make some inroads towards achieving some of the government's objectives with respect to resource allocation and purchasing.[9]

All the districts have overview of Human Resource (HR) of the HFs in the district with them and almost all of the district offices have job descriptions for all members. However, none of the chief's are satisfied with the allotted posts for the HFs. One of the probable reasons for the deficient number of staffs is no new recruitment by the government. Other reasons are low incentives for working in mountain districts and lack of enough facilities. Producing local HR, provision of local hiring of lower level staffs, provision of extra facilities for contractual staffs, provision of incentives could be some of the ways to improve the retention of staffs.

The HR status of HFs including District Hospitals (DH) wherever applicable does not seem to be satisfactory. Almost none of the districts where they have DH have all the posts of HR filled as per sanctioned. The lacking is mainly the MO (Medical Officer), Staff Nurse (SN), HA). In case of Primary Health Centers (PHC) / Health Posts (HP)/ Sub Health Posts (SHP) majority of the districts have deficiency in the number of staffs for the PHCs in the district. The staffs that are mostly deficient are MO, SN, HA and office helpers in most of the PHCs. Some of the posts of Assistant Nursing Midwife (ANM) and Auxiliary Health Worker (AHW) are also vacant. The situation of HR in lower level facilities seem to be poor than the higher levels even worse in SHP.

Almost all the districts have annual district health plan. However, the plan is not a kind of approved one and many of the activities run in a routine predetermined pattern in most of the districts. Generally, D(P)HO, District Development Committee (DDC), staff of HFs are involved in the planning by all districts however only some of them involve representatives from non publicHFs, representatives of community organizations, NGOs and donors (EDPs). On the other hand none of the HFs has annual health plans. The lack of an approved annual district health plan seems to be one of the hindering factors for proper planning and true implementation of the plan.

All the HFs in the past year has submitted annual HMIS reports and the HMIS data is analyzed in almost all the districts. The process of verification of HMIS data is by

tallying the data with the record registers in HFs by the team from district. HMIS reporting could be an important tool for performance evaluation and requires to be done in a proper manner. This requires frequent training of the HF staffs as well as enough supply of logistics. In the current study though the logistics required for HMIS reporting was not an issue in any of the HFs. However, one of the HFs in Mountain districts felt that frequent orientation and training to the staffs is important. An assessment of a PHC health management information system from PHC Managers' perspectives in Nigeria showed that majority of the respondents (n=11) believed that staffing at PHC level was inadequate. Only 5 (27.8%) of the managers had training specific to completing HMIS forms. Nonetheless 14 reported that report submissions were timely. Twelve (12) of the managers judged that the data collected were always or sometimes accurate. Though only 5 crosschecked data to verify accuracy of the submissions. Results of this study show major gaps in the structure of the HMIS at the PHC level which is responsible for gathering data onward to the federal level that culminates in epidemiological and health information for the country.[10]

Top diseases in the community according to Community representatives differ slightly from that reported by the HF. In Terai districts they believe that they have high burden of VBDs whereas in hill and mountain districts they believe that it is NCDs which leads the list. There are women's group and youth group in the catchment area of almost all the PHCs and mainly act on the areas of health awareness, health camps and related areas. The involvement of community groups is crucial for the sustainability of the health interventions. A review paper presenting evaluation findings and lessons learned from the Partnership for the Public's Health (PPH), had generally positive overall results; in particular, of the 37 partnerships funded continuously throughout the 5 years of the initiative, between 25% and 40% were able to make a high level of progress in each of the Initiative's five goal areas. It showed that health departments able to work effectively with community groups had strong, committed leaders who used creative financing mechanisms, inclusive planning processes, organizational changes, and open communication to promote collaboration with the communities they served.[11]

Health information and education, basic immunizations and basic RH services are provided by all of the PHCs in relation to priority health activities in HFs. The major lacking for these services are inadequate number of Village Health Workers (VHW) for immunization services, lack of privacy areas for Adolescent Sexual and Reproductive Health (ASRH) services. These services could be further enhanced by providing enough logistics, drugs and availing additional spaces meanwhile providing training on different components. The diseases prevention and control activities for major diseases of importance for the area have been undertaken by almost all PHCs wherever applicable. In case of communicable diseases such as HIV/AIDS and STIs some of the PHCs provide some services but not completely and the personnel believe that is should be undertaken and a lot can be done beyond just counseling. On the other hand the situation with NCDs (mainly DM, HTN, Mental disorders, Malnutrition) is also somewhat similar, partial activities happen for these diseases in all the PHCs but can be done more with emphasis on prevention and control.

Inter-sectoral coordination and collaboration of the health system within the health sectors exist only to a very limited extent which usually happens with non public HFs in health camps, preventive and promotive health service, immunization and urban health. In some of the districts traditional healers and practitioners of traditional medicine are involved in some meetings. There exists a certain level of coordination with the NGOs in the district in different areas which can be further expanded and strengthened to include many other related sectors. A study carried out to understand the development of inter-sectoral participation in the three intervention municipalities of Stockholm Diabetes Prevention Programme (SDPP) case studies with a longitudinal assessment recognized wide participation of various interest groups in planning and implementing activities whereas local resources, the representation of the leadership and the extent of the network were perceived as more restricted. The extent of partner engagement increased due to focusing on activities approaching multi-sector collaboration and institutionalization.[12] An evaluation of a participatory strategy based on the Eco health approach was done whose aim was to promote inter-sector ecosystem management to decrease Aedesaegypti infestation and prevent dengue transmission in the municipality of Cotorro, in Havana city. The strategy ensured active participation by the community, diverse sectors, and government in the production of healthy ecosystems. The findings showed timely and integrated measures for prevention and control were developed, thereby decreasing the risk of vector proliferation and local dengue transmission.[13] This shows that the inter sector participatory approach would be effective in reducing the burden of various diseases.

Meetings and joint activities in some of the areas happen in the district with different offices in the district in both health as well as non health sectors. Activities with

the NGOs working in the health sector is usually carried out in full coordination with the D(P)HO and it happens usually for the areas of focus of the NGOs. Inter-sectoral coordination among stakeholders and organizations can influence the individual determinants of health. Facilitating convergence among top level sectors and organizations can aid in development of public health systems that are responsive to the health and well being and aspirations of the people.[14] It is clear that inter-sectoral collaboration has become a right of passage for finding solutions to complex problems that each sector on its own cannot solve. Inter-sectoral collaboration is above all an intrinsic need.[15]

Almost all of the districts have certain level of activities in the area of nutrition, WASH in coordination with district offices in related sectors as well as NGOs working in those sectors. ODF declaration, school health, health camps are some of the significant areas where there appears to be a good inter sectoral coordination. Some other areas of joint effort that currently exists are joint market monitoring in some districts, prevention and control of zoonotic diseases, Vit A distribution in some other districts.

The major constraint for inter-sectoral coordination to be effective is lack of its planning and enforcement. For it to be effective it should start from the central level and there should be specification of the lead organization by having specification on the lead role and support role as per the different areas. Legal provision is also equally important in certain areas to make the joint effort of different sectors an effective one. The culture of working together in a joint way has not developed yet. Most of the times the health sector is left alone with the statement, *"it is the health matter so you do it on your own"* Health working with industry to promote fruit and vegetables in Western Australia which was a five year plan implemented in 1990 proved to be effective. The fruit and vegetable industry was engaged through information sharing, consultation, working groups and joint promotions. There were both need and opportunity for each sector to work together. Health had commitment, expertise and resources to plan implement and evaluate the campaign. Industry had established channels of communication within the supply chain. Sustained health sector presence provided incentive, endorsement and policy direction. Resources and infrastructure limited partnership sustainability. Greatest potential for success occurred when participants' contributions were closely aligned to their core business and there was a body responsible for coordinating action.[16]

The key areas where inter-sectoral coordination could be important are preventive and promotive health care, waste management, water supply and sanitation, health service utilization, pesticides and human health, agriculture and nutrition, air pollution. In terms of specific diseases, diarrheal diseases, vector borne diseases, nutritional disorders, non-communicable diseases, acute respiratory infection and tuberculosis are some of the important areas where inter-sectoral coordination could be important. There is consensus amongst community members, local practitioners and policy and decision makers on the need for an inter-sectoral approach to health, environment and living conditions as reported by a study analyzing the processes of linking various sectors involved in six health and environment projects developed at the local or regional level in Brussels-Capital. The analysis of the different projects demonstrates the lack of awareness by specialists, in this case being environmental, of the composition and complexity of the interaction between multiple aspects of life when trying to link with other sectors. Finally, the viable preservation and continuation of overarching, universal approaches are impeded by the lack of recognition and absence of funding for interventions which aim at affecting multiple aspects of life.[17]

The main limitation of the study was that it was only carried out in the 6 districts which do not meet the recommendation of WHO for the district health system. Also, only one HF and that being PHCC covered to represent the HFs of the district which may not be sufficient enough to give a good picture of the situation of HFs. However, the selection of the districts was based on the ranking developed by the MoHP and two districts each from every ecological belt was taken for the study. The PHCC also to a great extent represents the HFs as the situation in most of the HFs including PHCC and HP is similar.

CONCLUSION

The geographical condition of the country acts as a major limitation to provide basic health care services in many part of the country. The overall management issues of the district offices mainly happen in a predetermined pattern that is decided and directed from the central level.

All the districts have overview of HR of the HFs in the district with them. In an overall picture of HR in the districts, it was found that none of the chief's are satisfied with the allotted posts for the HFs. The situation is worse with the lower level facilities the worst being the SHPs. Most of the PHCs included in the study suffered with the deficient number of staffs.

Almost all the districts have annual district health plan. However, the plan is not a kind of approved one and many of the activities run in a routine predetermined pattern in most of the districts. On the other hand none of the HFs has annual health plans. All the HFs in the past year has submitted HMIS reports and the HMIS data is analyzed in almost all the districts. The process of verification of HMIS data is by tallying the data with the record registers in HFs by the team from district.

All of the PHCs are found providing services related to priority health activities. However, in terms of disease prevention and control as well as treatment of certain diseases such as NCDs the PHCs are not found to be capable enough and do not have the resources. Inter-sectoral coordination and collaboration of the health system within the health sectors exist only to a very limited extent which needs to be improved.

The major constraints for inter-sectoral coordination to be effective is lack of its planning and enforcement for which it should start from the central level and make it a joint the joint effort of different sectors an effective one. The culture of working together in a joint way has to be developed. The key areas where inter-sectoral coordination could be important are preventive and promotive health care, waste management, water supply and sanitation, health service utilization, pesticides and human health, agriculture and nutrition, air pollution. In terms of specific diseases, diarrheal diseases, VBDs, nutritional disorders, NCDs, ARI and TB are some of the important areas where inter-sectoral coordination could be important.

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