2009

REGION 10
REGIONAL HEALTH RESEARCH CAPACITY ASSESSMENT REPORT

Philippine Council for Health Research and Development
6/22/2009

REGION 10

REGIONAL HEALTH RESEARCH CAPACITY ASSESSMENT REPORT

JUNE 2009

PHILIPPINE COUNCIL FOR HEALTH RESEARCH AND DEVELOPMENT
VICAR INTERNATIONAL HEALTH AND RESEARCH GROUP, INC.

TABLE OF CONTENTS

ACRONYMS

COA	Commission on Audit
DOST	Department of Science and Technology
DOH	Department of Health
HRC	Health Research Consortium
WMSU	Western Mindanao State University
NAST	National Academy of Science and Technology
NorMinCoHRD	Northern Mindanao Consortium on Health Research and Development
NUHRA	National Unified Health Research Agenda
PCHRD	Philippine Council for Health Research and Development
PNHRS	Philippine National Health Research System
RHRDC	Regional Health Research Development Councils
RICUP	Research Information Communication Utilization Programme
RUHRA	Regional Unified Health Research Agenda
SOME	Structure/Organization Monitoring and Evaluation

I. Background and Objectives

The Northern Mindanao Consortium for Health Research and Development (NorMinCoHRD) was organized on February 12, 2008. While there were prior efforts to engage the leading academic institutions to promote health research and development in the 1990s such efforts were never formalized and were not sustained. This latest attempt to consolidate the efforts of colleges and universities and government agencies in Northern Mindanao is a significant development as the combined resources of these institutions are quite formidable and if applied properly will no doubt address many of the health problems in the region through research.

In 2008, the consortium carried out no less than nine activities the majority of which were aimed at developing research proposals based on the identified research priorities. Perhaps the most significant development was the formulation of a three-year plan (2008-2010) that articulated the consortiums' vision, mission, goals and objectives.

This overall objective of this rapid assessment is to strengthen health research and development in Region 10. Specifically the assessment will identify critical issues and gaps in health research and development in Northern Mindanao Region and recommend measures that the health research consortium can use to improve the management and implementation of health research and development plans, programs and activities

II. Methodology and Activities Undertaken

The assessment was carried out by the members of the SOME with administrative and logistical support from PCHRD. Two members of the committee on research management joined the SOME in some of the assessment meetings and sessions. The assessment team utilized the assessment framework and rapid appraisal instruments developed by the SOME committee for this purpose (see Annex A).

Two meetings were held as part of the assessment process. The first meeting was conducted on the morning of May 15, 2009 with health researchers and a meeting later in the afternoon with the members of the Advisory Committee in attendance. A list of participants is attached (Annex B).

III. Findings and Observations

A. Overall Findings and Observations

The health research consortium for Northern Mindanao is well-organized and counts among its members some of the country's leading colleges and universities that are recognized for their capacities to undertake research.

The region has a set of health research priorities that was developed in 2005. Feedback from health researchers suggests that the RUHRA was not well-disseminated. There is also little evidence about its application in the development of a capacity-building plan and in the formulation of a resource mobilization strategy.

One of the significant achievements of the consortium was the formulation in 2008 of a three-year research and development plan (2008-2010). The plan mentions the consortium's vision and mission statements, its objectives, activities and expected outputs. It also includes an estimate of the budget needed to fund the proposed activities. However, the plan does not include a strategic assessment of the major problems and issues and as such it is difficult to assess the adequacy of the activities that are being proposed. The plan also uses mainly qualitative indicators which renders the measurement of progress towards the achievement of its goals and objectives very difficult.

The consortium has made some organizational adjustments to respond to the lack of a full-time manager by assigning vice-chairs to the different working committees and by maximizing the secretariat support provided by the DOST regional office. However, these short-term adjustments may not be sufficient once the work of the consortium grows and expands.

Given its short organizational existence, NorMinCoHRD has made a lot of progress and shown a number of important accomplishments. The high-level of motivation of its health research manpower and the strong interest shown by the members bode well for the future of health research and development in Northern Mindanao.

B. Preparation and Utilization of Health Research Agenda

1. RUHRA(2006-2010) was developed in 2005 but many health researchers are not aware of its content and significance.

   In 2005, with assistance from PCHRD, two researchers from RIMCU led the development of a health research agenda for region 10. The preparation process involved reviewing documents and consultations with stakeholders. Four groups of priority research issues were identified: public health, environmental health, vulnerable groups and health care financing.

   Despite the existence of and easy access to this reference document (downloadable through the PCHRD website) many health researchers who were present during the consultation meeting expressed their lack of awareness and familiarity with its content. The researchers could not recall the priority research areas described in the document. Most of the researchers agreed that the document was not well-disseminated. This sentiment was shared by the members of the Advisory Committee.

2. The health research agenda does not include a systematic analysis of the identified priority needs.

   A quick review of the RUHRA document shows that the priority areas for research do not provide an epidemiological, social, economic and policy-related description of the issues involved. Such gap in the analysis of the research issues makes it difficult for interested institutions and researchers to design and carry out research studies.

   The RUHRA lists some of the important research issues but without a good description of the socio-economic context and epidemiological information, interested researchers will have great difficulty in translating them into research proposals.

3. Strong interest to review the research agenda and transform it into an instrument that can be easily utilized and applied.

   Both the group of researchers and the advisory council agreed that a review of the research agenda is in order and that the document needs to have more applications.

C. Health Research Manpower, Facilities And Capacity-Building

1. Researchers and governing board claim that region 10 has the capacity to undertake research and development activities.

   The presence of some of the country's leading institutions of higher learning in the consortium strongly support the claim of the health researchers and the Advisory Committee that region 10 possesses the capacity needed to undertake health research activities based on the identified health research priorities.

   NorMinCoHRD has not attempted to validate these assumed capacities by conducting and inventory of the research manpower and facilities of the region in accordance with the priorities described in the RUHRA.

2. Region 10 has a three-year capacity-building plan.

   A review of the consortium's three year R and D plan shows that it has a capacity building component. The plan includes an activity to conduct a training needs assessment and various training activities to develop the skills of researchers in the region. The plan is focused mainly on human resource development and does not make any mention about upgrading of research facilities. Based on the available documents there was no assessment that was done to determine the capacities of the region based on the capacity requirements of the RUHRA. The three-year plan includes a proposal on training needs assessment but this activity is focused more on health research methodologies. No mention is made of assessing training needs assessment based on the four broad research areas in the RUHRA.

D. Funding and Logistical Support for Health Research

1. Health researchers and the members of the advisory council expressed strong interest to access funds from PCHRD

   During the session with researchers and the advisory council both groups demonstrated strong interest in accessing the research funds of PCHRD and DOST. This interest is a reflection of the inadequacy of the research funding under the regional research funds of the consortium wherein research proposals have a ceiling of 100,000 pesos.

2. The region has not come up with an estimate of its funding requirements based on its identified health research priorities.

   While the consortium has proposed in 2008 a budget of 499,540 pesos to fund research proposals and to fund its operations, this amount is based on an estimate of the proposals that are under review and is not based on an estimate of the funding requirements of its priority research needs.

   The consortium has not assessed the requirements of the RUHRA and used the results to estimate the necessary research studies. There is also no resource mobilization component in the consortium's three-year research and development plan.

3. Institutional support for health research exists

   The health researchers and members of the advisory council claimed that member institutions have internal mechanisms that support the work of researchers. In academic institutions such support may be in the form of reducing the teaching load of researchers and some form of financial support for those who are invited to present their research papers.

E. Development of Research Proposals and Conduct of health Research studies

In 2008, the consortium was able to generate, review and approve four research proposals for funding. The proposals are aimed at addressing environmental issues in Bukidnon, assess the effects of labor migration, and assess the prevalence of soil-transmitted helminthiasis among schoolchildren. All of these research proposals are responsive to the priorities listed in the RUHRA. These studies are presently in various stages of completion.

F. Organization, Leadership and Management

1. Advisory Council, Secretariat and Working Sub-Committees

   The Health research consortium of Region 10 has an Advisory Council that is responsible for setting directions and approval of policies, plans and budgets. Secretariat support to the Advisory Council is provided by the DOST Region 10 office. Four working sub-committees (please see Annex C) are responsible for carrying out the consortium's activities.

2. The consortium has made some organizational adjustments in response to the lack of a full-time manager and administrator.

   A review of the organizational structure shows that there is no one responsible for the day-to-day management of the activities of the consortium. In response to this structural inadequacy the council appointed vice-chairs to the different working committees to facilitate the conduct of planned activities. The consortium is also benefiting from the strong secretariat and administrative support from the regional office of DOST. It remains a big question however, if these structural adjustments would be enough to cope with the demands of a growing organization in the future.

3. NorMinCoHRD has a 3 year development plan

   The 3 year development plan prepared by the consortium contains some elements of medium-term capacity-building and vision for the future. However, the plan does not contain the critical elements of a strategic analysis as basis for goal and objective setting. The plan also does not have clear performance indicators other than activity-based outputs so it will be difficult to measure progress towards the achievement of its development goals and objectives.

4. All sub-committees are fully functional

   One of the remarkable achievements of NorMinCoHRD is the functionality of its working sub-committees despite the absence of a full-time manager or administrator. Its highly motivated working committee members are mainly responsible for this accomplishment.

G. Information Dissemination and Utilization

The advisory council claims that a database system of health researches in the region has been established. However, the secretariat explained that the system is still in the process of being developed.

The consortium has undertaken some activities such as the holding of research presentations as part of the overall effort to promote the utilization of research results.

H. Ethics

Region 10 has a trained and functioning ethics committee. The committee has been involved in the ethical review of the research proposals that had been approved for funding by the consortium.

IV. Recommendations

Recommendations to the Region 10 Consortium:

1. Review and updating of the RUHRA

   The consortium needs to revisit the research agenda and update its content and make it more relevant. The revision should include a systematic analysis of the research priorities and describe them along epidemiological, social, political and economic lines.

   The revision should also include very specific recommendations and guidelines on how the agenda can be applied and put to use.

2. Broaden the training needs assessment into an assessment of the manpower and facilities of region 10 based on the priority research needs and use the results to enrich the existing 3-year capacity-building plan

   The existing effort to conduct a training needs assessment is a good start. However, it needs to be broadened to include other aspects of manpower development as well as the inclusion of the research facility requirements of the region. The results can be used to enrich the existing 3-year development plan.

3. Estimate funding requirements and development of a resource mobilization strategy

   Another important activity for the consortium is the estimation of the funding requirements based on the identified research priorities. To facilitate this process, the region may need to develop or adopt costing or estimation models.

   Based on the estimates of the funding requirements, the consortium can then develop a resource mobilization plan or strategy.

4. Consider the designation/appointment of a manager or administrator who will be responsible for the day to day management of the activities of the consortium

   In order to ensure that the decisions and approved programs and activities of the consortium are carried out the consortium needs to consider the appointment of a full-time manager or administrator. The structural adjustments adopted by the consortium to address this issue may not be sufficient especially when the work of the consortium continues to expand and grow. The funding support from PCHRD can be initially utilized for this purpose. Ultimately however, the consortium needs to assume full responsibility for this item once it is able to generate its own resources.

Recommendations to the PNHRS Committees

1. Assistance to the region in the review of the RUHRA and in using the results to enrich the consortium's research and development plan.

   The different committees of the PNHRS should support the Region 10 consortium in its efforts to revisit the RUHRA, enrich its strategic plan and in the streamlining of its operations. Specifically, the following recommendations are put forward:

   a. The committee on research management to provide guidance and support in the updating of the Region 10 research agenda
   b. The committee on capacity-building to assist the consortium in translating the agenda into an instrument to assess the manpower and facilities of the consortium and in the development of a capacity-building plan or strategy.
   c. The committee on resource mobilization to assist the consortium in the development of a resource mobilization plan based on the resource requirements of the RUHRA.
   d. The SOME to assist the consortium in activating the different sub-committees and in the development of a monitoring and evaluation plan or strategy
   e. The sub-committee on information dissemination and utilization to assist the consortium in the establishment of a research database and in setting-up a system to facilitate the dissemination and utilization of research studies.

Recommendations to PCHRD

In order to make the provision of funding and technical support to the Region 10 consortium more effective and efficient, the following changes to the current program of assistance are recommended:

1. Transform the assistance into a project-based mode wherein clear deliverables and outputs are defined. This could mean a multi-year agreement with the consortium based on the consortium's priorities and initiatives as described in its still-to-be-developed strategic plan. PCHRD should abandon the current practice of supporting short-term activities and proposals that are not anchored on the consortium's long-term plans and do not reflect clear outputs and results.

2. Introduction of clear terms of engagement and disengagement and performance-based mechanisms that would motivate the consortium to achieve the desired results.

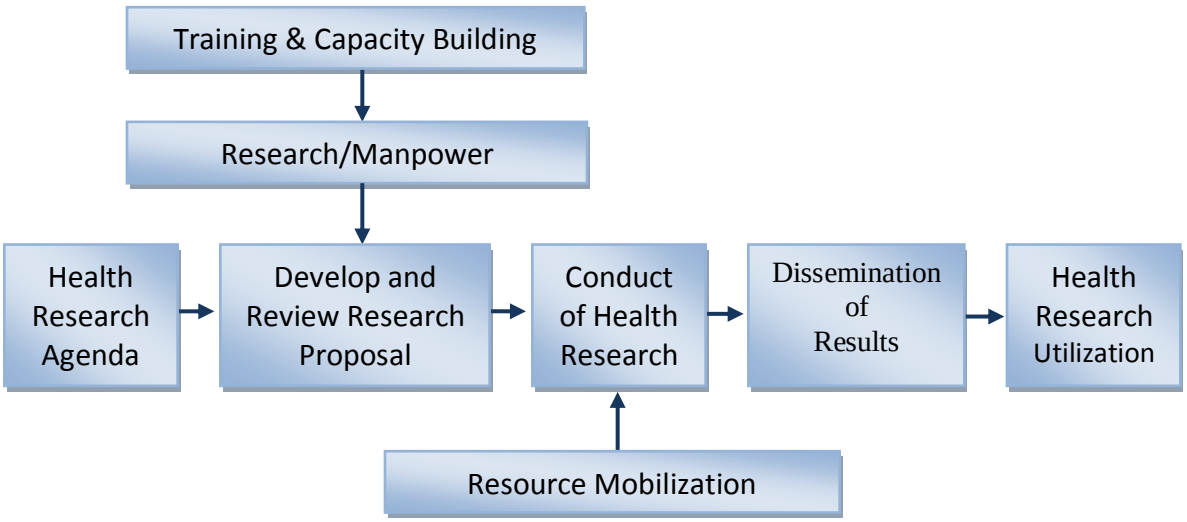
Annex A: Assessment Framework and Instruments

Framework for Developing Regional Capacity for Health Research

Under the PNHRS, the regions play an important role in undertaking health research activities to respond to the country's health needs and problems. Over the years, regional research activities were undertaken under the management and leadership of the Regional Health Research Development Councils (RHRDC). A recent evaluation of the RHRDC showed a wide variation in the performance of the 16 RHRDCs all over the country. The evaluation also recommended a number of strategies and approaches in order to improve the performance of regional capability to carry out and manage health research activities.

In line with this recommendation and in recognition of the strategic importance of the regions in supporting the PNHRS, the following framework is proposed to guide the PNHRS in strengthening regional capability to perform health research activities.

The framework consists of the different critical components of a research development program and a set of questions that identify key issues and problems as well as opportunities for strengthening the program.



Framework for Building Regional Health Research Capability

I. ***Preparation and Utilization Health Research Agenda*:** The health research agenda is a list of priority research areas in the region.

Some suggested principles and standards in the de3velopment of the regional research agenda:

- The research agenda should be based on local/national health problems
- There should be local evidence to support the research agenda
- The process of identifying the research priorities should be highly consultative and participative

A. Content

1. In 1998, was there a well-defined health research agenda for the region?
2. If yes, what was the basis for the identified research priorities? Is there evidence to support the priority research areas? Does the agenda respond to the health problems from a local as well as national perspective?
3. If no, what constrained the region from having one? What were the key problems and issues that prevented the region from developing an evidence-based regional agenda for health research?

B. Process

1. How was the research agenda developed? Who were involved in its development?
2. What were the problems and issues encountered in the formulation of the research agenda? What could have been done to make the process more effective?

II. ***Development of Research Manpower and Facilities*:** Refers to the availability of skilled manpower to conduct health research in the region.

Some suggested principles/standards:

- Number should be adequate to carry out the planned research activities
- There should be expertise in research methods and in the technical areas based on the priority list

1. Is there adequate research manpower (experts in research design and methodology and experts in specific content areas as defined by the health research agenda) in the region to carry out the region's health research plan?
2. If no, what is being done to address the lack of manpower? Is there a training program in place? Does the region possess the capacity to develop the skills of local researchers? What constraints are being encountered in the area of training and capacity-building?
3. Are there opportunities (institutions or individuals) that can be tapped to strengthen existing health research manpower?
4. What kind of support does the region expect from the national level to help develop the skills of local researchers?

III. ***Resource Mobilization*****:** Refers to the capacity of the region to mobilize funds and other resources for health research.

1. Are there enough funds to carry out the planned research activities?
2. If no, what are the constraints in mobilizing resources for research?
3. Are there potential funding sources within the region that can be tapped for health research?
4. What kind of support the region will need from the national level to develop regional capability to mobilize resources for health research?

IV. ***Development and Review of Research Proposals****:* Refers to the capacity of the region to appraise submitted research proposals for content, design, and methodology

1. In 2008, what is the quality of research proposals submitted in terms of content, design, and methodology?
2. Are the specific content areas as defined by the health research agenda?
3. If no, what were the reasons why?

V. ***Conduct of Research Studies*****:** Refers to the research output of the region both in terms of quantity and quality.

1. In 2008, were the planned research studies conducted?
2. If no, what were the reasons why?

3. Were the researches that were conducted of good quality?
4. If no, why? What can be done to improve the quality of health research in the region? What kind of support the region will need from national levels to make this happen?

VI. *Research Dissemination*

1. Were the researches that were conducted in 2008 disseminated? How?
2. If no proper dissemination was done, what were the constraints? Were the completed researches published?
3. Are there opportunities that can improve research dissemination in the future?

VII. *Research Utilization*

1. Were the research results utilized? How
2. If no, why? What were the constraints? What can be done to help improve the utilization of the research results?

VIII. *Leadership and Management*

1. Is the current composition of the governing council in the region adequate?
2. If no, what are the reasons why?
3. Is there a strategic plan in place for health research and development in the region? If none, why? What kind of assistance will the region need to make this happen?

Region 10 - Guide Questions for Review of Documents

1. Guidelines for Research Agenda

1.1. Is the research agenda evidenced based?

☐ Yes ☒ No

Remarks:

Lack of epidemiological data to support the prioritization of health needs.

1.2. Does the research agenda cover the following?

1.2.1. Epidemiological ☐ Yes ☒ No

1.2.2. Sociological ☐ Yes ☒ No

1.2.3. Economic ☐ Yes ☒ No

1.2.4. Policy ☐ Yes ☒ No

Remarks:

1.3. Does the agenda contain the recommendations and steps to ensure its utilization?

☐ Yes ☒ No

Remarks:

2. Plan

2.1 What kind of plan do they have?

☐ Strategic Plan ☒ Operational Plan

Remarks:

Only a 3-Year Development Plan exists.

2.2 Does plan clearly contains the following?

2.2.1	Objectives and Goals	☒ Yes	☐ No
2.2.2	Indicators	☒ Yes	☐ No
2.2.3	Strategies	☐ Yes	☒ No
2.2.4	Activities	☒ Yes	☐ No
2.2.5	Budget	☒ Yes	☐ No

Remarks:

2.3 Are the activities conducted as scheduled? ☒ Yes ☐ No

Remarks:

2.4 What is the percentage of fund utilization? _____

Remarks:

_____

3. Organizational Structure

3.1 Does the organizational structure reflect the need for day-today management and oversight?

☐ Yes ☒ No

Remarks:

The secretariat appears to be efficient in the following through scheduled activities.
The subcommittees are also working on their own despite the absence of oversight from NorMinCoHRD Advisory Council.

Region 10 - Guide Questions for Health Researchers

1. Formulation of Health Research Agenda

1.1. Are you aware of the existence of a regional and national health research agenda?

☐ Yes ☒ No

1.2. Have you seen or do you have a copy of these documents?

☐ Yes ☒ No

Remarks:

It was developed in the year 2005 to 2006.

1.3. Were you able to participate in the discussions leading to the formulation of the NUHRA/ RUHRA?

☐ Yes ☒ No

1.4. Were you able to participate in a forum where the Regional Health Research Agenda was discussed?

☐ Yes ☒ No

1.5. Are you aware whether or not the Regional Health Research Agenda was used in the following?

1.5.1. Capacity building plan ☐ Yes ☒ No

1.5.2. Resource mobilization plan ☐ Yes ☒ No

1.5.3. Advocacy tool ☐ Yes ☒ No

2. Adequacy of Health Researchers, Research Facilities and Existence of Capacity Building Plan

2.1 Are there enough skilled researchers in the region to undertake health research based on the identified health research priorities?

☒ Yes ☐ No

2.1.1 If No, why?

2.2 Are there health research facilities in the region where research are conducted based on the identified health research priorities?

☒ Yes ☐ No

2.2.1 If No, why?

2.3 What needs to be done to strengthen health research manpower in terms of number and skills?

Further training and skills enhancement.

2.4 Is there a long term capacity building program to continue to train health researchers in the region?

☒ Yes ☐ No

A 3 Year Development Plan focused mostly on training health researchers in research proposal development, GIS mapping,

3. Adequacy of Funding and Logistical Support for Health Research

3.1 Where do you get funding support for your research activities?

Funding have come from individual institutions and institutions outside NorMinCoHRD,

3.2 Are these funds sufficient given what you need? ☐ Yes ☒ No

Remarks:

The health researchers expressed interest to access PCHRD and DOST funds.

3.3 Have you received funding support from the RHRDC through the RRF? ☒ Yes ☐ No

3.3.1 If no, why?

_____

3.4 Under PCHRD fund, there is a ceiling of PhP 100,000 per proposal. Do you think this is adequate?

☐ Yes ☒ No

3.4.1 If not, do you have any recommendations to make this funding mechanism more effective?

Increase the ceiling amount per research proposal (P100,000) of RRF.

4. Preparation of Research Proposals and Conduct of Health Researches

4.1 How many research proposals have been **7** prepared?

4.2 How many health researches have you completed in the past two years (2007 and 2008)?

0

Remarks:

4 health research projects are on-going. 1 health research projects will be funded for 2009.

5. Health Research Dissemination and Utilization

5.1 Is there an existing system to disseminate the results of the research study?

☐ Yes ☒ No

5.1.1 If yes, how do you disseminate the results of the study?

_____

5.2 What are the usual problems in the dissemination of your research findings?

Lack of institutional support, No research publication organized by NorMinCoHRD. Proposals lack activities on research output dissemination.

5.3 Did any of your researches contribute to the formulation of policies or helped health managers or health workers make informed decisions?

☒ Yes ☐ No ☐ Do not know

5.3.1 Please elaborate.

Study about Health Benefits for Senior Citizens resulted in the creation of an ordinance by the City Council.

Region 10 - Guide Questions for Council Members

1. Health Research Agenda:

1.1. Is there a well-defined health research agenda for the region? ☒ Yes ☐ No

1.2. How was the research agenda developed?

A group from RIMCU was engaged to head the development of the NorMinCoHRD RURHA.

1.3. Was the research agenda utilized? ☐ Yes ☒ No

1.3.1. How was it utilized?

2. Manpower, Facilities and Capacity Building Plan

2.1 Do you have an inventory of health research manpower and research facilities based on your identified research needs?

☒ Yes ☐ No ☐ Don't Know

2.2 Is there adequate research human resource in the region to carry out the region's health research plan?

☒ Yes ☐ No ☐ Don't Know

2.2.1 In research design and methodology? ☒ Yes ☐ No ☐ Don't Know

2.2.2 In specific content areas as defined by the health research agenda?

☐ Yes ☐ No ☒ Don't Know

2.2.3 If no, what was the region's response to the lack of human resource?

The inventory of human resources did not include an assessment of the manpower requirements based on the RUHRA.

2.3 Do you have a plan to develop your health research manpower based on the needs of the region?

☒ Yes ☐ No ☐ Don't Know

Remarks:

The 3-Year Plan needs to be enriched in terms of a component that would address the manpower and facility requirements based on the RUHRA.

2.4 Based on your requirement, does the region possess the capacity to develop skills of local researchers?

☒ Yes ☐ No ☐ Don't Know

2.4.1 If yes, please cite the training programs [consider also offerings at member institutions]

☒ Formal:

Academic programs for researchers.

☒ Informal:

Short-term training on research proposal design.

☒ Scholarship Grants:

_____

☐ Study Tour:

_____

2.5 Are there mentors who can be tapped for capacity building in research?

☒ Yes ☐ No ☐ Don't Know

2.5.1 If YES, please specify in what areas:

Social sciences including demography and population studies as well as research design.

2.6 What kind of support does the region expect from national, regional and international levels to help develop the skills of local researchers?

Technical assistance and capacity building

3. Resource Mobilization:

Refers to the capacity of the region to mobilize funds and other resources for health research

3.1 Do you know how much is your funding requirement for your priority research needs?

☐ Yes ☒ No

3.2 Are there enough funds to carry out the planned research activities? ☐ Yes ☒ No

3.3 Has an annual work plan and budget been proposed?

☒ Yes, when was it prepared? _____

☐ No

3.4 What kind of support does the region expect from the national, regional, and international levels to develop regional capability to mobilize resources for health research?

Technical assistance and resource generation.

4. Development, Approval and Conduct of Research Studies:

4.1 In 2008, how many proposals were produced by the consortium? 7

4.2 In 2008, how many proposals were reviewed in terms of ethics, methodology, content and utilization? 7

4.3 In 2008, how many research studies were funded? 4

4.4 In 2008, how many research studies were completed? _____

4.5 Were the proposals parts of the NUHRA/RUHRA? ☒ Yes ☐ No ☐ Don't Know

4.6 If the researches were not implemented or not part of NUHRA/RUHRA, what were the reasons?

5. Research Dissemination and Utilization

5.1. Does the consortium have an established system for dissemination of research results?

☐ Yes ☒ No ☐ Don't Know

5.2. Were the researches that were conducted/completed in 2008 disseminated?

☐ Yes ☐ No ☐ Don't Know ☒ Not applicable

5.3. Were the research results disseminated to the relevant stakeholders?

☐ Yes ☐ No ☐ Don't Know ☒ Not applicable

5.4. How were the results disseminated?

☐ Published in peer-reviewed journals:

☐ Policy Briefs:

☐ Public Presentations:

☐ Web-based media:

5.5. Do member institutions integrate in their research forums dissemination of the results of researches in the region?

☐ Yes ☐ No ☐ Don't Know

5.6. What were the facilitating factors to research dissemination?

5.7. What were the barriers to research dissemination?

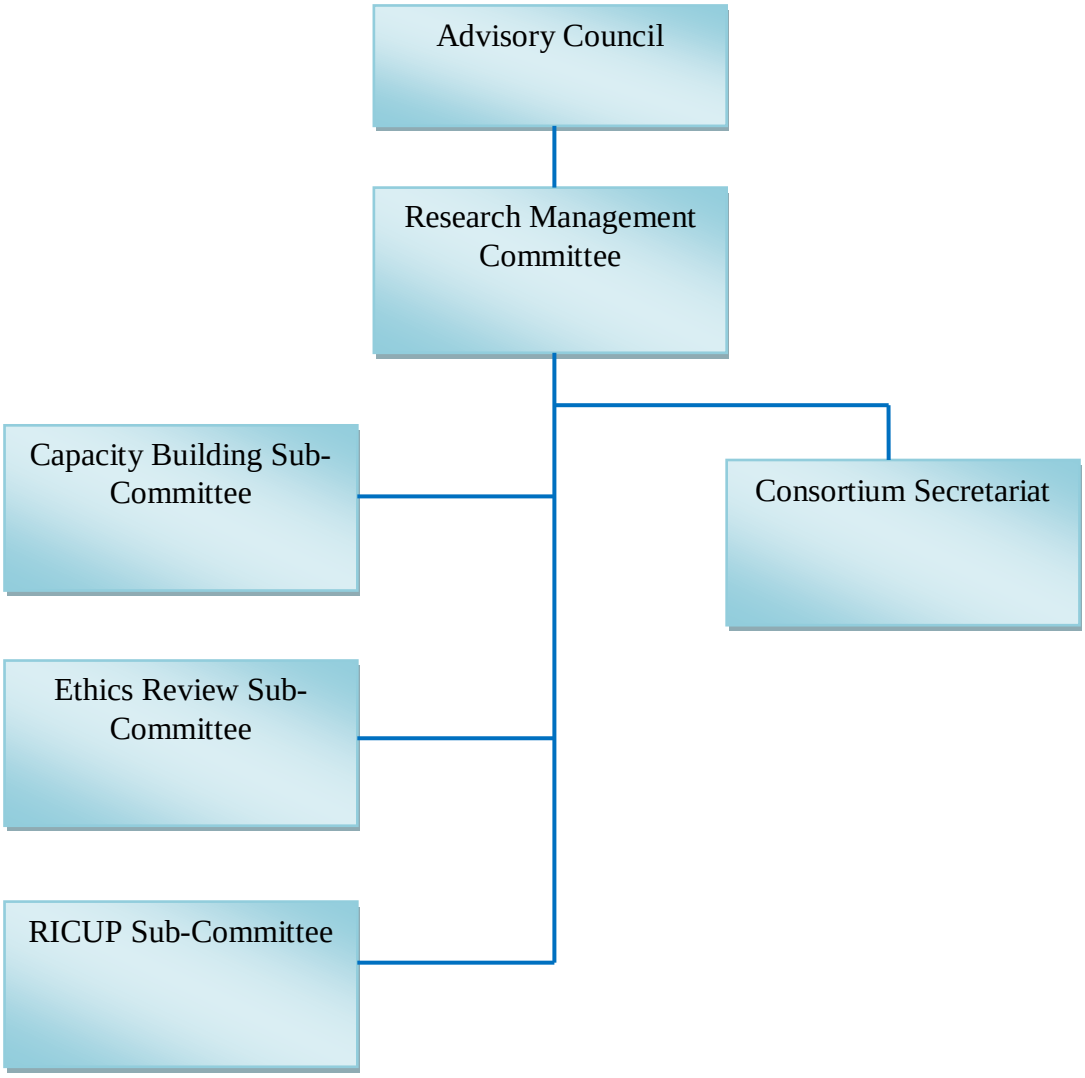
5.8. Is there an existing database of research studies conducted in the region?

☐ Yes ☒ None ☐ Don't Know

Remarks:

6. Leadership and Management

6.1. Describe/draw the organizational structure of the governing council:



6.2. Who is responsible for the daily operations of the consortium?

No one. A secretariat is responsible for some of the administrative needs of NorMinCoHRD.

6.3. Which of the following subcommittees are functional? Check appropriate boxes.

R&D	☒ Functional	☐ NOT Functional
Ethics	☒ Functional	☐ NOT Functional
HRD	☒ Functional	☐ NOT Functional
RICUP	☒ Functional	☐ NOT Functional
_____	☐ Functional	☐ NOT Functional
_____	☐ Functional	☐ NOT Functional
_____	☐ Functional	☐ NOT Functional

6.4. Define the roles and responsibilities of the members of the governing council:

See Annex C: Organization Structure

6.5. Is there an existing Manual of Operations? ☐ Yes ☒ No ☐ Don't Know

Remarks:

The Memorandum of Agreement of NorMinCoRHD was lost and is currently being reconstructed.

6.6. Do you have a five-year strategic plan? (Get a copy of the document)

☐ Yes ☒ No ☐ Don't Know

Remarks:

Only a 3-Year Development Plan

6.7. Do you have an operational plan for 2009? (Get a copy of the document)

☒ Yes ☐ No ☐ Don't Know

Remarks:

Annex B: Conference Proceedings and List of Participants

Northern Mindanao Consortium on Health Research and Development (NorMinCoHRD) – Region 10

I. SOME ASSESSMENT TEAM AND TECHNICAL STAFF

Name	Designation/Institution
1) Dr. Johnny Nanagas	SOME Committee member
2) Dr. Joe Rodriguez	SOME Committee member
3) Prof. Nina Castillo-Carandang	SOME Committee member
4) Dr. Noel Juban	SOME Committee member
5) Merle Opena	PCHRD
6) Annie Catameo	PCHRD
7) Lina Aquino	PCHRD
8) Mark Tano	PCHRD
9) Belle Intia	PCHRD
10) Christopher Santiago	SOME Documentor

II. MEMBERSHIP OF NORMINCORHD

1. DOST-10
2. DOH-CHD Northern Mindanao
3. Commission on Higher Education-10
4. National Economic and Development Authority-10
5. Bukidnon State University
6. Xavier University-Jose P. Rizal School of Medicine
7. Northern Mindanao Medical Center
8. Capitol University
9. Cagayan de Oro College
10. Liceo de Cagayan University
11. Mindanao State University-Iligan Institute of Technology
12. Central Mindanao University
13. Misamis Oriental Medical Society
14. Committee of German Doctors
15. Cagayan de Oro City Health Office

III. MEETING WITH RESEARCHERS FROM REGION 10 – May 7, 2009

A. ATTENDANCE

Profile of Participants

- Gender of Participants
  - Male = 5
  - Female = 7
- Institutions Represented by the Participants
  - Government agency = 4
  - Academic = 6
  - Private = 0

Name	Designation/Institution
1. Bernarda Lleno	CHED-10
2. Angelito Alolod	DOST-10
3. Jaomoro Taran So	DOST 10
4. Jaime Bernadas	DOH CHD Reg 10
5. Rowena Yu	City Health Office
6. Cecilia Amoroso	Central Mindanao University
7. Tenaro Japoz	Liceo de Cagayan University
8. Donna Neri	Liceo de Cagayan Universiy
9. Agaton Panofic	Zaxier Univ – School of Medicine
10. Franco Teves	MSU-Iligan
11. Marites Khansen	Capitol University
12. Romeo del Rosario	Mindanao Univ of Scienece and Tech
13. Virginia Suarez	Mindanao Univ of Scienece and Tech
14. Myrna Ceniza	Mindanao Univ of Scienece and Tech

B. FLOWCHART OF ACTIVITIES: MEETING WITH REGION 10 RESEARCHERS

Overview of PNHRS presented to researchers from Region 10 by Dr. Nanagas

Discussion with researchers from Region 10 facilitated by Dr. Rodriguez

C. FINDINGS: MEETING WITH REGION 10 RESEARCHERS

Summary of Responses to "Guide Questions for Health Researchers"

1. Formulation of Health Research Agenda
   - A regional health research agenda was formulated in the years 2005 and 2006.
   - There is a need to revisit the regional research agenda and align it with the health priorities of Northern Mindanao.

2. Adequacy of Skilled/Competent Health Researchers
   - Previous capacity building activities are limited to short courses on research methods.
   - There is a need for skill enhancement and further training of researchers.

3. Adequacy of Funding and Logistical Support for Health Research
   - Participants cite inadequate research funding inspite of the funding provided by PCHRD (which amounts to 500K to 1M per year).
   - The consortium has no issue on absorptive capacity.
   - The participants re very interested in the process for funding procurement from the central office.

4. Health Research Conduct, Dissemination and Utilization
   - There is a claim that collaborative researches are done among member institutions and with other consortiums in the region.
   - The Northern Mindanao Consortium on Health Research and Development has close ties with the Northern Mindanao Laboratory Consortium
   - DOST-10 claims to be managing an existing, functional and regularly update database for regional research output. Although upon further investigation, the database was found to be non-existent.

5. Leadership and Management
   - Member institutions and their respective representatives are not equally involved in consortium activities.
   - According to the participants, membership to the health consortium is open to any institution willing to participate.
   - Institutions that are members of NorMinCoRHD are also members of other consortiums outside the health sector (i.e. agriculture).

- NorMinCoHRD membership includes institutions and researchers from areas outside Cagayan de Oro City

IV. MEETING WITH NORMINCOHRD ADVISORY COUNCIL MEMBERS – May 7, 2009

A. ATTENDANCE

Profile of Participants

- Gender of Participants
  - Male = 5
  - Female = 7
- Institutions Represented by the Participants
  - Government agency = 4
  - Academic = 6
  - Private = 0

Name	Designation/Institution
1. Bernarda Lleno	CHED-10
2. Angelito Alolod	DOST-10
3. Jaomoro Taran So	DOST 10
4. Jaime Bernadas	DOH CHD Reg 10
5. Rowena Yu	City Health Office
6. Cecilia Amoroso	Central Mindanao University
7. Tenaro Japoz	Liceo de Cagayan University
8. Donna Neri	Liceo de Cagayan Universiy
9.Agaton Panofic	Zaxier Univ – School of Medicine
10. Franco Teves	MSU-Iligan
11. Marites Khansen	Capitol University
12. Romeo del Rosario	Mindanao Univ of Scienece and Tech
13. Virginia Suarez	Mindanao Univ of Scienece and Tech
14. Myrna Ceniza	Mindanao Univ of Scienece and Tech

B. FLOWCHART OF ACTIVITIES: MEETING WITH MEMBERS OF NorMinCoHRD ADVISORY COUNCIL

Summarized Overview of PNHRS to members of NorMinCoHRD Advisory Council by Dr. Nanagas

Metacards activity with Advisory Council members facilitated by Prof Carandang

C. FINDINGS: MEETING WITH MEMBERS OF NorMinCoHRD ADVISORY COUNCIL

Summary of Responses to "Metacards Activity"

1) What is the authority/mandate of the NorMinCoHRD?
   - A body in charge of resource generation, allocation of funding for the conduct of health research in line with RUHRA/NUHRA and policy-making
   - The consortium should also act a venue for collaboration and networking among institutions undertaking health research.
   - Venue for capacity building

▪ Mandated to generate funds from partner agencies to conduct health related researches and the results to be utilized for development ▪ To develop health research capabilities of region. To contribute for the advancement of regional development agenda, particularly health and health related ▪ to generate health related researches, disseminate and possible utilization of these researches based on the NUHRA and RUHRA ▪ Clearing house for regional health research and development proposals. Fund sourcer and allocator ▪ Develop research capability in region ▪ Encourage researches that focus on the regional research agenda ▪ To focus, develop, support, research and development on health in Region 10 based on validated regional agenda. ▪ To serve as collegial body that will streamline health research in the region.

2) What is my role in NorMinCoHRD?
   - Roles are multiple:

1) health researcher,
2) institutional representative to the consortium
3) member of a subcommittee or the advisory council.

▪ To be the representative of my institution and to get involved in policy formulation ▪ As an active researcher and part of the governing body ▪ Provider of inputs to the PNHRS with emphasis on its regional priorities. Implementer / partner in conduct of Research and Development in the Region

- Represent the university president
- To write research proposals. Serve as vice chair. To lead in the shaping of its future
- Serves as the secretariat
- To enhance the capability of members

3) What is the role of NorMinCoHRD in PNHRS?
   - NorMinCoHRD should act as the arm of PNHRS at the regional level.
   - The consortium should be a source of data and information on health issues that can be used as basis for crafting health policies.

- As an integral component of the PNHRS, NorMinCoHRD contributes its aggregate output in health Research and Development into the national agenda.
- Research organization at the regional level
- NorMinCoHRD is an arm of PNHRS, so that budget for research will reach the regional level
- Contributor of Relevant Research and Development projects for N. Mindanao. To recommend possible policy changes and/or new policies re: health research and development
- Regional arm in PNHRS

4) What does NorMinCoHRD expect from PNHRS?
   - PNHRS is expected to provide leadership and, more importantly, support to the consortium in the form of technical assistance, resource generation and capacity building.
   - PNHRS should be in-charge of monitoring the activities of NorMinCoHRD

- Should bring the concerns of the members of PNHRS and to award grants based on performance
- Policy Support, Fund Assistance, HR Capability
- Financial or capability building components.
- Monitor researches of the region
- funding support, capability training
- support regional imitative
- funding support of health researches
- Capacitate NorMinCoHRD member through trainings
- Financial, Technical, Capabilities Training

5) Given these roles and expectations, how would NorMinCoHRD like to be monitored and evaluated?
   - Evaluation of the consortium may be both internal and external and should be at regular intervals
   - M&E of NorMinCoHRD should be performance-based (i.e. achievement of targets, quality of research output, etc)

▪ Based on identified KRA's ▪ participatory tool and assessment ▪ Quarterly meetings and evaluation based on merits ▪ Performance based on targets and actual projects approved ▪ Extent of availment of allocated funds for region 10 ▪ Number of quality research output per years ▪ Based on the regional banner programs / extent of implemented RUHRA

V. COMMENTS ON FACILITATION OF ACTIVITIES

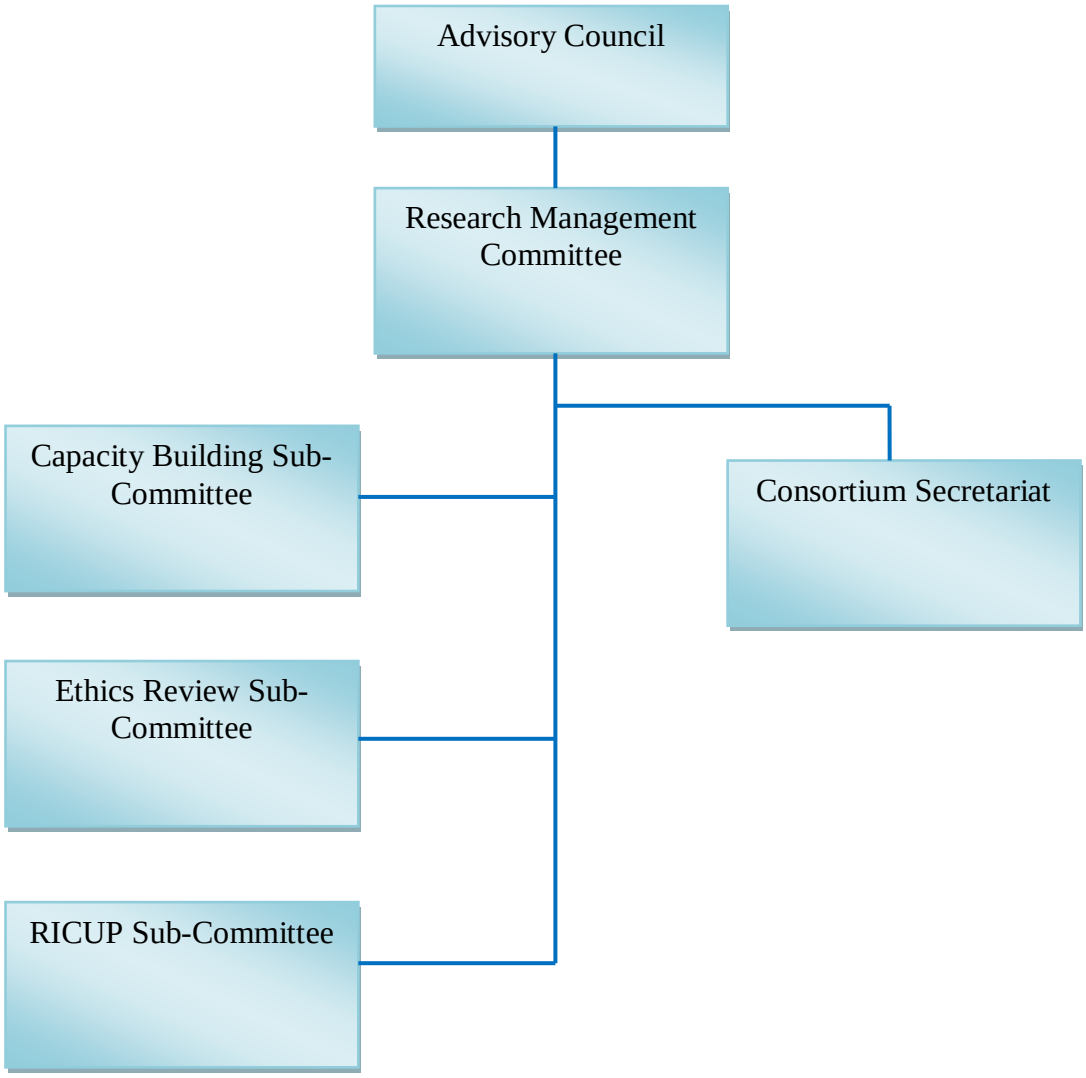
1) Discussion with Region 10 Researchers

- Many questions unrelated to the agenda but related to PNHRS and RHRDC were raised during the open forum. Thus, the several guide questions were not adequately addressed. Moreover, off-topic discussions have unnecessarily prolonged the activity.
- The participants were very interested in submission of research proposals for funding. As well as logistical issues regarding delay in processing of research proposals.

2) Metacards Activity with NorMinCORHD Advisory Council members

- Upon submission, a one or two metacards per set were not filled up.
- Since the answers to the metacards were not openly shared by a respondent, the possibility for honest answers is increased. Thus, giving the team a more precise idea of the extent of respondents' knowledge.

Annex C: Region 10 Organizational Structure



ORGANIZATIONAL FUNCTIONS (Region 10):

Advisory Council

1. Provides central direction, leadership, and coordination of all health R & D activities in the region;
2. Establish policies and guidelines, in consultation with stakeholders in the identification of priority health R &D programs and projects in the region;
3. Review and approve health research programs and related activities of the consortium;
4. Oversee the overall implementation, monitoring and evaluation or programs;
5. Ensure resource generation and mobilization; and
6. Develop awards and incentives system.

Research Management Committee

1. Assist the Board of Trustees in the conceptualization, planning, and implementation of the various programs/projects and related activities of the CHRDC;
2. Promote the development of research capacity and linkages on health R & D
3. Establish monitoring and evaluation mechanism to ensure long-term sustainability of the Consortium; and
4. Conduct periodic review of health t=research and development programs and recommends the same to the Board of Trustees.

Sub-Committee on Ethics

1. Develop consortium's guidelines on ethical standards and practices in health research;
2. Facilitate the institutionalization of ethics review committees in health research organizations in Region 10;
3. Provide training and advocacy activities on bio-ethics for members of institutional ethics review bodies;
4. Review proposals as to compliance of ethical standards; and
5. Monitor compliance to ethical and other standards of on-going projects.

Sub-Committee on Research Information, Communication, and Utilization

1. Develop mechanism to facilitate dissemination and utilization of research information to various target clients;
2. Collect and package research information for database development; and
3. Collaborate with government, private sector, and non-government organizations for the use of health research results into policies, actions, products, and services.

Sub-Committee on Capacity Building

1. Assess the human resource requirements for health research of the institutions within Region 10;
2. Develop a comprehensive health research human resource development plan and monitor its implementation; and
3. Establish a sustainable mechanism for sharing of resources and exchange of expertise and information.

Annex D: NUHRA Region 10 Agenda

(Downloaded from http://www.pchrd.dost.gov.ph/downloads/category/5-nuhra.html)

HEALTH RESEARCH PRIORITIES OF REGION X

Chona R. Echavez, PhD
Jennefer Lyn Bagaporo, MA
Research Institute for Mindanao
Culture Xavier University
Ateneo de Cagayan

1

Table of Contents

HEALTH RESEARCH AGENDA SETTING IN REGION 10

Introduction

Rationale

In general, research has been the most valuable tool one could ever utilize in order to test and verify inquiries, by which possible answers could be of practical use. Outcomes of researches done in various spheres have long been proven to contribute enormously to the development of a particular sector, or, on a larger scale, to that of a country. However, research is not given much priority in the allocation of resources by several institutions. One of the reasons given is that there are greater and more important concerns, programs, and intervention projects, besides research. This reason is repetitively expressed to cause inattention to this sector.

In health, research is undeniably an imperative component. Several factors in society prompt one to conduct a study to ensure its effects on the population's health. However, each region has its own health concerns that require specific health researches. This plurality of research priorities results to more strain in the availability of financial resources earmarked for research. Prioritization of health research topics would result to a more efficient and effective research allocation.

The need for a unified national health research agenda was a major recommendation raised by some of the technical working groups of the First National Health Research Assembly. The unified health research agenda will consolidate the efforts of the different public agencies, private agencies and non-government organizations and serve as one of the unifying activities of the Philippine National Health Research System.

Thus, the objective of the priority setting is to formulate a unified national health research agenda. The formulation of a unified health research agenda is envisioned to provide focus on research and development efforts by addressing health concerns of the country's medium term development plan (2004-2010), provide a convergence of research efforts and support, minimize duplication of efforts and maximize research utilization with the proper delineation and coordination among stakeholders and promote R & D for health. The priority setting will involve multi-disciplinary and multi-sector participation and provide the arena for collaboration among major stakeholders. The agenda resulting from the priority setting will serve as the template for the country's research and development efforts for the next five years and a platform to advocate for local, national and international support.

The identification and prioritization of researches in the unified national health research agenda is expected to improve health policies and standards and regulatory activities, promote health technology/product development, and quality health education. The research results are expected to improve equitable delivery of health services, the development of safe, cheap, accessible world-class health technologies/ products, and the development of qualified health personnel. All these are supposed to address the health needs of the population particularly those who are disadvantaged.

In Northern Mindanao, a significant output of this research prioritization is the identification of health research priorities in the region. Research prioritization would determine what health issues and concerns are plaguing the region. At the same time, it validates the health issues and concerns which are affecting other regions as well.

B. <u>Northern Mindanao: A closer look</u>

Land Area and Political Division. Northern Mindanao or Region 10 occupies and area of 20, 186 square kilometers and is subdivided into five provinces – Bukidnon, Camiguin, Lanao del Norte, Misamis Occidental and Misamis Oriental. There are eight cities in the region (Cagayan de Oro, Gingoog, Iligan, Malaybalay, Ozamiz, Oroquieta, Tangub and Valencia), 85 municipalities and a total of 2,020 barangays.

Fig.1 Map of the Philippines with Northern Mindanao highlighted in yellow.

Population. Based on the 2000 census of population, the region has a total population of 3,505,558 and is growing by an average of 1.99 percent per year from 1995. Of the five provinces in the Region, Bukidnon registered the highest population growth rate of 2.6 percent between 1995 and 2000. This is followed by Misamis Oriental with a population growth rate of 2.53 percent. Among the eight cities, Gingoog showed the highest growth rate of 3.42 percent.

The increasing population of Northern Mindanao has produced a population density of 174 per square kilometer. Accompanying this population growth is the presence of 39.1 percent of the 3.5 million population who are dwellers in the urban areas. Among the cities that registered a continuing increase in the number of dwellers in the urban areas are Cagayan de Oro, Ozamiz, Iligan, Malaybalay and Valencia.

Another attribute of Northern Mindanao, as of the latest population survey, is that it has a largely young population - belonging to the 19 years old and below age group. In its total population, males comprise 51.98 percent, while females occupy the remaining 48.02 percent. Aside from that, the dependency ratio per 100 workers of 15-64 age group has increased to 76.96 percent as compared to 1995, which was only 72.78 percent.

Agriculture. The agricultural sector of the Region is undergoing low productivity, particularly its major products. Rice production for instance decreased by 15.47 percent from 106,980 metric tons (MT) in the second quarter of 2004 to 90,432 MT in the second quarter of 2005 *(Regional Economic Situationer for the Second Quarter of 2005).* Only the Province of Camiguin did not experience reductions in production. This decline in productivity is attributed to the dry spell which resulted to lesser production of irrigated lands and no production of rainfed lands. There are also areas that are left idle or are converted to vegetable farms. High cost of fertilizers and the use of third generation seeds also contribute to low rice production. Other major crops in the Region that are affected by the decline in production are corn, green nuts, and commercial crops, such as sugarcane.

Sugarcane, though, was seen to be the top producing crop for three straight years. The occurrence of the dry spell is basically the reason for this low productivity.

There is also a decline in production of some livestock products, such as carabaos and ducks, are also experiencing decline in production. This is also true with regard to the total volume of production for the fishery sector. In this area, the unloading by some fishing vessels outside the region, particularly in Samar and Bohol, has been affected due to lesser frequency of fishing trips, the continuing price hike and the repair of some commercial fishing vessels are the mentioned factors that led to the decline.

Nevertheless, the Department of Agriculture (DA) has given attention to improve the situation. For rice production, the regional office has been pushing for the use of hybrid and inbred rice technology because these quality seeds show greater yield advantage as compared to the non-certified and home saved seeds. As for corn, several researches and extension support and services were also conducted to facilitate efficiency and increase in production. Assistance in the production of commercial crops were done through the strengthening of agricultural extension with the conduct of 74 various trainings on various production, protection, processing, post harvest handling ang marketing on different commodities, and the continuous advocacy and support that the Region holds for private sector led endeavors. Self-sufficiency in carabao as well as cattle production was also aimed at by DA by doing interventions on the genetics and nutrition of these animals, in order to produce genetically improved animals that have efficient feed conversion ratio and would yield high carcass when slaughtered.

Environment. At present, the Region's environmental security is threatened. Although Northern Mindanao is admittedly rich in natural resources, several economic activities expose these resources to devastation.

In the upland/forest ecosystem, illegal economic activities (such as illegal logging) and illegal settlements continue to harass ecological integrity (NEDA 2004). Deforestation and resource extraction abuse of the buffer zones of some protected areas are inevitable. Small-scale mining has also been reported in protected areas and watersheds. There is also this problem in the identification of some protected areas as part of ancestral domain of indigenous peoples. Adding more injury to the forest resources is the practice of "kaingin" farming among the upland dwellers, which affects soil fertility in these areas.

The lowland/agricultural ecosystem is also not spared. The inadequate or conflicting policy implementation has caused inappropriate use of agricultural lands as well as their conversion to industrial use. This would lead to threat to the region's food security. Not only that, the intensive use of chemicals in agricultural production poses danger to the future productivity of the land. For one, heavy use of fertilizers and pesticides, in order to increase production, is feared to bio-accumulate and undermine land integrity. Moreover, production of genetically modified crops remains to be a concern of the region, due to the resistance of several environmentally-concerned groups and consumers.

Water resources are also undergoing misuse and abuse similar to what is happening to the land resources. The freshwater ecosystem for example has been continuously harmed by the agricultural runoffs, domestic wastes, and industrial effluents. The region's coastal/marine ecosystem is also debilitated by the discharge of untreated and incompletely treated domestic wastewater and both agricultural and industrial garbage. According to the Northern Mindanao Regional Development Plan prepared by NEDA, this practice not only degrades habitats (e.g. mangroves), which leads to loss of marine species and reduced fish production, but also jeopardizes human health.

As the population in the region increases, environmental issues also multiplies in the urban ecosystem. Population growth due to natural increase and migration from rural to urban areas has resulted in the increase in the number of informal settlers and a corresponding increase in solid waste generation. Expectedly, this condition would further lead to other urban environmental problems such as deterioration of air quality, which is a common outcome of increased vehicular traffic and industrial emission. Moreover, there would definitely be an increased pressure in the provision of urban services.

Education System. Participation and completion rates for both the elementary and secondary level in Northern Mindanao are generally below targets. Inadequate books and classrooms are just some of the contributors to the low level of participation rates. Moreover, there is a greater challenge set on differently-abled children to enter and remain in school. According to the 2000 census, there are only about 46 teachers in the region who are trained in special education to cater to the overwhelming number of differently-abled children (33,601 for ages 0-19). This is further aggravated by inadequate facilities and materials available to them.

The quality of basic education offered in Region 10 also remains a challenge. This is an outcome of unwieldy and large-sized classes; congested curriculum; and the use of some outdated and inflexible teaching and learning techniques that inhibit active participation and feedback, among others. School performance indicator is also slowly improving because aside from income, poverty and health factors, students' lack of interest in school as well as parent's choice to sacrifice schooling in return for additional income or farm help, still exist.

Technical Vocational Education and Training (TVET) in the region received modest accomplishments in terms of support. That is why there is still a need to i) promote certification of workers among industry organizations; ii) monitor schools offering short term TVET courses; iii) adopt and promote the ladderized system to increase enrolment levels in TVET; and iv) explore other scholarship schemes to address the increasing dropout rates in TVET scholarship programs.

As of 2004, there are 70 higher education institutions (HEIs) in the region. Seven of these – five private and two state universities - are considered as Centers of Excellence and Centers of Development. These seven leading institutions demonstrate competence in the fields of engineering, science and technology, and information technology education. They have done or attended various activities in relation to i) faculty development/training, workshops, seminars; ii) research and extension, networks and linkages; and iii) equipment purchases/building construction/other facilities.

Notably, the number of enrollees as of 2004 has increased to 107,504 compared to the previous year, 105,144. Along with this increase, is the increment of the pool of graduates that entered the labor force. This 12 percent increase of graduates getting into work was mostly in the field of Education and Teacher Training, Business Administration and Other Related Courses, and Medical and Allied Courses. Nonetheless, as the Region's number of alumni went up, the number of scholars funded by CHEDRO 10 decreased by 30 % in 2004, from 2,248 in 2002 to 1,708 in 2004. Reduced budgetary support and the graduation of previous batch of scholars were some of the reason for the decrease in the number of scholars.

CHEDRO 10 has also created 10 Councils of Deans in order to initiate activities that would facilitate the implementation of CHEDRO's authorized program. So far these councils have conducted various seminars, conferences and workshops that unanimously aimed at the development and enhancement of educators in the region. Among the activities that they have initiated are: i) Seminar on "Research Methodology in Agriculture – by the Council of Dean in Agricultural Education; ii) Conference on "Career Prospects for Engineering" – by

the Council of Deans of Engineering Education; iii) "Program of Instructors' Training on Fundamental IT for the Philippines" – by the Council of Deans for Information Technology; and iv) General Assembly and Seminar Workshop on "Developing Culture of Personal Excellence Among Tertiary Educators" – by the Council of Deans of Business Education.

As CHEDRO 10 continues to improve the performance of the educators in the Region, it never failed to monitor and evaluate programs of existing schools. This was done to improve program standards that will somehow result to quality graduates. As of the first quarter of 2005, there were already 39 programs among the schools in the Region that were monitored/evaluated.

Moreover, the beneficiaries of the Expanded Tertiary Education Equivalency and Accreditation Program (ETEEAP) for the local government units and the members of the National Police Commission and the Philippine National Police, has increased by 30 percent. Their initiative of linking with other government and non-government agencies through the information-dissemination of the program has, indeed initially flourished as seen in the increase.

Research in this area, is grounded on the theme that research as an academic function, differentiates higher education from basic education. Then again, outputs of the research conducted by the HEIs were described by the Congressional Education Commission of 1992 (EDCOM) to be repetitive and stereotyped and heavily biased in favor of the field of education and allied areas. Researches in the field of science were given less priority. Aside from that EDCOM also stated that the quality of research outputs was below world standard and very few of these dealt with the development of unifying theories and models or developed new programs and strategies.

Several reasons have been raised why this is the state of higher education research. These are: i) inadequate public education, information and campaign on research results; ii) low rate of public investments on research and development; iii) inadequate allocation of funds; iv) weak coordination among higher education institutions; v) inadequate or lack of research facilities and library resources and other logistics to support research; and vi) the conduct of research by students merely to comply with school requirements.

Even as higher education research is plagued with the above-mentioned problems, it is aimed at i) pushing the frontiers of knowledge across all the identified higher education disciplines in the country; ii) enhancing instruction through original contributions in specialized disciplines thereby encouraging students to become creative, innovative and productive individuals; and iii) developing unifying theories or models which can be translated into mature technologies for the purpose of improving the quality of life of the Filipinos within the sphere of influence of the academic institutions in the country *(The National Higher Education Research Agenda, 1998-2007).* Moreover, principles of multidisciplinarity, policy-orientation, operationalization, and participation and broad impact were used to come up with the National Higher Education Research Agenda (NHERA). Priority thrusts in research and research areas were also developed and then categorized based on discipline and other research emphases. Examples of prioritized research areas according to discipline are i) Multidisciplinary research aimed to advance the frontiers of science and mathematics; ii) Research on product development in industrial technology cluster; iii) Breakthrough and pioneering researches in the information technology discipline; iv) Peace and development studies with direct application to Philippine situations in the field of humanities, social science and communication; and v) multidisciplinary research on health and health-related disciplines leading to better quality of life for Filipinos and the delivery of basic health services to the rural areas for the Health and Health Related Discipline.

Employment Status. The Region's employment condition could be viewed in three aspects: i) Employment Preservation; ii) Employment Facilitation; and iii) Employment Generation.

Generally, in the employment preservation division the number of initiatives conducted or assisted to prevent disputes decreased. For instance the number of seminars/training and dialogues or symposia conducted on labor education in 2003 decreased as compared to 2002. Collective bargaining agreements also registered a decrease of 29 percent – 12 CBAs in 2003 to 17 in 2002. Still the Region is fortunate because even in this state the cases on med-arbitration and money claims decreased. This could be accorded to the increase of labor unions in the Region. It is noteworthy, that the members of these unions have extensively utilized the Workers Organization and Development Program (WODP) created by DOLE.

For the past years DOLE 10 had been providing career and employment guidance counseling for students in the Region. For 2003, the number of students seeking this service has slightly decreased as compared to the number in the previous year. Programs that assisted placement of students and job applicants in different firms, such as the Public Employment Service Office (PESO) and the Work Appreciation Program (WAP), also displayed decreases in the number of applicants and students, respectively, placed in various establishments. This is a clear consequence of the fact that as of the year 2003 the number of job vacancies solicited went down by 13 percent – 34, 957 in 2002 to 30,379 in 2003.

In order to generate employment with equality, DOLE 10 had included capacity building for specific sectors, such as those who are differently-abled and working students. Of the 6,520 students registered during the summer and December of 2003 under the Special Program for the Employment of Students (SPES) 99 percent were placed in various private and government agencies. Not only that, one livelihood project for Goat Dispersal & Dairy Production was approved in a specific municipality of Misamis Oriental and the number of livelihood assistance accorded to differently-abled individuals increased by 50 percent - from 10 livelihood assistanceships in 2002 to 15 in 2003.

However, even as livelihood support for the differently-abled individuals and the number of placed students under the SPES increased, there were still very few of the differently-abled individuals who were accepted in establishments, and only one project was established benefiting 35 working youths and generating the same number of jobs. Reluctance to participate in the capacity-building program was the reason why differently-abled individuals were less fortunate in being accepted to establishments. A meager budget, resulting to the formation of only two working youth centers, on the other hand, was the explanation for the single project produced.

Taking a look at the employment status in the region, it would only be logical to check its standard setting and enforcement programs. Gathered from a review of secondary data from DOLE 10, it was revealed that as of 2003 there was a decrease of about 22 percent in the inspection of establishments in the region and whether they were enforcing the general labor standards. Technical assistance was also slightly lower as compared to 2002. Nonetheless, the number of units inspected to be without violations in terms of technical safety standards has increased as compared to 2002.

Social Welfare Services. There are several vulnerable groups in the region that are beset with different challenges. For the farmers and fisherfolks, they are faced with problems on low productivity and low income. Opportunities available to them are very limited due to environmental predicaments and inadequate support systems. The workers in the informal sectors are somehow in this state too. Their jobs are considered as easy to land in with but

are less productive and less compensatory. More so, these workers are usually situated in establishments that are not in favor of organized labor groups and somehow are not enforcing proper labor laws.

Poor Muslim communities as well as those who live in urban and rural poor communities, all experience poor living conditions characterized by deprivation of basic socio economic services, credit and other financing sources, and participation in any local development process. Specific concern for those in poor Muslim communities is that they have distinct culture and religious beliefs which somehow requires modification in the delivery of basic services (e.g. health services).

Women and children in difficult circumstances also require specialized services to address their needs. Child labor in Mindanao was quite alarming after registering at 294,000 in 2001. Poverty could be identified as the main cause of this occurrence, but other complicated factors contributed to this too. The number of youth offenders and children in need of special protection (CNSP) in Region 10 had also been increasing. There is now a push for the improvement and strengthening of CNSP services as well as the coming up of concerted efforts to study a number of issues related to youth and children in difficult circumstances.

Women, on the one hand, have members in their sector who have limited opportunities to participate in community development. They are victims of violence, and have limited access to information and services. These women are usually characterized as having low income, low literacy and poor health.

Other vulnerable groups which necessitate special attention are the persons who are differently-abled and the senior citizens/elderly. For the former, they are continuously faced with challenges such as i) discrimination in employment; ii) slow implementation of Batas Pambansa 344 or Accessibility Law; iii) limited database for persons who are differently-abled; iv) exclusion in the Socialized Housing Program; and v) lack of protection. The senior citizens at the same time are contraposed with difficulties in availing of discounts for medicines and transportation privileges. The unstable income and livelihood that they have as well as the limited rehabilitative services and facilities available for them, hamper not only their health needs but their living condition in general.

One of the social services accorded to the lower income groups in the region is housing. It is worth noting that around 82 percent of the 11,552 total units generated for the period 2001-2003 was for social housing. As stated in the Regional Development Plan of the Region, this proportion is way above the 76 percent of the planned target. But despite this accomplishment, the socialized housing backlog in the Region remains large. This could be partially attributed to the influx of informal settlers in the urban centers.

Access to Early Childhood Care and Development (ECCD) Services is another social welfare service made obtainable in order to provide the children the best start in life. This is made possible through ensuring their good health and proper nutrition, protection/security and early learning. Nevertheless, it was observed that availment of ECCD services in the region is scarce and even absent in some remote barangays. Quality ECCD services in the Region still remains a challenge, especially that parents and guardians have very limited involvement in the provision of these services.

Indigenous Peoples. In terms of their ancestral domains and lands, the general picture is that an increasing number of indigenous peoples' communities are being dislocated from their ancestral domains. This is due mainly to the following: 1) intrusion of large development projects that overlap with existing and/or potential claims of property rights; and 2) existing conflict in the implementation of policies on land tenure and resource

use. Self-governance among this group means that they should be included and recognized in the mainstream society's mechanisms for participation, but still their traditional political organizations and structures should be continuously strengthened. Another challenge facing this group is that their knowledge systems and practices have not been fully documented. As much as they want to cope with the fast-changing world around them, they find it difficult, as their culture, traditions and institutions are eroded.

Basic services provided to this group are also in question. Since most of the IPs are located in the remotest rural areas, they are somehow excluded from developmental program designs and the delivery of basic services. Even if there are basic services that reach them, these services are not attuned to the indigenous peoples' culture and beliefs.

Health System. To provide a background of the health condition in Northern Mindanao, it can begin by disclosing that much work needs to be done to improve health access by poor and vulnerable groups that are living in remote and underserved areas. Threats of emerging and life-style related diseases are prevalent in the region that is why provision of quality health and nutrition programs, especially to the impoverished and vulnerable groups, is a must.

The *Gamot na Mabisa at Abot Kaya* (GMA 50) Program as well as the Parallel Drug Importation Program (PDIP) also has its shortcomings. For the former, it is not yet widely available because of limited hospital budget. The latter program, alternatively, still needs to be expanded so as to include medical supplies which are not affordable by the poor.

Reproductive health services have particular concerns too. The prevalence of the use of contraceptives in the region has remained at only 55 percent. To further aggravate this situation, the USAID has already started phasing out its programs of contraceptive provision in 2004. There is really a need for LGUs to create mechanisms that would continue the assistance provided by foreign donors to effectively advance the population program.

Although the health sector is faced with various challenges, generally, there have really been improvements in the overall health situation in the region. For instance, the insurance coverage in Northern Mindanao as of September 2004, was reported by Philhealth to have reached a total of 967,455 members or 88 percent of total targeted population. The nutrition situation, likewise, showed slight progress among pre-school children and school children. Partially, these results could be attributed to Region 10's implementation of the Health Sector Reform Agenda (HSRA) over the past years.

The following is just a presentation of some of the health features in Northern Mindanao, since a more detailed discussion on the region's health status will be presented in the *"Overview of the Health Situation"* section.

C. <u>Where is Northern Mindanao heading?</u>

Generally speaking, all regions in the country are confronted with problems specific to their environment, culture and assets on hand. Relative to the situationer presented above, Region 10 has created development strategies until the year 2010.

Job creation and economic growth. The region planned to create jobs and promote economic advancement in the following areas: i) agriculture and fisheries; ii) micro, small and medium enterprise; iii) exports; iv) tourism; v)mining; and vi) information and communication technology (ICT).

Beginning with agriculture and fisheries, an estimated 230,000 jobs by 2010 is projected to be produced in this sector. In order to achieve this, Northern Mindanao shall develop around 188,000 hectares of agri-business lands along with the i) intensification of

land use for both under-irrigated areas and uplands to increase productivity level; ii) recommendation of measures for increasing livestock and poultry production; iii) promotion of agri-business and agro-forestry development, and entrepreneurial and investment promotion in community-based forest management (CBFM) areas; and the iv) continuation of the asset reform strategy pursued by the Macapagal-Arroyo administration to guide the provision of incentives to expedite completion of land acquisition, distribution, and leasehold operations. Fishery development, on the other hand, shall be attained through i) organizing and strengthening of fishermen groups' involvement in cooperative deep-sea fishing, to allow exploration of farther and richer fishing grounds; ii) promoting primary and secondary processing of seaweeds, particularly in the Panguil ang Gingoog Bays; and iii) providing assistance in the form of collective ownership, management and risk-taking in order to acquire more modern fishing equipment, assurance of a year-round fishing, and longer, safer and faster sea travel, among others.

Development of the micro, small and medium enterprises in Northern Mindanao would be seen through supporting around 40,000 existing business establishments and producing some 10,000 new entrepreneurs or enterprises. Not only that, Region 10 shall likewise extend some Php 630 million worth of financial assistance to this sector at the end of the plan period.

The next sector in which economic growth will be promoted is on export development and promotion. For the next six years, Region 10 shall strive to reach about US$3.5 million worth of export earnings by utilizing the industry clustering approach as a development strategy, strengthen marketing linkages with existing major markets as well as emerging markets, assist MSMEs in developing new export products, and continue the diffusion of appropriate technologies and best practices to MSMEs.

The tourism industry also expects at least 3.3 million visitors to come into the region during the plan period. This influx of tourists in the region is foreseen to boost the competitiveness of the industry to generate jobs and accelerate countryside development. For this goal to be realized, Northern Mindanao would, among others, i) develop more tourism destinations and attractions; ii) restore and preserve historical sites and landmarks that highlight the communities' identity and history; iii) undertake partnership with the private sector and media in terms of marketing promotion and product development; and iv) encourage the private sector to invest in the development of identified tourist attractions and provide support facilities.

Economic growth in the mining industry is, in addition, viewed by Region 10 too. The reversal of the Supreme Court of its ruling on several provisions of the 1995 Mining Act (RA 7942) and the full implementation of the National Agenda on Revitalizing Mining in the Philippines will consequently lead to the creation of some 100 livelihood projects that will benefit the 13 mining communities present in the region. Moreover, there will still be continuous monitoring of existing mining activities in Northern Mindanao that are not otherwise restrained by the Supreme Court ruling. This is to ensure that their operations are in compliance to the provisions of RA 7942.

As a final point, job creation and economic growth would never be complete without the development of the ICT sector. Modestly, Northern Mindanao is envisioning the establishment of two call centers and the formation of an ICT cluster to come up with an ICT Development Plan. To further promote the region as a favorable destination for ICT investments, capacity-building activities on systems and website development, global standard setting, and other technical trainings/seminars shall be pursued to raise the level of ICT awareness, among others. The Multi-purpose Community Tele-Centers (MCTs) will also be continuously supported to demonstrate the utility of ICT even in rural areas.

Social Development and Direct Anti-Poverty Measures. The region had already made developments in improving the availability of basic social services including education, health, water and sanitation facilities, housing, and electricity. But still, the regional development plan for 2004-2010 reported that there is still chronic deprivation and limited access to such basic services by those families in the lowest income groups. So to fight these indicators of poverty, Northern Mindanao shall i) increase elementary and secondary participation rate from 83 percent to 87 percent and 52 percent to 59 percent, respectively; ii) construct a total of 1,200 classrooms by the end of the plan period to bridge the gap in classroom supply and needs; iii) reduce infant mortality rate from nine percent as of 2003 to eight percent by 2010; iv) raise the number of households with sanitary toilets (from 72 percent in 2003 to 85 percent in 2010); v) ensure that all households have access to potable water; and vi) expand housing assistance to cover at least 30 percent of the total housing needs of the population.

Since six of the Millenium Development Goals in Region 10 are health related and poverty encompasses health-related concerns, the following are the region's health-related priority policies and programs:

- Maternal and Child Care Program
- Expanded Program on Immunization
- Control of Diarrheal Diseases Program
- Nutrition Program
- Environmental Health Services (Safe Water and Sanitation)
- AIDS/STD Prevention and Control Program
- Program on the enforcement of anti-tobacco control and healthy lifestyle activities
- Control of Acute Respiratory Infections
- Dengue Prevention and Control Program
- Diabetes Control Program
- Herbal and Traditional Medicine
- Greater Medicare Access (GMA) 50 Program
- Malaria Prevention and Control Program
- Family Planning Program
- National Health Insurance Program; and
- Standard Regulation Licensing and Enforcement

Development Dispersal. Comments have been made that most of the economic development in Northern Mindanao have been greatly concentrated in the regional capital, Cagayan de Oro City. With the intention of providing balanced development in the whole Region 10, the polycentric development strategy and corridor development strategy were taken on to provide the overall direction for economic growth of the region. The Polycentric Development Strategy involves the development of more strategic centers throughout the region which would influence the growth in their respective areas of influence (Northern Mindanao Regional Development Plan, 2004). The Corridor Development Strategy, on the other hand, encourages the dispersal of development especially in locations suitable for agri-industrial development, through the increase in industrial corridors. Therefore, aside from the Cagayan de Oro-Iligan Development Corridor, expansions are expected along Eastern Misamis Oriental, Tangub-Oroquieta and Cagayan de Oro-Bukidnon.

Aside from these two strategies, sub-regional roles are now assigned to each of the five provinces composing the region. In assigning these roles, the unique features and physical endowments of the component areas were taken into consideration. Bukidnon to start with, will become Northern Mindanao's "food basket," due to having the biggest agricultural area with soils and climate highly suited to agriculture. Malaybalay and Valencia

City serve as the main centers that will drive development of the province in the immediate period, but Maramag is expected to spur development in the southern part of the province.

For Camiguin, it is envisioned to be Region 10's "tourism haven" due to its natural beauty, unpolluted beaches, cold and hot lagoons and springs. More than that, its rich aquamarine resources could be utilized for livelihood and recreation. Even if the island is constrained in agricultural and industry-based resources, it will capitalize on its rich tourism resources and market itself.

Lanao del Norte, the new addition to the provinces encompassing the region, will be promoted as an "agri-industrial center and eco-tourism destination." In order to support this effort, the Metro-Iligan Regional Agri-Industrial Center (MIRAIC) in the municipality of Linamon will be established.

For Misamis Occidental, it shall continue to be the major source of fishery and aquamarine products. It will also capitalize on its rich eco-tourism potentials especially the Mt. Malindang Range (NEDA 2004). Other than that highland agricultural development shall be encouraged along this range too.

Misamis Oriental will continue to be the "industrial and trade center" of the region. While the western side of the province constitutes half of the Cagayan de Oro-Iligan Development Corridor, the eastern side of the province will also be given special attention (NEDA 2004).

Improved Infrastructure. The region has made several infrastructure targets. The first is to energize all barangays by 2008. Policies and strategies that will be implemented, such as the promotion of environmentally friendly technologies and power stability-and reliability-enhancing transmission related projects, will help ensure the accomplishment of this target. The second aim is to attain 894.4 megawatts of additional power generation capacity for Northern Mindanao. Once more, this direction could only be followed if supporting policies that reasonably balance the interest of the private energy industry players and of other stakeholders, among others will be implemented and heeded.

The improvement of existing seaports in the region is another infrastructure target for the years 2004-2010. Improvements will be done by i) considering the development of base and alternate ports in response to the growth in cargo and passenger traffic not only in the base ports of Cagayan de Oro, Iligan and Ozamis cities, but also in the terminal ports in the region; ii) encouraging the development of the ports of Balingoan, Benoni, and Guinsiliban; iii) facilitating private sector participation via Build-Operate-Transfer (BOT) schemes; and iv) encouraging all sectors to provide their institutional support for the full operation of the Mindanao Container Terminal at the PHIVIDEC Industrial Estate.

In order to address rice sufficiency in the region, additional irrigation facilities and rehabilitation of existing irrigation systems is targeted. It shall be executed to irrigate an additional of 37,000 hectares of land in Northern Mindanao.

Moreover, funding for the Laguindingan International Airport, Panguil Bay Bridge, East-West Lateral Road, Alae-Phividec Road and the Misamis Oriental-Bukidnon-Agusan Road shall be pursued, not only to keep pace with the demands of providing adequate, reliable and efficient physical infrastructure support facilities and utilities to the populace of Northern Mindanao, but also to boost economic and commercial activities in Northern Mindanao.

Promotion of Good Governance and Peace and Order. Effective and efficient LGUs play a crucial role in the development of the region. The series of FGDs conducted by

Sangga Kagay-anon last 2004, revealed that good governance is not only a contributor to the peace and order situation of Northern Mindanao but also to its holistic development as a region. Thus, to advance good governance in Northern Mindanao, first and foremost, support should be given to the restructuring and streamlining of government. Support shall be discharged by improving the quality and efficiency of government services delivery and harnessing ICT to promote efficiency in the delivery of services. Then, capabilities to further professionalize the civil service shall be enhanced. This will be fulfilled by establishing a capability program and strictly implementing HRD plans, among others.

Other strategies planned to promote good governance and peace and order in the region are: i) improvement of the capacities of LGUs in resource mobilization; ii) strengthening of capacities of stakeholders to network and share expertise; and iii) improvement of disaster preparedness and quick response (NEDA 2004).

All of the enumerated plans are partially based on the comparative advantages that Northern Mindanao enjoys. First, it is strategically located. It means that Northern Mindanao is accessible to all regions in Mindanao through its road network and the transport link between the regional centers in Visayas and Luzon. The region is also situated outside the typhoon belt and has a climate favorable to agriculture and industrial activities. Second, Northern Mindanao is blessed with skilled and productive men and women. Its functional literacy rate for SY 2004-2005 is 95 percent. In addition, there are almost 70 HEIs, which continue to educate its population.

The fertile soil which is highly suited to agriculture and the rich aquamarine resources is another great advantage that Northern Mindanao benefits from. The region serves as one of the top exporters of crude coconut oil, canned pineapple products, fatty alcohol, and fresh/frozen shrimps. Other than that, the availability of abundant resources for hydro-electric power, the substantial industrial capital, the presence of service and financial establishments and the generally secure, orderly and peaceful environment that Northern Mindanao posses, are just some of the other comparative advantages that the region enjoys.

Together with some guiding policies, Northern Mindanao is aiming to become the leading industrial and trade center in Mindanao with vibrant, skilled and productive men and women enjoying equal opportunities in harnessing the potentials and resources in building a decent, peaceful and healthful living environment.

OVERVIEW OF THE HEALTH SITUATION/ CURRENT HEALTH PROBLEMS

A person's health status would somehow tell if he or she is generally in good condition. This holds true to a certain community - healthy people comprise a progressive community, or the other way around. It is therefore necessary to check the health condition of the society.

This section will discuss the health situation in Northern Mindanao. It will be divided into specific subsections that will relate the health condition in the region, namely: 1) highlights on fertility and mortality rate; 2) leading cause of morbidity and mortality; 3) status of potable water and toilet facilities ; 4) health facilities and Botika sa Barangay; 5) health care financing; 6) health regulations and 7) current health problems.

Highlights on Fertility and Mortality Rate

Diseases like dengue, acute respiratory infection (ARI), and malaria are endemic in the region. Although these diseases are not the leading causes of death, their prevalence contribute to the increase of the crude death rate (CDR) - from 3.89 to 7.79 per 100,000 populations. For instance in the province of Misamis Oriental, a total of 744 cases of dengue hemorrhagic fever was noted last September 2004. Meanwhile, the province of Lanao del Norte has the lowest CDR while Camiguin province has the highest. Despite the fact that

Lanao del Norte has the lowest CDR, there are still four municipalities in the province that are endemic with the above mentioned diseases.

Remarkably, the crude birth rate (CBR) is decreasing from 23.14 to 10.35 per 100,000 of the population. The province of Misamis Oriental has the lowest CBR of 38.17 per 10,000 population all over the region. This is probably because of the Family Planning Program which is successfully conducted and implemented among various cities and municipalities in the region. To note, the Contraceptive Prevalence Rate (CPR) of Lanao Del Norte is increasing. There is a significant increase of 120% for the new acceptors and 140% for the current users. The same thing goes for Misamis Oriental. More couples are adopting methods of controlling and birth spacing. This just signifies the effectiveness of the program and the high level of awareness and acceptability of family planning program.

On one hand, other factors that contribute to the decrease of the CBR is the support from LGUs; technical and financial assistance from the Center for Health and Development 10 (CHD 10); the linkages among GOs and NGOs; Women's Health & Safe Motherhood partnership; and the skills and knowledge of the health workers.

On the other hand, infant mortality is increasing from 8.14 to 11.62. One of the major causes of this is malnutrition resulting from poverty and poor health practices, which includes the absence of sanitary toilets and potable water supply. This could be illustrated by the decline of nutritional status among children in Misamis Oriental and intestinal parasitism in Bukidnon. Likewise, Camiguin province has the highest infant mortality rate (IMR) of 22.74 while the lowest is that of the province of Lanao del Norte. Other factors which caused the increase of IMR, as well as one of the reasons of maternal death, are the high percentage of pregnant women who delivered at home. There is a need to be cautious. As mentioned by a UNICEF representative, death reporting has improved because of the on-going UNICEG project that sees to it that maternal deaths will be reported.

The percentage of normal nutritional status of children is increasing from 68.73 to 76.35 percent. The Early Childhood Development Care Program in Misamis Oriental is also seen to help lower infant mortality rate in the coming years.

The call for full immunization coverage among infants to be carried out to help prevent pneumonia, and the increased Vitamin A coverage for disease prevention and increase of body resistance to infection is still needed.

Maternal mortality rate (MMR) is also increasing from 0.91 to 21.33 percent. This is due to a high rate of pregnant women who opt to give birth at home. In Bukidnon, for instance, there are 89% deliveries that were administered at home while only 10 percent were in the hospitals. Untrained hilots which are starting to become visible especially in far flung areas is another explanation for this increase. Despite awareness of the risk in delivering the baby at home more mothers still preferred home delivery because of poverty, inability to pay the hospital fees, and geographical location. The flock of teenage pregnancies is another contributor to the increase of maternal death. Deliveries are prone to risk since the pregnant women are still very young. In Misamis Oriental for example, 35.26 percent of this young pregnant women are at risk in their pregnancy. Other than that, there are also some cases in which teenage pregnant women and unwed pregnant women do not undergo pre-natal check-up.

Moreover, Valencia City in Bukidnon registered the highest CBR and the lowest IMR across the region, while Malabalay City, another city in the province of Bukidnon, has the highest MMR. Oroquieta City, Ozamiz City, Tangub City and Valencia City, on the other hand, have zero rate of MMR.

Leading Cause of Morbidity and Mortality

The highest leading cause of sickness in Region 10 is ARI with a rate of 2,500 cases for every 100,000 population. This is distantly followed by Bronchitis with a rough estimate of 1,400 cases for every 100,000 population. The third cause of morbidity in the region is Pneumonia with 1000 case per 100,000 populations. Nonetheless, it is also important to note that although these are not in the picture of the ten leading disease in the region, dengue hemorrhagic fever and malaria cases are also prevalent and are major health problems in some areas in the region. Misamis Oriental for instance was reported to have a total of 744 cases of dengue hemorrhagic fever, as of September 2004. Alarmed by this rising number of cases, the Provincial Health Office of Misamis Oriental created a Dengue Task Force with the aim to reduce morbidity and mortality incidence of the disease. This was done through health education and advocacy in removing mosquito breeding places through sanitation within the household, in school and in public places. The province of Bukidnon on the other hand, is endemic of malaria, dengue, filariasis and other mosquito-borne diseases. Malaria was pronounced to be rampant in the southern municipalities of Bukidnon province for the past years already. The CHD 10 is already providing for free the services needed for the prevention and control and treatment of malaria in Bukidnon. Global Fund Malaria Component (GFMC) under the Philippine Rural Reconstruction Movement (PRRM) has also launched its assistance for malaria control during the year. They hired malaria workers as community organizers assigned in 19 municipalities and one city in the region to do malaria prevention activities. This activity was also done in other provinces in the region.

Disease of the circulatory system is the topmost leading cause of death in Region 10. There are 101.63 cases of deaths for every 100,000 population. Pneumonia comes in second as for every 100,000 people there are 47.98 cases of pneumonia. Malignancy ranked third with a percentage of 38.72 per 100,000 population. Deaths are attributed to various factors, which include unhealthy lifestyle such as unhealthy habits of eating, lack of exercise, too much intake of alcohol, smoking and vehicular accidents. On the other hand, pneumonia is the top most leading cause of death among infants. It has a rate of 1.09 per 100,000 populations and has a five-year average of 2.2. Furthermore, the top three leading causes of maternal mortality is post partum hemorrhage, other complication in pregnancy and hypertension in pregnancy, respectively.

Status of Potable Water and Toilet Facilities

All areas in Northern Mindanao have high percentage of household with potable water (98.19 percent). In the province of Misamis Oriental, the percentage of households with safe water supply has increased from 95.88 percent to 99.24 percent. This is due to the many waterworks projects done at the LGU level in trying to cope up with the demands of the community for a safe water supply.

In addition, most households in region 10 own sanitized toilets. For the whole region there are 64.90 percent of households who have sanitized toilet. Only a small percentage (7.46 percent) of households in the region does not have toilets.

Among the provinces of Region 10, Lanao del Norte and Bukidnon have high rates of unsanitized toilets. In Lanao Del Norte, the rate is 52.95 percent while Bukidnon registered 68.15 percent. Among the cities, Ozamiz city has the highest rate of households who do not have toilets. There are about 13.17 percent of household in this city who still do not have toilets. Cagayan de Oro city comes in next as 10.91 percent of its households still do not have toilets of their own.

Health Facilities and Botica ng Barangay

The presence of hospitals and clinics in a certain municipality or city is one indicator of the health status of the area, itself. In Northern Mindanao every province has a secondary level hospital. Bukidnon has seven provincial and two national government-operated

hospitals. A 100-bed capacity hospital located in Malaybalay City is the only secondary level provincial government hospital in the whole province and the second level referral hospital of the ten southern municipalities under the South District Inter-Local Health Zone (ILHZ). This hospital serves as the Core Referral hospital of the four municipalities and two cities in the central district of the province under the ILHZ. There are also about 64 private hospitals or clinics operating in the province. However, considering this number of health facilities, Bukidnon still has four municipalities that do not have a government nor a private hospital or clinic.

In the meantime, the province of Lanao del Norte has six government hospitals located in the coastal areas. It has one provincial hospital, three district hospitals and two municipal hospitals funded by the provincial government.

The Provincial Government of Misamis Oriental has recently upgraded their public hospitals in terms of infrastructure and standards of the Department of Health and PhilHealth for accreditation. They also hired competent staff to fill in vacant positions in order to serve better their constituents.

Botika sa Barangay and GMA 50 *Botika* are also operating in various cities and municipalities in the region. The Province of Misamis Oriental has the biggest coverage of Botica sa Barangay in Region 10. There are 62 *botika sa barangay* situated in various areas in the province. This is followed by the Province of Bukidnon which has 57 *botika sa barangay*. Other than that there are 11 GMA 50 *Botika* operating in four provinces. These are either located in the hospital or somewhere near the hospital.

Aside from these *botika sa barangay*, the province of Misamis Oriental, initiated a program called, "Tabang Medico" headed by the Provincial Health Office. This program enables the constituents to avail of free medical and dental services at a scheduled date. The activity includes, minor consultations and operations including cyst excision, operation tuli (circumcision), free x-rays, ECG, and dental services.

Health Care Financing

Misamis Oriental, Misamis Occidental and Bukidnon Province were able to reach beyond their desired coverage for health care financing. The provinces find it helpful to enroll their constituents in the Philippine Health Insurance Corporation 10 (PhilHealth 10) that is why the provincial government of Misamis Oriental gladly supported the indigency program by conducting a validation of indigent families. As a result, a total of 82,000 families all over Misamis Oriental was enrolled.

In line with this is the Provincial Indigency Health Program of the Province of Bukidnon. This is a local health insurance program which was launched in February 2002 and is anchored on Bukidnon's Health System. This program enables the enrollees to have unlimited access to out-patient services in the PHS and BPH, from basic diagnostic tests to medicines. They also enjoy totally free hospitalization in their provincial hospitals, including subsidy on bills not allowed by PHIC. This best practice by the provincial government of Bukidnon is suggested for replication to other cities and municipalities in order to attain better health condition in the whole region.

Camiguin and Lanao del Norte have reach only 31 and 33 percent, respectively, of their coverage. Among the cities, Cagayan de Oro got the lowest percentage of coverage for health care financing all over the region. As what the CPD officer explained, the LGU in the city is giving much attention and budget to the upgrading of the city hospital to cater more people belonging in the poverty threshold. The budget which is supposedly allocated for the health care financing was used to improved health services in the hospital.

Health Regulations

An interview with Dr Simer Belacho, the Officer-in-Charge of the Regulations, Licensing, Enforcement Division (RLED) of CHD 10, and Ms. Bobbie Aportadera, Food and Drug Regulation Officer III, revealed that there were not much problems with regard to the issuing and renewing of license among the hospitals in the region. They both stated that hospitals really make it a point to follow the standards set based on the level they are in. Renewing of license was not a problem too because they make sure that they upgrade or check their equipment and procedures to get a renewal. Dr. Belacho said that as of this year there were no hospitals that were revoked of their license because they complied with the set standards.

Deficiencies come in the food and drug regulation. Ms. Aportadera strongly expressed that in the region those who go into the food manufacturing business are not so aware of the regulatory functions that they should perform. Those who are in the business without knowing about the enterprise tend not to practice the appropriate ways in doing the business. One example is making processed juices. The manufacturer must see to it that the equipment that they are using are calibrated and are appropriately assembled to perform the task it is brought for. Ms. Aportadera cited that there are instances that, aside from non-quality raw materials used, there are equipment and facilities that do not pass the required standards. There might be some portion of the containers which are not properly put together making it a possible entrance for bacteria and other microorganisms. Ms. Aportadera encourage that these small-scale food manufacturers should develop standardized procedures of their own as to how to operate with efficiency and safety.

Drug regulation was not spared from flaws too. Ms. Aportadera admitted that since the ownership and operation of drugstores became a free enterprise, majority of the community drugstores in Cagayan de Oro are not owned by pharmacists. To address problems that may arise from this condition, it was agreed in RA 5921 that a drugstore could operate given that it has hired its own pharmacist. However, this year Ms. Aportadera reported that three pharmacies in Misamis Oriental were given a cease and desist order due to absence of a pharmacist and operating without any license to operate.

The fight against counterfeit drugs is an ongoing battle for the region. Counterfeit drugs include those unregistered drugs, unregistered drugs with local equivalent, and substandard drugs. One of the three drugstores mentioned above was ordered to temporarily close because of the presence of counterfeit drugs. Ms. Aportadera emphasized that the presence of just a single tablet or capsule of a counterfeit drug, this would already serve as a ground for temporary closure. Luckily, this year saw a decrease of drugstores being closed for the enumerated reasons, compared to the previous last year. The frequent monitoring made this achievement possible.

Current Health Problems

Several health problems were raised by the provincial governments in the region. To start with, it was discouraging to note that despite the efforts of the service providers and the many maternal death reviews conducted, still the maternal deaths increased. During one of the maternal death reviews, it was found out that the most high-risk pregnant women were advised by the midwives to really have the hospital delivery. However, they reject this advice and are willing to take the risk of dying for reason of poverty. These women expressed that they could not afford the hospital bills and the traveling expenses if they will have a hospital delivery. Mothers are already aware of the risks but financial constraints were the most common factor for the rejection of the proper care. Second, pneumonia is still the number one killer in infants, followed by pre maturity, and septicemia. A large portion of diseases is attributed to unhealthy pregnancy.

Province-specific, Bukidnon is faced with problems on standard setting using the International Classification of Diseases (ICD). This could be due to a fact that some doctors do not have an ICD book in their hospital or clinic which is supposed to be a requirement by the licensing division of the CHD 10. Disease-wise, Bronchitis cases in the province still remain number one for so many years already. Another health predicament encountered in the province is that a high percentage of households is not guaranteed that their water sources are all safe from bacteria all the time. Thus the use of commercial mineral or purified water has became very popular. But sad to note, only those families with above average family income can afford to avail of such safe water. In terms of the anti-fraud campaign launched by PhilHealth 10, it is surprising that the province with a unique indigency program has a number of hospitals with licenses revoked due to cases of fraud.

In the province of Lanao del Norte rabies still remains a major health problem since dog bites ranked highest among that of any other animal. Most victims of dog bites are poor and cannot afford to buy vaccines. Even if CHD 10 and some municipalities in the province would provide assistance to the victims the limited supply of vaccines due to its high cost of vaccines limits the number of recipients. Some municipalities had already implemented laws for responsible pet ownership, especially for safekeeping of dogs to prevent dog bites in their locality. Yet, enforcement of the law in this aspect is unstable. Dog vaccination was also done in the province, still some pet owners do not submit their dogs for vaccination.

On the other hand, the province of Misamis Oriental is now experiencing the scarcity and delayed arrival of contraceptive supplies with the phasing out of USAID support. The LGUs should give due attention to include contraceptive procurement in their procurement plan in order to make the family planning program in the region successful.

Moreover, there is a need to conduct feeding activities to identified malnourished children especially those belonging to the very-low-weight group. Aside from that there is a need to buy more weighing scales to replace unusable ones and repair for those that can still be restored.

Status of Health Researches/ Resources in the Area

From the interviews conducted among the Provincial Planning and Development Coordinators, Provincial Health Officers and a few national line agencies' representatives, the LGUs do not initiate researches but only identify the site where the regional office could conduct such research interventions. Among the NLAs, they admitted that their respective central offices are still in charge of creating their research agenda which will then be materialized into a study either by those in the regional offices or the central offices as well. DA and DENR 10 were able to provide for a number of the researches that they have recently conducted. They claimed that somehow it has an effect on the health status of the region.

Aside from these, several of the academic institutions in the region also have their own staff which go into health research. Xavier University-Ateneo de Cagayan, the only autonomous HEI in Northern Mindanao, has the Dr. Jose P. Rizal College of Medicine and Research Institute for Mindanao Culture (RIMCU) doing these studies. Capitol University (CU) and Liceo de Cagayan University (LDCU), two of the deregulated HEIs in Region 10, also have research and development extension offices to cater to these studies. State universities, such as Mindanao Polytechnic State College (MPSC), MSU-Iligan Institute of Technology, MSU-Naawan, and Central Mindanao University in Bukidnon, are also into several researches that have an impact on the health condition of the region.

To enumerate some health researches undergone by each institution, we begin with that of the Dr. Jose P. Rizal College of Medicine of Xavier University. In their research development plan for 2000-2005, it was stated that the unit hopes to become a research

center in health and medicine in the region. It developed its research agenda based on identified gaps in community research, basic science research, clinical research, and herbal medicines research, among others. In these topics, several specific areas were given attention. For community research, focus was directed on three spheres and these are: 1) impact of indigenous methods of treatment and diagnosis on common health problems in the community; 2) methods of prevention of common diseases in the community; and 3) baseline information on various health and health-related issues. Basic science research centered on gross anatomy, biochemistry, histology, and microbiology, among others, while clinical research on the top causes of morbidity and mortality in Region 10 aimed its study on prevention and disease patterns, recognition/diagnosis, and treatment/management. For herbal medicine research, attention was set on preparation and dosaging, among others.

Considering the amount and extent of research they are in and will be, Dr. JP Rizal College of Medicine has five committees to look into the research proposals coming from its students and faculty. These are the: 1) Technical review committee, which is commissioned to review all aspects of the research proposals (except for ethical considerations); 2) Ethics review committee, to do the review of research proposals in terms of ethical considerations; 3) Finance committee, that has the main task of looking into the possibility of tapping funding agencies for the various research proposals of the College ; 4) Publication Committee, with the primary function of editing all completed researches for purposes of publication in the College Journal; and 5) Training committee, which would conduct training for faculty and students with regard to research. Together with the committees and its Research Unit Head, the research entity of Dr. JP Rizal College of Medicine will promote and coordinate research activities within the College, develop the research capabilities of its faculty and students, and establish linkages with affiliate institutions regarding research activities. *(Dr. Jose P. Rizal College of Medicine Research Development Plan 2000-2005)*

The Research Institute for Mindanao Culture (RIMCU) was founded in 1957 to concentrate mainly on researches in the fields of demography, anthropology, economics, history, and political science. But for about 50 years since its founding, more than 400 research projects have already been successfully completed by the institution, including topics on health, nutrition, medical and epidemiology research as well as those which involve women. Aside from the researches it has conducted, the office has several monographs on health such as: 1) Women for Peace: A Study on the Impact of Armed Conflict Among the Women in Mindanao; 2) Health and Survival of the Urban Poor of Cagayan de Oro City, Philippines; 3) Rural Mother's Management of ARI in the Northern Mindanao Region; 4) Health Care Financing for the Rural Poor; and 5) Child Labor in Northern Mindanao, Philippines *(RIMCU Brochure)*

At present, RIMCU has around eight research associates, including the Director, who are mostly into the field of social science (demography, sociology, anthropology). Most, if not all of these research associates, has been and continue to be into health research. To name some of the health researches undergone by the research associates *(See Annex A)*:

- Pilot study on the Dissemination of the Standard Days Method (SDM) of Family Planning
- Conflict Situation: Its Consequences on Reproductive Health and Rights
- An Assessment of Reproductive Health Services: Its Responsiveness to Adolescents' Needs in Selected Communities in Region 10
- Looking Into the Adolescents Reproductive Health and Risk Behavior in Selected Communities of Region 10.
- The Social Acceptance Project – Family Planning in the Autonomous Region of Muslim Mindanao
- A Study on "Priority Disease Control Programs: Who Decides? Who

Implements? Who Benefits?

- Evaluating the Introduction of the Standard Days Method of Family Planning into the Family Planning Program of the City of Malaybalay
- A Study on Malnutrition Among the Elderly Population of Cagayan de Oro City
- Introducing the Standard Days Method of Family Planning into Kaanib: Testing Counseling Services

The Research and Extension Office (REXO) of CU takes charge of both in-house researches and those which are sponsored by other funding institutions. Like the other research agencies mentioned above, it also conducts seminars and trainings to develop and enhance the culture of research among faculty members in the academe *(Capitol University Office of the Vice-President for Research and Extension).*

The research agenda of this component of CU is based not only on the mission of the university itself, but also, on the 12 point agenda of PGMA. Dr. Alicia Diel, Director for Extension, added that they usually come up with researches that would strengthen the existing courses and programs offered by CU. They have a technical committee and ethics review board that screens and reviews proposals, respectively, based on the financial and manpower resources, policy of the school, and the priority needs/areas of the school. The research agenda is usually arrived at after a consultation with the different research officers from the different colleges they have.

Since the establishment of the research unit of CU in 1995, Dr. Diel admitted that all their researches were funded by the University itself. Looking at their Medium Term Institutional Development Plan for 2004-2009, around Php 500, 000 per year would be allotted to fund research projects, among others. With this budget, REXO is expected to conduct around 30-40 researches for two years. Not only that, the institution would also earmark a separate budget for data banking, research congress, publication of college journals and research outputs, and other research-related activities just to strengthen research in the institution.

Their research associates are into various fields of specialization, especially that each college of the university has its own research officer. Gathering from the interview conducted with Dr. Diel, although health and extension services is one of the research priority areas, most of the health researches in CU were conducted by or in coordination with the College of Nursing. Some of these researches are: 1) Health-Related Quality of Life of Breast Cancer Patients (2003); 2) Women Leaders of Barangay Dayawan Playing Participatory Lead Roles in the Health Resources Development Program of CCC (2002); 3) Contraceptive Failure in Northern Mindanao: Results from a Population-Based Survey (2002); 4) Analysis on the Family Planning Survey in Region 10 (2002); and 5) Knowledge and Perception on HIV/AIDS and Sexual Attitude and Behavior of High School Students of Cagayan Capitol College (2001) *(See Annex A).*

Another institution that is into research is Mindanao Polytechnic State College (MPSC). It has four major areas of concentration namely: Science and Technology, Engineering, Environmental Modelling and Policy Studies. Although much focus is made in these four areas, the institution has done some health researches since 1998. To name a few: 1) Research Facility Survey for DOH Project Safe Motherhood Project Facility Survey; 2) The treatment Practices of Mothers in the Control of Diarrhea in Misamis Oriental; 3) The Solid Waste Management Sensitivity Level of the Residents of Isla de Oro, Cagayan de Oro City; and 4) Identification and Analysis of Indigent Patient Benefits of Pilot. These researches were conducted with external assistance since only those researches that fall under the research focus of the state college are allocated funds. (*See Annex A)*

ARRIVING AT THE HEALTH RESEARCH PRIORITIES AND CRITERIA USED

Coming up with the health research priorities for Northern Mindanao involved the gathering of secondary and primary data, and most of all the conduct of a consultative workshop.

For the secondary data, annual and quarterly reports, medium-term developmental plans, and strategic development plans were gathered from pre-selected national line agencies (NLAs) and local government units (LGUs). Among the pre-selected line agencies are the Department of Agriculture, Department of Environment and Natural Resources, Commission on Higher Education, and National Economic and Development Authority *(See Annex B).* These secondary data were procured by sending letters addressed to the Regional Directors, who in return, pointed the researchers to the research coordinators of their respective agencies. Pertinent documents were also obtained from the provincial health units and provincial planning and development office of the Provinces of Bukidnon, Lanao and Misamis Oriental.

Primary data were gathered through the interviews conducted among a few point persons in the national and local government units, as well as those in the academe. A semi-structured questionnaire was used to gather information such as whether the institution has their own research agenda, how was it formulated, and if there are there technical committees that screen research proposals *(See Annex J).* In addition to the questions posed in the institutional form, the informants were also asked about the current problems and issues experienced by each sector, and how they have been dealing with these concerns. Inquiries on the researches they have done were also asked, especially those in the academe.

Basically, the purpose of collecting all these information was to see the current situation of Northern Mindanao in all sectors, especially those that affect health. The presentation of these pressing concerns that affect the health status of the region, would help in creating better health researches as well as aid in considering what area should be the main priority in terms of research, aside from the criteria set. Another purpose for the gathering of both secondary and primary data was to come up with some explanations for the health research priorities.

Prior to the consultative workshop, letters of invitation were sent to the pre-selected NLAs, LGUs, non-government organizations and academic institutions. The Department of Science and Technology-10 (DOST 10) and DOH-Center for Health Development for Northern Mindanao (CHD 10), were mainly the agencies who did the legwork in inviting and informing the invitees of what the workshop is all about. Confirmation of the invitees' attendance was then handled by the researchers from RIMCU. Along with the invitations that were sent to these agencies and institutions, they were given the standard matrix, to guide them on how to go about with the prioritization *(See Annex L).*

The consultative workshop held on the 14th of October proved to be productive. About 49 participants attended the workshop. Before the main objective of the activity was conducted, the current status of all the sectors in Northern Mindanao, as well as its plans to address present issues and concerns was presented by NEDA's Regional Director. The health and science and technology status of the region were also shown by representatives from CHD 10 and DOST 10, respectively. The research coordinator of CHD 10, Dr. Fortunato Ramonal also demonstrated how their agency did their own health prioritization. All of these presentations were targeted to aid the participants in coming up with the health research priorities for Northern Mindanao. Moreover, as a supplement to all the presentations made, a representative from RIMCU, displayed some of the issues and concerns of the region culled out from the secondary and primary data gathered.

Health researches in relation to four aspects, namely: 1) public health; 2) environment; 3) vulnerable groups; and 4) health care financing and regulation, were the centers of the prioritization. Urgency/magnitude of the issue/ problem/ prevalence (rank) of the disease/burden to the community; feasibility/do-ability of the research based on existing capabilities; impact of R & D (mortality, morbidity, cost…); research has impact on the health issues being addressed; and area is not well funded by other agencies, were the criteria used to arrive at health research priorities for the region. Participants which were grouped based on the interests of their respective agencies, came up with a list of studies they deemed necessary for the particular group they were in. These lists were then discussed in a plenary to finally identify what specific sector should be given attention first, in terms of research.

IDENTIFIED HEALTH RESEARCH PRIORITIES FOR NORTHERN MINDANAO

The consultative workshop on health research priorities, held at the Population Commission's Training Center, came up with the following prioritization: 1) Public health; 2) Environment; 3) Vulnerable groups; and 4) Health care financing/regulation.

Public Health. The group had three broad R & D areas namely: dengue, chronic diseases and cancer. The increasing prevalence of dengue cases as well as chronic diseases was just one of the reasons why the focus was on these diseases. True to its task of promoting prevention of diseases, most of the objectives of the researches in the public health group aimed at identifying factors that attributed to the increase of the diseases occurrence. Consequently, this is where their interventions as a sector would come in. There is also a noted increase in the maternal mortality rate for births delivered in the homes. Thus, there is a need to look into the profile of traditional birth attendants as well as their practices in assisting birth deliveries. An addition to the topics identified is the health of

children under five in a family whose mother is working overseas. This is in response to the issue of the feminization of overseas workers. *(See Annex C).*

Environment. This cluster identified more R & D areas as compared to the other groups. The areas they classified to be in need of research interventions are the following: 1) environment, health risk and safety management; 2) environmental pollution; 3) rural-urban migration; 4) pesticides; 5) small-scale mining; 6) land conversion; 7) medicinal plants in Region 10; and 8) indigenous medical practices. Unavailability of data or information was basically the rationale why they chose these specific topics to be studied *(See Annex D).*

Vulnerable Groups. This group showed five broad R & D areas which dealt on improving the situation of those who belonged to these groups. A few of the topics which they wanted to be studied are: 1) the profile/characteristics of domestic violence perpetrators in jail (for women and children); 2) preservation of cultural heritage or indigenous knowledge system (for IPs); 3) assessment of the Expanded Senior Citizens Act (for elderlies); 4) assessment of the status of implementation of Batas Pambansa 344 (for differently-abled persons); 4) health and well-being of child workers; and 5) mental health of children who are victims of armed conflict *(See Annex E)*

Health Care Financing. The only topic they identified to be researched on is that which concerns the willingness and capacity to pay by the members and the LGUs. From this singular subject matter sprang a number of reasons why this topic should be of prime consideration. The presence of capable but unwilling customers as well as sustainability of contributions of individual paying members and the LGU were just some of grounds why this topic should be of foremost concern *(See Annex F).*

There were no clear debates when public health was identified to be of prime consideration in terms of health research. It seemed that all of the remaining participants agreed with the reason raised by City Health Officer of Valencia City, Bukidnon that all the other aspects would not be able to move if the public health sector would be defective. Discussion only begun when it was time to select as to what comes next in the prioritization, should it be the environment sector or the vulnerable groups. Participants from each group took turns in citing why their group should be considered of second priority. For instance, Mr. Virgilio Fuertes from DOST 10 stated that the environment should be of next priority because majority of the illnesses in the region as well as other parts of the country were environmentally-based. Ms. Virginia Cardona, on one hand, pronounced that studies on the vulnerable groups and their health conditions should be next in line because “people could not wait,” and some interventions need to be done to address their needs. However, the argument made by Mr. Fuertes gained more credits resulting in the “environment” becoming the second priority in health research. Research on vulnerable group, such as the indigenous peoples and elderlies, and health care financing, came in as third and fourth priority, respectively.

Moreso, each of the researches identified in the four sectors were already ranked as to which should be studied first.

References

Commission on Higher Education (CHED), n.d.. National Higher Education Research Agenda (1998-2007), CHED, Pasig..

Commission on Population, n.d. Regional Profile, POPCOM X, Cagayan de Oro City.

National Economic and Development Authority, (NEDA) 2004. Northern Mindanao

Regional
Development Plan, 2004-2010, NEDA X, Cagayan de Oro City.

National Economic and Development Authority (NEDA) 2005a. Regional Economic Situationer. Region 10 (Northern Mindanao) First Quarter of 2005, NEDA X , Cagayan de Oro City.

National Economic Development Authority (NEDA) 2005b. Regional Economic Situationer. Region 10 (Northern Mindanao) Second Quarter of 2005, NEDA X, Cagayan de Oro City.

Philippine-Australia Governance Program and Sangga Kagay-anon 2004. *Sangga Kaqay- Anon. Maka-Kagay-anon Good Governance Framework, Sangga Governance Project, Cagayan de Oro City.*

Philippine Council for Health Research and Development, Department of Science and Technology 1999. Health S & T Priorities 1999-2004, PCHRD, Bicutan Taguig (Unpublished).

Provincial Health Office, Misamis Oriental 2004. *The 2004 Annual Accomplishment Report, PHO X, Cagayan de Oro City.*