

PHILIPPINE JOURNAL OF PUBLIC ADMINISTRATION

Journal of the National College of Public Administration and Governance, University of the Philippines Diliman; the Association of Schools of Public Administration in the Philippines; and the Philippine Society for Public Administration

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| <i>Felipe</i> | Enrolment Size, School Location,
and National Achievement Test Scores |
| <i>Bautista</i> | Network Governance in the Philippines |
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Governance in Mindanao |
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A brief biographical sketch of contributor/s and an abstract of approximately 100 words should accompany the article/s.

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Editor's Notes

This issue of the *Journal* attests to the continuous expansion of public administration and governance as a field of discourse and how it is able to link up with emerging technologies and ideas.

Abraham I. Felipe presents an "alternative" assessment of the public education system in his article "Enrolment Size, School Location, and National Achievement Test." Felipe digs deeper into the findings of his own organization that suggest student competency tends to get higher as the school size gets bigger. He does the "re-examination" with the objective of eliminating bias against schools in the rural areas which are arguably smaller than their urban counterparts and are, thus, based on existing studies, regarded to be producing less-competent students based on scores in the National Achievement Test (NAT). Felipe dares us to consider that the NAT scores may not represent the actual competencies learned by students.

Teodoro Lloydon C. Bautista begins his article "Network Governance in the Philippines" by underscoring the fact that the concept of "governance" has seen various incarnations after its juxtaposition with terminologies that become in vogue in various periods of history. He presents his take on the concept of "network governance" which can be seen as another way by which powers are distributed, resources are allocated, and decisions are made in the context of the Philippines. The resurgence of networks in the Philippines, the author argues, can be attributed to two important milestones: the social redemocratization following the ouster of Ferdinand Marcos in the eighties and the enactment of the *Local Government Code of 1991*. These developments practically created the environment for formal and informal networks to participate in the business of governance and become alternative modes in generating political empowerment and economic development of local communities. As an example of a success story in network governance, the author presents the case of Gawad Kalinga, a non-government organization involved in a campaign to eliminate homelessness and poverty through self-help, mutual trust, and voluntarism.

An emerging theory of social capital formation is discussed in Maria Faina L. Diola's article "Social Capital Formation in Selected Conflict Areas in Mindanao and Local Governance." From the traditional concept of social capital as seen in membership organizations, Diola deploys the concept in her assessment of peace and development initiatives and strategies in communities in the throes of the continuing armed conflict in

Mindanao. She proposes that for social capital to take effect in a situation like this, collective responsibility must be enhanced, networks and linkages be increased and greater trust among mediating organizations be fostered. She also argues that in the case of conflict areas, "social capital," as traditionally conceived, is not a mechanism but a product of a mechanism used for social capital formation.

Postmodern thought continues to inform social sciences and governance is no exception. Pamela G. Oppus adopts a postmodern perspective of change and emergence in her article "Resilience Theory as a Framework in Understanding Politico-Administrative Synergy." She suggests that change should not be seen as chaos and disorder, specially for institutions in legitimate transitions. A resilience strategy which includes building consensus, acceptance of change as part and parcel of public administration, and maintaining a hopeful outlook in the face of crises, is proposed by the author to overcome what she calls "bureaucratic limbo." The author further illustrates that understanding the bureaucracy in terms of resilience reconstructs the notions of "inefficiency," "management failure of sustainability," and "slavery to politics" that oftentimes undermine the capacity of the bureaucracy.

Rizalino B. Cruz's article "Harnessing Geo-Information Technology for Community Empowerment and Identity: The Case of the Bukidnon Tribe in the Philippines" shows that the success of a particular technology lies not only in its inherent faculties but also in its proper administration. In this article, Cruz assesses how the use of geo-information technology was used to help an indigenous peoples' community in its struggle for ancestral domain claim and self-determination. He presents a case of ideas and technologies in synergy. Indigenous knowledge on mapping was fused with state-of-the-art methods using geo-information technology. Another crucial factor in the project's success is the employment of indigenous structure of governance in program implementation and human resource mobilization. Concepts of social capital and participatory governance also come into the picture.

Enrolment Size, School Location, and National Achievement Test Scores

ABRAHAM I. FELIPE*

School enrollment is said to have direct correlation with learning competency. This was supported in the 2004 study of Fund for Assistance to Private Education (FAPE) which reported that big public high schools consistently showed better performance than small public high schools in tests measuring the learning competencies of students in areas of Mathematics, English and Science. School location was also noted to have effect in students' performance. Using the scores and ranking of public schools in the National Achievement Test (NAT) aided by statistical tools, this paper disproves the above assumptions and reports of FAPE. The present study reveals that in some cases small public schools performs better than big schools. Discussions further present possible reasons to consider with regard to differences in test scores between big and small schools as well as schools in metropolitan cities and in towns and provinces.

Background

It was recently reported that "big" public schools performed consistently better than "small" public schools in tests measuring learning competencies in English, Mathematics and Science (FAPE 2004). In the study, the big schools were schools whose average enrolment corresponded to the 95th percentile (average = 3741 students) whereas the small ones had an average enrolment corresponding to the 68th percentile (where the mean enrolment was 1074 students) of all public schools in their regions.¹ The big schools were chosen to be used as first control in a study evaluating the quality of private schools implementing a government scholarship program called "ESC"². The evaluation involved comparing ESC-participant schools with the nearest public schools. The small schools were a second control chosen at random from the list of public secondary schools of two school divisions.

*Former President, Fund for Assistance to Private Education (FAPE) and Former Chair, Center for Educational Measurement, Inc. (CEM).

There were reasons for expecting school enrolment and level of learning competencies to be positively related. Basic Education Information Statistics (BEIS) of the Department of Education (DepEd) reported that big schools were being allocated more resources (for example, teachers, classrooms and special rooms and facilities, and special personnel) although it was not evident that they were being allocated more resources on a per capita basis. They were headed by more experienced managers. Many were receiving support from sources other than the DepEd. Big enrolment could be a sign of popularity which, in turn, could be interpreted as a sign of acceptable quality.

On the other hand, other factors could also militate against finding a higher level of learning competencies among the big schools. Because of big enrolments, there would be more pressure for them to have bigger classes that would in turn tend to decrease teacher effectiveness. The standard management structure for public schools would force them to have a wide and flat supervision that would lead to less effective instructional supervision.

The academic correlates of an expanded enrolment in the Philippine public school system have never been investigated. Although DepEd has no explicit policy encouraging enrolment expansion, there is a culture in the public school system that drives enrolment upwards. School size is often equated with school importance which in turn influences a principal's standing among peers, privileges enjoyed, ranking for promotions, opportunities for professional growth for oneself and one's staff, and others. It may be considered as an important factor in qualifying for external support from local governments and various donors. For these reasons, every school strives to grow. The academic consequences of such growth needs to be studied

The cited FAPE³ study was one that alleged more competencies to students of big schools; however, one factor might have contributed to this alleged superiority. This factor was suggested by an observation that the students from the big schools had significantly higher and more homogenous grades than the other students, suggesting the possibility that the big school students had been pre-selected. On the other hand, students from small schools were chosen at random by the test administrators. Based on these differences, it is valid to question FAPE's finding about big schools.

The same study also reported that schools in urban areas performed better than those in rural areas. There are bases for expecting that school location and level of competencies are positively related. Better or finicky

applicant teachers tend to apply for more popular or convenient schools. More non-instructional problems are expected in rural areas, e.g., distance to the place of work. Supervision is more difficult in rural schools. Cities are the usual preferred place of residence. They have less peace and order problems and more modern conveniences such as entertainment and transportation facilities. In spite of these, FAPE might have erred in concluding an urban effect because the most of its big schools also happened to be located in urban areas.

These are reasons enough to replicate the FAPE study. Beyond these, one could argue for a need for a school sample larger than the 32 public schools that FAPE used. The purpose of the present study is to replicate the FAPE study on the effect of enrolment size and of location on competency performance using a large school sample.

Method

The study calls for studying test scores in relation to two variables – school enrolment and school location.

The Test Scores

The test scores were the National Achievement Test (NAT) scores of 2004-05 as reported by the National Education Testing and Research Center (NETRC)⁴. The high school NAT was a test developed and maintained by DepEd for measuring both what students know (i.e., achievement) and what they can do (i.e., aptitude). It consists of 300 items equally divided among English, Science, Mathematics, Filipino and Araling Panlipunan (Social Studies), to be taken in 5 hours. No reports on NAT's technical properties such as inter-correlations, item difficulties, reliability and validity indices, co-variances and descriptive statistics are available.

The NETRC reported the mean percent correct scores in six (6) areas (English, Science, Mathematics, Filipino, Araling Panlipunan, and Total Test) for each public school. In the absence of data at the student level, the mean school scores in each subject area were factor analyzed using the principal components solution with varimax rotation to determine the test's factor structure. The inter-correlations were very high (Table 1), suggestive of a unified structure. Only one factor was extracted by the components analysis (Table 2); however, this single factor alone accounted for 80% of the variance, a finding that is consistent with the hypothesis of NAT's unitary factor structure. This factor appears to be an academic achievement factor.

Table 1. Inter-Correlation Matrix of NAT sub-tests

	<i>English</i>	<i>Science</i>	<i>Math</i>	<i>Filipino</i>	<i>Araling Panlipunan</i>
English	1.000	.757	.824	.738	.772
Science		1.000	.774	.654	.703
Math			1.000	.699	.774
Filipino				1.000	.733
Araling Panlipunan					1.000

Table 2. Component Matrix ^(a)

	<i>Component</i>
English	.920
Science	.872
Math	.915
Filipino	.855
Araling Panlipunan	.894

Extraction Method: Principal Component Analysis.

^a 1 component extracted.

Because of this factor structure of NAT, it will not be misleading to concentrate on the Total Test score in the present report. According to theory, the Total Test score, being the composite of the scores of the sub-tests, will be the most reliable datum to study⁴.

School Sampling

The NETRC database contained 5669 schools. A sample of 1500 was drawn by: (1) selecting every fourth school in the NETRC database, and (2) selecting the balance by picking them at random.

The Enrolment Variables

Based on the BEIS report of total enrolment of each public secondary school, four (4) enrolment variables were formed. Arranging enrolment in ascending order, the schools were divided in four ways:

1. In two equal groups (low, high)
2. In 3 equal groups (low, medium and high)
3. In 4 equal groups (quartiles)
4. In 10 equal groups (deciles).

The resulting enrolment levels are shown in Table 3.

Table 3. Enrolment Levels of the Enrolment Variables

	<i>Enrolment Variables</i>	<i>Enrolment Levels</i>
Two equal groups	Low	<492
	High	>491
Three equal groups	Low	<341
	Medium	341-761
	High	>761
Four equal groups	<i>Quartiles</i>	
	1	<285
	2	285-491
	3	492-995
Ten equal groups	4	>995
	<i>Decile</i>	
	1	<178
	2	178-251
	3	252-317
	4	318-398
	5	399-492
6	493-633	
7	634-842	
8	843-1202	
9	1203-1977	
10	>1977	

The enrolment levels produced by the above systems were then related to the test scores.

The School Location Variables

The school addresses in the BEIS were used in classifying the location of each school. Four classifications were used for school addresses:

1. Whether the schools were located in cities or outside the cities. Cities were geographical areas with the term "City" to their names.
2. Whether they were located in big cities¹ or outside these big cities.
3. Whether they were located in the three Metros which were big metropolitan cities², or outside these metropolitan cities.
4. Whether they were located in the three Metros, or in the provincial capitals (smaller cities), or outside these two areas.

These four classifications of school locations were subsequently related to the test scores.

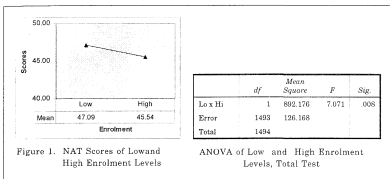
Findings

Enrolment Levels and NAT Scores

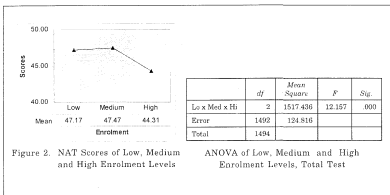
Unlike FAPE's report that the big public schools were superior to the small public schools in learning competencies, the present study shows the opposite.

No matter how schools were divided in terms of enrolment (i.e., whether enrolment was divided into 2, 3, 4, 10 or more categories), schools with high enrolment levels do not fare as well on NAT as schools with low enrolment levels. When enrolment was divided into two equal halves of about $n=750$ schools each (a lower half and an upper half where median is at $n=491$ enrolment), Low enrolment had significantly higher scores than High enrolment ($p=.008$). Low had higher scores than High in all subject areas but the differences were significant only in two of the five subject areas, namely, Mathematics ($p<.001$) and Araling Panlipunan ($p=.002$). No explanation for the observed differences will be attempted.

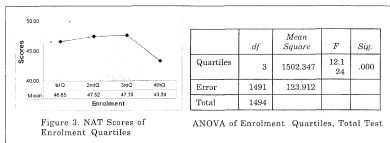
Figure 1 shows graphically the results for the Total Test score. On the right of Figure 1 is the summary of the corresponding statistical test.



When enrolment was divided into three equal groups of $n=500$ each for Low, Medium and High enrolment (where the range for Medium was 342-761 students), the medium group had the highest scores, followed by the Low. The graphic presentation of the results for Total Test is shown in Figure 2. On the right of Figure 2 is the summary of the analysis of variance of the scores. Differences between groups were significant beyond the $p=.000$ level. To trace the sources of significant differences, multiple comparisons for Low, Medium and High were carried out using Dunnet C.⁵



When enrolment was divided into four equal groups (quartiles, or Q) of $n=375$ (First Q, with enrolment range 42 to 284; Second Q, 285-491; Third Q, 492-995; and Fourth Q, above 995), the performance of the middle quartiles became more marked. The best quartile range was the third. The second Q came close to it. The fourth Q was the poorest performer with average scores significantly lower than even the first Q schools. The graphic results for the Total Test scores are in Figure 3. The corresponding tests of significance are on the right of Figure 3. Differences were significant beyond $p<.000$. Multiple comparisons showed that the smallest quartile even had significantly higher scores than the fourth quartile.



For enrolment deciles, findings per subject area (Figures 4a to 4e) are also reported to show their similarity with the outcome of the Total Test scores (Figure 4f). When enrolment was divided into 10 equal groups of $n=150$ each (deciles), a curvilinear relation between enrolment level and competency scores became manifest. The best decile was the sixth, the poorest was the tenth, the second poorest was the ninth (enrolment range = 1202-1977), the third poorest was the first decile (the smallest schools with enrolment no more than 177 students). The results suggest an optimal range of enrolment beyond which instructional effectiveness suffers. Tests of significance of differences in deciles are in Table 4. All tests were significant beyond $p=.000$.

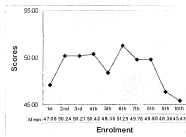


Fig. 4a. English

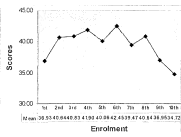


Fig. 4b. Science

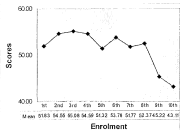


Fig. 4c. Math

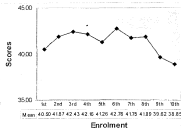


Fig. 4d. Filipino

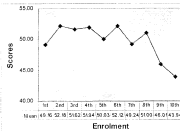


Fig. 4e. Araling Panlipunan

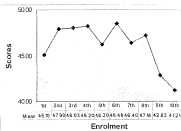


Fig. 4f. Total Test

Table 4. ANOVA of Enrolment Deciles

		<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
	Deciles	9	521.484	3.912	.000
English	Error	1485	133.305		
	Total	1494			
	Deciles	9	815.041	4.939	.000
Science	Error	1485	165.030		
	Total	1494			
	Deciles	9	2081.079	7.090	.000
Math	Error	1485	293.509		
	Total	1494			
	Deciles	9	204.934	3.576	.000
Filipino	Error	1485	57.312		
	Total	1494			
Araling	Deciles	9	968.952	5.896	.000
Panlipunan	Error	1485	164.348		
	Total	1494			
	Deciles	9	755.090	6.145	.000
Total Test	Error	1485	122.872		
	Total	1494			

Finally, for perspective, enrolment was divided into twenty (20) equal parts, or vigecentiles. The graphic result for the Total Test score is shown in Figure 5 and the test of significance in its right. Differences in enrolment levels were significant at beyond $p=.000$. Briefly, the results are only a further elaboration of the conclusions of the enrolment deciles analysis. No further comments need be given.

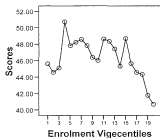


Fig. 5. NAT Scores of Enrolment Vigecentiles

	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Vigecentiles	19	453.184	3.700	.000
Error	1475	122.474		
Total	1494			

ANOVA of Enrolment Vigecentiles

School Location and NAT Scores

The present study also contradicted FAPE's previous report that the "urban" schools (those in cities and in municipalities immediately around big metropolises like the NCR, Metro Cebu and Metro Davao) were superior to the town/rural schools in learning competencies.

When location was classified into "cities" and "non-cities", cities (n=272) had lower scores than non-cities (n=1225) but the difference was not significant ($p=.566$). The graphic findings are in Figure 6 and the statistical test on the right of the figure.

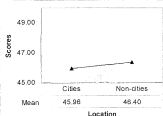
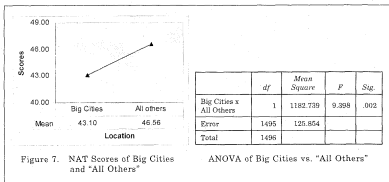


Figure 6. NAT Scores of Cities and Non-cities

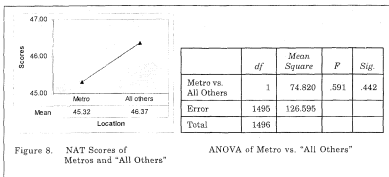
	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
City vs. non-city	1	41.656	.329	.566
Error	1495	126.617		
Total	1496			

ANOVA of City vs. non-City

When location was classified into "Big Cities" (n=72) and the rest into "All Others" (n=1425), the big cities had lower scores in all subject areas and in the total test. The results for Total Test are shown graphically in Figure 7. The corresponding statistical test states that location differences were significant at $p=.002$.

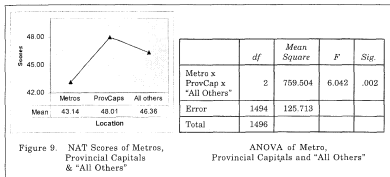


When location was classified into "Metros" (n= 104) and the rest into "all others" (n=1393), the Metros had lower scores but the difference did not reach significance ($p=.442$). The graphic result and the test of significance for Total Test are shown in Figure 8.



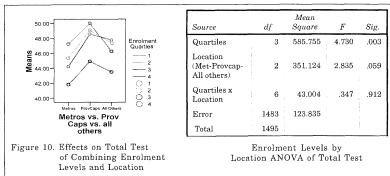
When the class "All Others" in Table 8 was broken up into "provincial capitals, (n=163) and the remaining "All Others" (n=1230), the provincial

capitals scored highest and the Metros scored least ($p=.002$). Figure 9 shows these findings graphically for Total Test. Internal analyses show that the best location seems to be the provincial capitals; the worst were the Metros.



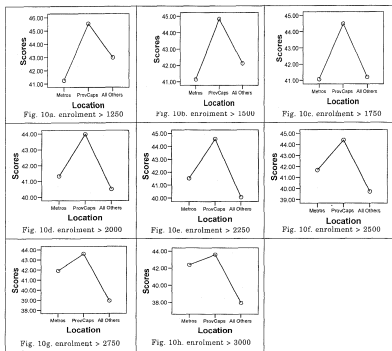
Interaction between Enrolment Level and School Location

As whole, the effect of enrolment size has no bearing on the effect of the school location. The performance of a school, big or small, is neither enhanced nor diminished by its location. Figure 10 graphically shows the combined effects of the two independent variables (enrolment in quartiles and the location variable "metros-provincial capitals-all others"), using Total Test as dependent variable. The corresponding analysis of variance shows enrolment to be significant ($p=.003$) and location closely approaching significance ($p=.059$); however, their interaction was not significant ($p=.912$).



However, because of the significant main effects of enrolment size, internal analyses were performed in spite of the non-significant interaction. The effects of school location were separately studied at 8 levels of enrolment, namely, at greater than 1250, 1500, 1750, 2000, 2250, 2500 and 3000 students, respectively. The results are reported in Figure 11. The results show that as enrolment increased, location became progressively more important. Specifically, (a) at enrolment level > 1750, metro and town/rural schools performed at almost the same numeric levels, (b) as enrolment reached the 2000 level, the metro schools performed increasingly better than the town/rural schools, and (c) at enrolment > 3000, the metro schools were clearly very much better.

Figure 11. NAT Scores (Total Test) of Different Locations at Various Enrolment Levels



Discussion

The present study did not confirm the 2004 FAPE report that the big public schools had higher competency scores than the small public schools, what was observed, instead, was the opposite. In fact, the worst decile in the present study was the 10th which was the decile of the big *and* high performing schools in the FAPE study. In addition, the best decile in the present study (namely, the 6th with a percentile range of 493-633 students) was even two deciles lower than the poorly performing FAPE's "small" schools. (Based on the NETRC database, FAPE's small schools were at the 8th decile.)

As pointed out earlier, it is reasonable to expect the big schools to give better instructions on competencies than the small schools – they have more resources and facilities, attract better teacher applicants, and are assigned more experienced administrators and teachers. They do have problems that go with bigness (such as congestion, high teacher-to-student ratio, wide expanse of supervision) that reduce their effectiveness.

Perhaps, however, one little observation in the FAPE report was critical in explaining the present findings, namely, that the students from the big schools had significantly higher and more homogenous grades than the students from the small schools. The big school students appeared to have been pre-selected, which could have been done since the testing in the FAPE study was optional and the choice of the students was the call of the school administrator¹. On the other hand, pre-selection could not be a factor in the case of the small schools because the researchers were the ones who chose the student-participants who, in fact, were chosen at random.

In the present study, selection could not be a factor – the NAT was obligatory for all 4th year students and the NETRC database was comprehensive.

As for the relation between school location and competencies in the FAPE study, whatever effect was found with enrolment would likely be also found with school location because of these two variables were compounded. In the present study, the independent effect of school location was teased out. And the results were unexpected: schools in the urban areas (big cities) had lower scores than schools in the town/rural areas. This finding was even more surprising than the finding on enrolment size.

This finding runs counter to current expectations. In the early 70s, this author undertook several studies⁷ which showed that Manila and

Cebu were centers from where radiated "excellence" in the NCEE: the nearer to the centers, the higher the NCEE scores tended to be. As late as the 80s, the concept of DDUs (Deprived, Depressed, Underserved schools) underscored many educational policies and programs. The tendency for town/rural schools to have poorer quality has always been taken as reality. The present study suggests to cast aside that bias against the town/rural schools; however, it is better to withhold action until after the matter has been studied more thoroughly. After all, better learning opportunities have not disappeared from the cities. It is difficult to imagine how the rural factor could have disappeared within a span of 20 to 30 years, beginning from time the pros would swear the DDUs were real and when the NCEE superiority of Cebu and Manila was documented. Outside of a couple of experimental interventions financed by some international institutions (Festin, 2007), no programs during the past two or three decades are known to have been pursued with enough vigor so as to overcome the superiority of the urban schools at a national scale.

One should not rule out less romantic, less flattering but equally plausible hypotheses. Perhaps, the high scores do not mean that more competencies had been actually learned. Perhaps they mean nothing more than that, namely just simply higher scores. As mere higher scores, they could have only been produced by certain test-taking methods such as, for example, (1) reviewing using the test items or, at least, their prototypes, (2) coaching, (3) varying access to the "right" review materials, (4) varying levels of motivation to take advantage of one's access to the review materials, (5) varying laxity of supervision during the actual test administration, and (6) others. These less romantic reasons could significantly bring about differences in the scores of the city and non-city schools. Anecdotal data, unobtrusive measures (like grades and performance in everyday situations) and "fugitive"³ documents (like lesson plans and student notes) suggest that special test-taking strategies might account for some differences in scores. To minimize unfair comparisons in future researches, instruments being used must meet reasonable standards of security.

In summary, it seemed that the big schools in the FAPE study got higher scores than the small schools because they had the advantage of pre-selection. On the other hand, in the present study it is plausible that the small schools had higher scores because they had the advantage of intensive and extensive test-taking preparations. In future comparisons, both pre-selection and test-taking strategies must be controlled in order to level the field.

It is important to investigate if there is an optimal enrolment size because the issue is related to problems of quality, resource allocation and

the role of the private schools. It is also important to investigate the urban-rural issue because it is related to the problem of space utilization.

The present study suggests that both enrolment size and school location are important factors affecting performance of public schools in the NAT. It raises questions about the economic, social, instructional and management merits of big public high schools. It also suggests that metro schools need to do more in order to be competitive against town/rural schools. For greater reliability and credibility of data and findings, special attention should be given to the protection of the integrity of tests.

Endnotes

¹ Based on data of the Basic Education Information System (BEIS), a computerized database of basic information on government elementary and high schools.

² Educational Service Contracting. As provided for by law (RA 6728 or Government Assistance for Students and Teachers in Private Education, more popularly known as GASTPE), the government pays a fixed amount toward the school fees of students enrolled in an ESC-participating (private) school.

³ Fund for Assistance to Private Education.

⁴ The NAT is a year-end examination given to graduating high school seniors. Neither a college entrance nor a school-leaving examination, its use is ambiguous. Its metric properties and educational applications compared to its two (2) predecessors — the National College Entrance Examination (NCEE) and the National Secondary Assessment Test (NSAT) — have not been reported. Provision of the 04-05 NAT scores by Dr. Nella V. Benito, Executive Director, NETRC, is gratefully acknowledged. Ms. Carolina P. Porio, Executive Director, FAPE, coordinated with the NETRC for the data used.

⁵ However, in view of the usual interest in specific school subjects, their analyses will be made available by email upon request.

⁶ The "big cities" consisted of Metro Manila, Metro Cebu, Metro Davao, Baguio, Dagupan, Tarlac, Angeles, Batangas, Olongapo, Legaspi, Iloilo, Tacloban, and Zamboanga.

⁷ The "Metros" refer to Metro Manila, Metro Cebu and Metro Davao.

⁸ The results of all multiple comparisons, including those of the different deciles by subject area are available through email.

⁹ The prevailing school culture encourages the practice of selecting the "best" students to showcase the school. A principal's social standing among peers, privileges, opportunities for professional growth and even promotions may be affected by student performance.

¹⁰ All unavailable now.

¹¹ Goliath (2007), Hunting Down Fugitive Literature, goliath.ecnext.com/comsite5/bin/comsite5.pl?page=description&...

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Network Governance in the Philippines

TEODORO LLOYDON C. BAUTISTA*

Alternative delivery systems of public goods and services in the Philippines have grown and contributed in enriching the field of Philippine Public Administration. With the advent and popularity of good governance, participatory governance, community governance, global governance, corporate governance, and indigenous governance, there also arose the term "network governance" which may be considered as the newest fad in an attempt to explain how the distribution of powers, allocation of resources, and processes of decisionmaking has been retransformed. This article tries to establish a conceptual and operational model of network governance in the Philippines. By looking into the experiences of networks, it could map out patterns that uniquely distinguish the type and approaches of network governance in the country. The study underscores the distributive impact of network governance in the political empowerment and socioeconomic development of local communities and presents a working model of network governance that has become an alternative to the traditional modes of governance as gleaned in the successful practice of network governance in the Gawad Kalinga Movement and the PALMA network.

Rise of Network Governance

Since the advent and popularity of "governance," all imaginable buzz words one can think of have been conveniently linked to it, like "participatory governance," "community governance," "global governance," "corporate governance," "indigenous governance," and "local governance." Adjoining the terminology "network" to "governance" is not surprising with the breakneck speed by which information and communication technologies have changed people's lives for the past two decades. In some ways, "network governance" may be considered as the newest fad in the simplistic attempt to explain how the distribution of powers, allocation of resources, and processes of decision-making have been retransformed.

*Faculty member, University of Asia and the Pacific.

However, the two conceptually slippery terms – “networks” and “governance” have actually been combined to manifest the patterns of relationship that arise between self-reliant and autonomous actors in the polity. It is not entirely a new phenomenon to begin with. Trade guilds, solidarity movements, and tripartite partnerships have been in Europe for the past centuries. Civic clubs, political organizations, and international advocacies have stretched and covered the farthest corners of the planet. But the scale and magnitude of networks, and how they have dramatically affected governance have not been felt more as intensive as of the turn of this century.

In the Philippines, two important milestones were identified as having led the resurgence of networks. First, the redemocratization of the country in the eighties, with the overthrow of the Marcos regime, has opened and reaped new spaces for democratic participation and active involvement of the people. The shedding off powers from the center to the subsidiaries was reinforced through the landmark passage of Republic Act No. 7610, otherwise known as the “Local Government Code of 1991,” which gave more autonomy to local governments units (LGUs) and broadened the channels for state and non-state cooperation at the local levels. Second, the accessibility, efficiency, and low cost of communication technologies, such as mobile phones, internet, and cable broadcasting, have broken social and geographical barriers, such as regional ethnicity, economic status, political affiliation, gender, age, and even religious beliefs, that separated Filipinos for ages.

But how true is the reality of “network governance” in the country? Does it have a significant role and impact in the country’s political and socioeconomic development? Could network governance actually change the landscape of governing in the country? Are there operational models of network governance that can be replicated at the local levels? These are overarching questions that beg for answers to the elusive concept and operation of network governance.

As earlier mentioned, “network governance” is not a theoretically new concept. In Western literature, this field of research in Public Administration originated from the early studies on policy-issue networks, corporatism, iron triangles, interest-groups, and subsystems. The focus was on the organized actors in the polity, which ideally facilitated the coordination of public and private interests and resources in order to enhance the efficiency in the formulation and implementation of public policy. The edited volumes of Mayntz (1991) and Koolman (1993) instigated the promotion of network governance as a research field. Soon, they were followed by the influential works of Scharpf (1994), March and Olsen

(1995), Rhodes (1997), and Kickert, Klijn, and Koppenjan (1997). More recently, edited volumes of Pierre and Peters (2000) and Sorensen and Torfing (2008) established network governance as a viable field of research. These studies on network governance have approached the subject of networks via the lenses of interdependency, governability, governmentality, and integration theories.

The earliest concept of "network governance" was cited in the edited volumes of Kickert and Klijn (1993). These pioneering authors of the field introduced network governance in a situation where there was no single monolithic actor but many actors, all of whom had their own interests, goals, and positions. None of the actors was dominant; none had the power to unilaterally force others. Power was dispersed. All actors were more or less autonomous. Decisionmaking was a negotiating process. Thus, governance was managing the complex interorganizational networks involving many different actors; all had their own goals and rationales. The network was not only multi-actor but also multirational.

Rhodes (1997) highlighted more the tension between centralization and fragmentation in network governance as the British government pursued authoritative control yet recognized its own limitations and natural dependence on the actions of other societal actors. To point out such tension, the author described the intergovernmental relations in 1979, when the central government attempted to wrest control from local authorities of their power over local spending. In Rhodes's view, governance should be redefined as "self-organizing, interorganizational networks characterized by interdependence, resource exchange, rules of the game, and significant autonomy." Again, the novel idea that no one is in charge and in direct command has been foisted to depict the changing environment with which government has to cope and function.

On one hand, the expansive powers, work force, and resources at the government's arsenal manifest the strongest argument against network governance. In the Philippines, national development has become the monopoly of the State since the country's inception, and the dream that the central authorities will one day abdicate their hegemonic role seems farfetched. But the pervasive challenge to government's monopoly has remained unabated. What the government desires to maintain as status quo has gradually been eclipsed by the realities of its environment. Societal problems, from poverty, health, environment, productivity to traffic, floods, and criminality, have become increasingly more complicated, multifaceted, and interconnected transcending territorial boundaries and localities. Self-organizing networks to help address these intractable problems at the grassroots level have steadily gained

momentum due to the administrative overload in centrally-controlled bureaucracies and the democratic deficit in competitive market-driven strategies. More poignant is Table 1, which reveals the small contribution of government (13%) to national spending.

Table 1. National Spending, 2008

	In Billion Pesos	In Percentage share of the National Spending
PRIVATE	6,167	87%
Consumption	5,251	
Investment	886	
GOVERNMENT	961	13%
Consumption	716	
Investment	245	
TOTAL	7,128	100%

Source: National Statistical Coordination Board (2008).

Conceptual Link of Network and Governance

"Networks" are defined as "open structures, able to expand without limits, integrating new nodes as long as they share, the same communication codes, such as values or performance" (Castells, 1996, 470). Thus, the networks referred to in this study are those self-organizing and self-governing state, private, and non-profit individuals and groups, which have collaborated and formed into joint-ventures, coproduction, partnerships, coalitions, or cooperative agreements to pursue a collective public goal. The dramatic rise of networks in the Philippines has been propelled by the reinvigorated democratic space after the People Power uprising in 1986 that saw an increase in nongovernment and people's organizations as well as the widespread availability of low cost communication technologies. Complementary to this, the concept of "governance" has returned to its Tocquevillian roots of civic virtue, social trust, and community participation. The popular definition of "governance" has now embraced the affairs of the government and the proactive role of the private and civil society sectors in societal development. Governance should not be presumed as "the sole province of the government, but instead, its functions were delegated to, or were assumed by, other institutions in the business sector and civil society" (UNDP 1997b: ix).

Thus, the term "governance" was consequently referred to as the "institutionalization of a system through which citizens, institutions, organizations, and groups in society articulated their interests, exercised their rights, and mediated their differences in pursuit of the collective good" (Asian Development Bank 1995: 8). As a sound exercise of authority, governance ought to be anchored on certain ethical principles, namely: "accountability, participation, predictability, and transparency" (ADB 1995: 8).

This definition of "governance" underlined two dominant themes. There was the *normative* dimension in which governance was looked into as something endowed with ethical principles. This is attained when powers are shared among different stakeholders in society, coupled with the respect for the rule of law, human rights, civic participation, pluralism, and free press. Aids and loans by multilateral agencies were conditioned on the practice of these normative principles by the borrowing country. Frechette (2000) aptly alluded the word "governance" as something of a mantra uttered by donors, reformers, and pundits.

On one hand, the *descriptive* dimension of governance speaks of the patterns of relationship that arose out of the interactions by the different autonomous actors and groups in society. It describes governance as the outcome of all these activities and interdependencies between and among self-organizing networks in which framework of exchanges and relationships is established. Thus, the *descriptive* and *normative* definitions of governance were based on the concept of networks, from which the theoretical foundations of the concept of network governance have evolved. Kooiman (2003: 4) provided a fitting framework for network governance, which encompassed the "totality of interactions, in which public as well as private actors participate, aimed at solving societal problems or creating societal opportunities; attending to the institutions as contexts for these governing interactions; and establishing a normative foundation for all these activities."

Objectives of the Study

This article aims to establish a conceptual and operational model of network governance in a developing country like the Philippines. By looking into the different experiences of networks, the study could map out patterns that uniquely distinguish the type and approaches of network governance in the country. Likewise, the study underscores the distributive impact of network governance in the political empowerment and socioeconomic development of local communities. Specifically, the article shall seek to achieve the following objectives:

1. Expound on the reality of network governance as a theoretical concept and actual practice in Philippine Public Administration;
2. Establish the political and socioeconomic impact on the country's development thrusts to reach its Millennium Development Goals (MDGs); and
3. Present a working model of network governance that has become an alternative to the traditional modes of governance.

The Theory and Practice of Network Governance

A typical network, as Reinicke and Deng (2002) argued, should "combine the voluntary energy and legitimacy of the civil society sector with the financial muscle and interest of business and the enforcement and the rule-making power, coordination, and capacity-building skills of states and international organizations." For Jones et al. (1997), "network governance" refers to the "coordination characterized by organic or informal social systems rather than by bureaucratic structures within firms and formal contractual relationships between them." Lowndes and Skelcher (1998) distinguished "partnerships" from "networks." For the authors, partnerships were associated with various forms of coordination, including hierarchy, markets, and even networks. On the other hand, networks are considered more fluid forms of governance regimes where players develop a culture of mutual cooperation because they are in for a long-term relationship.

Kim (2006) provided a summary of conceptual definitions of "network governance" by different network scholars shown in Table 2. In addition, the author described network governance as a form of organizational alliance in which relevant policy actors are linked together as co-producers where they are more likely to identify and share common interests. Since they developed a culture of trust, the relationship tended to be interdependent.

The author likewise highlighted the key difference between inter-firm networks in the management literature and interagency networks in public administration or policy literature. The process of creating a meaningful and effective network in public administration is directly linked with the capacity and willingness of the State to coordinate various activities of different stakeholders while maintaining the structural integrity of the governing system. In comparison, the bilateral or tripartite coordination of different firms through market signals is the principal focus of network research in the management literature.

Table 2. Conceptual Definitions of "Networks" from Various Scholars

Reference	Term	Definition of Network Governance
Jones, Hesterly and Borgatti (1997)	Network Governance	Autonomous units engaged in creating products or services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate safeguard exchanges.
Considine and Lewis (2003)	Public-private networks	Forms of strategic partnership and collaboration between government and private sector.
Dubini and Aldrich (1993)	Networks	Patterns relationships among individuals, groups, and organizations.
Grandori and Soda (1995)	Network	A set of nodes and relationship which connect them.
Kreiner and Schultz	Networks	Informal inter-organizational collaboration
Larson (1992)	Network Organizational Forms	Long-term recurrent exchanges that create interdependencies resting on the entangling of obligations, expectations, reputation, and mutual interests.
Lowndes and Skelcher (1998)	Network	Relationship based on mutual benefits, trust, and reciprocity.
Liebeskind, Oliver, Zucker, and Brewer (1996)	Social Networks	Collectivity of individuals among whom exchanges take place only by shared norms of trustworthy behavior.
Mayntz (1993)	Networks	A multinodal structure consisting of not tightly connected but coupled parts
Miles and Snow (1992)	Network Organizations	Clusters of firms or specialized units coordinated by market mechanism.
Powell (1990)	Network forms of organization	Lateral or horizontal patterns of exchanges, independent flows of resources, reciprocal lines of communication.

Source: Jones et al.(1997)

The second generation of network literature reemphasized the public dimension. Sorensen and Torfing (2008) defined *network governance* as a unique type of network and particular form of governance. Notably, there were the following elements: (1) a relatively stable horizontal articulation of interdependent, but operationally autonomous actors; (2) who interact through negotiations; (3) which take place within a regulative, normative, cognitive, and imaginary framework; (4) that is self-regulating within limits set by external agencies; and (5) which contributes to the production of public purpose.

What makes the study of network governance theoretically irresistible was its refreshing perspective on how society can be governed effectively amidst societal fragmentation and complexity. Mayntz (1993a) considered the phenomenon of network governance not as a synthesis of state and market but a distinctive mechanism for governance; one separate and distinct from the statist and market models of the past.

To reiterate, Kooiman (2003) defined networks as self-organizing and self-governing entities with the capacity to develop their own identities and earn a relatively high degree of sociopolitical autonomy. To some extent, the author's theoretical conception of network governance indeed leaps the conventional assumption of governance, where government, at the least, plays the centrifugal role of coordinating and steering the private and civic stakeholders to a common agenda. In network governance, Kickert (1993: 275) asserted:

Government is only one of many actors that influence the course of event in a societal system. Government does not have enough power to exert its will on other actors. Other social institutions are, to a great extent, autonomous. They are not controlled by any single superordinated actor, not even the government. They largely control themselves. Autonomy not only implies freedom, it also implies self-responsibility. Autonomous systems have much larger degree of freedom of self-governance.

This theoretical concept of network governance would seem light years away from the Philippine experience where Abueva (2009) explained that the country's long tradition and culture of state-sponsored development and citizen dependency on government and dole-outs countervail the seminal idea of network governance. Indeed, few local scholars have explored the discursive foundations of this nascent field of study. Philippine Public Administration has been saturated by case studies on community-managed development, interlocal cooperation, and participatory governance, yet there is a dearth of literature assessing the unique structures, processes, norms of conduct, and behavioral relationships in these networks. Few studies could likewise tell how to

effectively manage networks of state, profit, and non-profit groups, that could spill over development in focal areas, such as health, poverty, environment, or productivity. Although significant documentation on the practice of network governance may have preceded its theory-building, it does leave more quarters for further studies to reconstruct new theoretical models for understanding such transformative mode in governance.

The country's experience in network partnerships between public, business, and civic groups at the national and local levels in collectively formulating, planning, implementing, and evaluating programs and projects holds no bounds when it comes to creating models for replication and validation.

The second frontier in network study will be in the area of developing social indicators, benchmarks for performance, and strategic practices for network management. It is logical to predict that as the floodgates opened and swept the world with liberal democracy, technological innovations, and globalization, the idea and practice of network governance could neither be stopped nor reversed from altering the way governance is recognized in the country today.

Taxonomy of Network Governance

The attempt to look at the reality of network governance in the Philippine setting was undertaken by classifying fourteen samples of network governance. The study has developed this taxonomy to characterize the different governance networks according to *membership, justification for formation, focused areas, and vision*. The basis for classification was made by sorting them through four theoretical lenses, namely: (1) Interdependency, (2) Governability, (3) Governmentality, and (4) Integration. These four major theories on network governance were likewise distinguished through a quadrant in Table 3 under the following major headings – calculation or culture horizontally and conflict or coordination laterally. (See table 3)

In network studies falling under *calculation*, independent actors formed themselves into a network by the mutual estimation and rational calculation of the cost-and-benefit they would get by joining the network. The basic question for them would be the specific gain or advantage they receive as member of the network. In studies falling under *culture*, the network formed out of a shared experience and aspiration inspiring the network members. The basic motivation for network formation was shared values, norms, and aspirations among the network members.

Network studies falling under *conflict* referred to networks characterized by conflict-ridden negotiations. Network actors remained intact by adjusting their behaviors and beliefs or manipulating the situation to gain advantage over other actors. It would be normal for those in the network to articulate their individual agenda and win over other actors to their side. At the opposite end is coordination, where network actors willingly collaborate and work together towards a collective end. The higher cause was the cooperative act of each network participant as opposed to advancing their self-interested goals. The different network theories according to their unique dimensions and characteristics are classified. (See table 3)

Table 3. Four Network Governance Theories

	Calculation	Culture
Conflict	Interdependency theory Rhodes (1997) and Kickert et al. (1997)	Governmentality theory Foucault (1991) and Rose and Miller (1992)
Coordination	Governability theory Mayntz (1991) and Scharpf (1993) and Kooiman (1993)	Integration theory March and Olsen (1995) and Powel and DiMaggio (1983)

Source: Sorensen and Torfing (2008)

Table 4 attempts to describe the conceptual and operational reality of network governance in the Philippines through a taxonomy. Each network is juxtaposed and leveraged against other civic, private, and public networks in the country today. Through logical classification, the different network samples are grouped under the respective network theories that best represented their composition and character.

Under *Interdependency Theory*, network actors, who have different agenda and interests, are pulled together by their mutual dependencies on one another's resources, which impel negotiation and compromise to reach their individual ends. In most cases, network members under this theory are forced to engage and interlink with one another for resource-sharing and coordination of capacities. The motivations are simply based on mutual survival or self-interest. Networks under such class are the Philippine United Opposition (UNO), League of Provinces (LOP), and Transport Groups.

Table 4. Taxonomy of Network Governance

Network Governance Theory	Network Sample	Membership	Justification for Network Formation	Focused Areas	Vision
Interdependency Theory – networks formed for mutual dependencies and survival	United Opposition	8 political parties	Fight a common political foe	Political	Remove PIGMA from office through constitutional means
	League of Provinces	79 provinces	Lobby for local autonomy	Local governance	Full local autonomy of local governments
	Transport Groups	8 transport groups	Protect income and economic gains	Transportation	Advance the economic interest of transport groups
Governability Theory – networks formed to improve horizontal coordination due to complexity of modern society	Phil Chamber for Commerce and Industry	30,000 local business chapters	Ensure their competitiveness in doing business in the country	Business/Corporate	To be a proactive catalyst in building globally competitive enterprises in partnership with government, local chambers, academe, and other business groups
	Makati Business Club	800 chief executives and senior executives in top Philippine corporations	Ensure their competitiveness in doing business in the country	Business/Corporate	To be a proactive catalyst in building globally competitive enterprises in partnership with government, local chambers, academe, and other business groups
	National Disaster Coordinating Council	14 departments, Regional and Local Disaster Council	Cope with the threats of calamities and disasters	Emergency and Disaster Management	To be an overall coordinator in disaster-preparedness, operations, and rehabilitation efforts
	Association of Schools for Public Administration	120 schools	Advance the academic and practical study of public administration	Education	To improve and strengthen the field of public administration
Governmentality Theory – networks formed on the basis of a shared mentality as how society should be governed by aligning identities and free actions	Social Watch	No data	Monitor social development & government commitments	Social advocacy, political consciousness, and mass mobilization	Report on the ten commitments of the World Summit for Social Development
	CODE-NGO	2,500	Advocate socioeconomic issues	Poverty and inequality	To highlight the role of NGOs, Pvo, and cooperatives as active partners in national development
	Phil. Business for Social Progress	238 member companies	Contribute to the country's economic and social conditions	Corporate social responsibility	To be a leader in promoting business sector commitment to social development
Integration Theory – networks formed and become integrated into shared norms, perceptions, and frames of reference	General Katipng	Different partners from civic, business, and civil society groups	Build communities and sustain them through an integrated approach to development	Housing and poverty	To build 300,000 houses in 7,000 communities in 7 years (777 rooms)
	Freedom From Debt Coalition (FFDC)	66 member organizations and 87 individual members	Advocate debt-servicing issues	Social advocacy, political consciousness, and mass mobilization	To lobby against prioritizing debt-servicing instead of funding social services like education, agriculture, and social safety needs
	Caritas Manila	162 organizations in 200 countries	Care for the plight of the poor	Social Welfare	To be a catalyst for integral human development of the poor towards a just, humane, and peaceful society
	Opus Dei - Philippines	87,000 members in more than 90 countries	Seek to bring about renewal of members in the Catholic faith	Spiritual Renewal	To carry out the framework of Opus Dei's specific charisms, namely the sanctification of work and of the circumstances and events of ordinary life

UNO is a coalition of political parties with different political agenda, which has been united solely against one common enemy – the incumbent Philippine President Gloria Macapagal Arroyo. The reason for network formation was to topple President Arroyo's government through constitutional means and popular uprising. The political parties were motivated by mutual interest. The LOP has been formally recognized with the adoption of the 1991 Local Government Code.

Notwithstanding the different political affiliations of the members, they have consistently advocated local autonomy and lobbied against legislative measures that undermined decentralization in the provincial governments. Again, the justification behind the network was mutual dependencies.

The nationwide transport groups are composed of the Federation of Jeepney Drivers and Operators (FEJODAP), Philippine Confederation of Drivers and Operators, Alliance of Concerned Transport Organizations (ACTO), Alliance of Transport Operators and Drivers Associations of the Philippines, Makati Jeepney Operators and Drivers Association, Pinag-isang Samahan ng mga Tsuper at Operator Nationwide (PISTON), Pangkalahatang Sanggunian ng Manila at Suburb Drivers Association (PASANG MASDA), and United Transport Alliance Koalisyon (1-UTAK). These groups formed a coalition demanding either lower diesel fuels or higher transport fares from the government when there would be sudden surge in world oil prices. Other than any other case, there seemed to be no united front when it came to other transport issues, like drivers' rights, housing, social security, and health care.

For *Governability Theory*, network actors organized themselves to improve horizontal coordination due to complexity and dynamism of societal problems. Top-down and centralized authority has found it more difficult to govern because of the increasing functional differentiation in organizations. In the market economy, companies tend to form into horizontal ties with others because of the rational and logical purpose of network coordination rather than mutual survival. An illustrative example would be the assembly line production in one location linked to the distribution supply in another. They are governed by game-like interactions based on the logical gains to be received from resource pooling and cooperation. The sample networks are Philippine Chamber of Commerce and Industry (PCCI), Makati Business Club (MBC), National Disaster Coordinating Council (NDCC), and the Association of Schools of Public Administration in the Philippines (ASPAP).

The PCCI has been established by the country's titans of commerce and industry to promote the interests of the business sector through its representation in government policy making and consultative bodies, to constructively engage government on issues affecting the business community, and build globally competitive enterprises. The same may hold true for the MBC, which has campaigned for businesses to reexamine their corporate social responsibility for the community and support the State to promote a climate conducive for business. It has more than 800 Chief Executive Officers (CEOs) and senior business executives as members. Both the PCCI and MBC recognized the difficulty of doing business in the country today because it has become burdensome due to a host of factors that paralyzed initiatives and investments. Thus, establishing links with other societal partners and forming strong relationship with the State and community facilitated domestic companies' efforts to advance their business interests.

The NDCC serves as the highest policymaking body to prepare for emergencies, coordinate operations, and manage efforts to cope with disasters and calamities. With the stark reality of flash floods, typhoons, earthquakes, volcanic eruptions, and man-made disasters, NDCC was formed to address a critical need for organizing and coordinating disaster management from national down to the municipal level. The need for coordinating disaster response at the different levels of the government during calamities is a manifest response in light of the decentralization and devolution of local powers. Similarly, ASPAP was established for the purpose of pooling the institutional resources of schools offering public administration/management as a distinct discipline. The rise in the reputation of the field has moved members of ASPAP to push for programs geared toward the development and improvement of public administration education in the country through networks.

Governmentality Theory described networks as advanced forms of liberal democracy, wherein self-autonomous actors organized themselves into networks to effectively achieve the collective ends of governance. Such networks are aimed at fostering a shared mentality on how we actually govern for the general well-being of society by aligning their identities and free actions with the norms, rules, and overall objectives. What has been emphasized in this theory was the way networks should be governed, which is by increasing the individual capacity for free and responsible actions of network actors without using force and repression. The governmentality theory could be considered as the reaffirmation of civil society's role as alternative delivery system. Cariño (2008b) has traced the prominence given to civil society organizations as structures providing public goods because they were not competing with the private

sector and were effectively reaching areas underserved by or inaccessible to regular government agencies.

Social Watch, Caucus of Development NGO Networks (CODE-NGO), Philippine Rural Reconstruction Movement (PRRM), and Philippine Business for Social Progress (PBSP) are network samples falling under this classification theory.

Social Watch has been a network of citizen coalitions in 70 countries which monitors the commitments of government and international organizations to eradicate poverty and achieve gender equality. Its advocacy is to report on the commitments made in the World Summit for Social Development based on specific verifiable indicators, such as to reduce infant mortality rates by one-third, achieve life expectancy of over 60 years, or afford primary education to at least 80 percent of children of school age by 2000. Social Watch could be described as a neo-liberal network, which advances the general well-being of society based on norms, rules, and narratives.

CODE-NGO has seven national networks and five regional networks representing 2,500 NGOs, POs, and cooperatives. It highlights the role of non-State actors as active partners of the government in national development. Like Social Watch, it emphasizes the free and collective action of the individual groups to achieve the collective ends of governance.

The PRRM was formed as an alternative to the socialist approach to land and agrarian reform, as well as to focus more strongly on community development. The governmentality theory does not believe in suppression and force in the way society should be governed. PRRM has former rebel-returnees, retired government officials, and development specialists as members. It has a more than 700 members nationwide.

The PBSP saw an opportunity and need for businessmen to share their experience, technology, and expertise to make a difference in the lives of the poor. Fifty Filipino entrepreneurs organized PBSP and pledged to set aside one percent of their companies' net income before taxes to fund poverty-alleviating programs and create a foundation. The main purpose was to pool the resources of the business community into a program of organized, professional, and sustained assistance. PBSP likewise underscored a shared mentality on how society members should govern themselves by aligning their free actions and capacities with norms and rules for the collective goal.

Finally, networks under the *Integration Theory* are described as an "institutionalized framework of interaction," wherein participating actors had become integrated into the shared norms, perceptions, and frames of reference of the network. Network actors are not simply driven by rational calculation of costs and benefits but by the institutionally embedded logic of appropriateness, which shaped their identities and interactions. This could only be a normative response to the totalitarian oversocialization of the individuals by the State as well as their undersocialization by the Market.

Pierre and Peters (2000) discussed the growing unpopularity of large-scale society and government, which have outlived much of their utility, and the need to replace them with smaller units of governing or "communities." Citizens need to be involved in the decisions that affect their lives, not only for reasons of justice, but also because the full development of their human potential requires it (Fox and Miller, 1995). People sought to involve themselves in the community to escape from the modern alienation that has largely typified their lives. The *communitarian* view saw that the individual autonomy is as important with respect to the collective welfare of the community (Etzioni 1996). Leading the sample networks were Gawad Kalinga (GK), Freedom From Debt Coalition (FDC), Caritas Manila, and Opus Dei (OD).

GK has been a program initiated by members of the CFC as a network of multisectoral partners which aimed at providing resettlement and homes for the poorest of the poor. GK tackled the problem of poverty and homelessness with a holistic, integrated, and sustainable approach. Immersing deeply its network partners in the positive values of "*bayanihan*" and self-giving, GK was able to create the retransformation of slum and underdeveloped communities and launch a nation-wide movement for self-empowerment and social responsibility.

The FDC has been a nationwide multisectoral coalition, which campaigned on its position and stand on different social and economic development issues affecting the country. FDC has contributed to strengthening people's movements through campaigns and advocacies on debt, public finance, and privatization. It has also pushed for policy alternatives in the National Economic Agenda. Many of its early members have progressive and left-leaning beliefs that integrated their personal world-views and relationships into the network coalition.

Caritas Manila has been the social development arm of the Archdiocese of Manila in serving the poor. It provided social welfare assistance to the poorest of the poor. It has also become an avenue for

priests, nuns, and lay persons to work closer with the poor. Caritas has lived out the gospel values of love, justice, fairness, accountability, and transparency in its program staff and volunteers.

OD has been a prelatore of the Roman Catholic Church, which advocated the sanctification of work as exemplified by its founder, Saint Jose Maria Escriva. Its mission has been to help people turn their work and daily activities into occasions for growing closer to God, for serving others, and for improving society. OD complemented the work of local churches by offering classes, talks, retreats and pastoral care that help people develop their personal spiritual life and apostolate. Both Caritas and OD network members are working within a framework of interaction wherein they have become integrated into the shared values, norms, and perspectives of the Catholic-Christian doctrines.

Distributive Political and Socioeconomic Impact of Network Governance

The capacity and viability of network governance as alternative service delivery to contribute to the nation's socioeconomic objectives have been tested and confirmed in Gawad Kalinga, or GK for short, a non-government organization, that spearheaded a popular campaign to eliminate homelessness and poverty through self-help, mutual trust, and civic voluntarism. This civic movement, started by the Catholic-lay Couples For Christ in 1995 at Bagong Silang, Caloocan City, adopted an innovative approach that inspired housing beneficiaries in slum areas to contribute their human capital in constructing their homes and sustaining their community's development through self-managed programs. GK supplied the construction materials, technical skills, stewardship, and funds through an extensive network of donors here and abroad.

The twin problems of housing and poverty have plagued the country and hampered the quest to meet its MDG targets. Poverty incidence among Philippine households increased to 32.9 percent in 2006, from 30 percent in 2003. The total number of poor Filipinos jumped to 16 percent or 27.6 million in 2006 from 23.8 million in 2003 (ADB 2007). In Table 5, the Autonomous Region for Muslim Mindanao (ARMM) posted the highest poverty incidence at 61.8 percent, followed by Region IV-B (Mimaropa) and Caraga at 52.7 and 52.6 percent, respectively. Also based on the SWS Self-rated Poverty and Hunger, 36 percent of Filipino families considered themselves as poor in the 1st quarter of 2009 from a high of 42% in the previous quarter. This is very alarming considering that the number of poor families increased from 4.02 million in 2003 to 4.68 million in 2006.

Table 5. Poorest Regions by Poverty Incidence (Population) 2006

Geographical Area	Poverty Incidence (%)
Philippines	32.9%
ARMM	61.8%
Region IV-B	52.7%
Caraga	52.6%
Region 5 (Bicol)	51.1%
Region VIII (Eastern Visayas)	48.5%

Source: HUDCC 2008

Based on the 2005 HUDCC survey of the country's housing needs, there would be a projected gap of 3.75 million housing units for the period 2005 to 2010. In terms of location, more than half (52%) are in Metro Manila, Central Luzon, and Southern Tagalog regions; 20 percent are in the Visayas, and the remaining 19 percent in Mindanao. (See Table 6.) These figures highlight the uphill climb the country faces in supplying its housing needs.

Table 6. Housing Need Per Region, 2005-2010

Region	Annual Backlog	Backlog + New Households ¹						Total	%
		2005	2006	2007	2008	2009	2010		
NCR	58,412	82,182	82,434	82,889	82,946	83,204	83,469	496,928	13%
CAR	1,309	6,484	6,588	6,685	6,783	6,882	6,984	40,617	1%
I	5,556	25,097	25,446	25,874	26,310	26,707	27,212	156,626	4%
II	4,078	17,735	18,082	18,346	18,667	18,991	19,330	111,095	3%
III	12,568	71,838	73,627	75,758	77,821	79,909	82,064	461,367	12%
IV	23,627	127,872	131,742	135,757	139,920	144,239	148,718	828,248	22%
V	12,267	28,288	28,557	28,830	29,109	29,391	29,679	173,653	5%
VI	16,816	36,941	37,255	37,574	37,898	38,227	38,561	226,406	6%
VII	10,578	45,860	46,605	47,377	48,178	48,998	51,087	290,615	8%
VIII	7,281	18,766	18,940	19,116	19,294	19,476	19,660	115,252	3%
IX	7,642	31,824	32,133	32,449	32,772	33,101	33,438	185,711	4%
X	5,912	18,880	19,164	19,455	19,751	20,054	20,364	117,988	3%
XI	11,156	41,822	42,722	43,542	44,384	45,248	46,134	263,952	7%
XII	4,961	18,033	18,276	18,511	18,758	19,009	19,266	111,847	3%
ARMM	5,126	22,600	23,482	24,190	24,926	25,691	26,484	147,373	4%
CARAGA	5,942	12,791	12,992	13,014	13,131	13,248	13,367	78,455	2%
Total	185,134²	597,263	608,278	619,709	631,388	643,422	655,817	3,756,969	100%

¹ Refers to the annual Housing Backlog plus projected yearly New Households.² Annual Backlog is the total housing backlog for the medium-term divided by six years.

Source: HUDCC 2008

Housing has a high multiplier effect of 16.6 times, where every P10 billion worth of housing units could contribute a total of P166 billion of economic activity for the country (HUDCC 2008). The distribution of economic spillover of the housing sector is provided in Table 7.

Table 7. Economic Spillover of Housing Sector

	Multiplier Effect	%
Total	16.6	100%
Raw Materials	1.88	11%
Labor Services	0.35	2%
Tax Revenues	2.64	16%
Other Values	11.73	71%

Source: HUDCC 2008

Since 2001, GK has constructed 19,321 houses in 803 villages. With an estimated cost of P50,000 per housing unit, the GK's projected distributive impact on the economy is almost P16 billion. GK has also created an extensive network of partners here and abroad, like overseas Filipino communities, international companies, big corporations, religious groups, NGOs, schools, national agencies, and LGUs, for efficiency and economies of scale. The breadth and scope of GK underscores its viability and effectiveness as a strategy to combat the twin challenges of homelessness and poverty.

Brillantes and Fernandez (2008) pointed out that the daring initiative was not only just a work with the poor but more importantly a work of nation-building that has grown into a multisectoral and interfaith partnership. GK has demonstrated how network governance can become a channel for political participation and democratic representativeness of the network stakeholders. In GK, leaders are directly selected by the community. Decisions on programs, projects, and activities are made through consultation and grassroots assemblies. Conflict resolutions are mediated by community members, and threshed-out through meaningful dialogue. The governance network in GK has institutionalized political mechanisms for decisionmaking through the active involvement and broad participation of the residents in all dimensions of community governance. Likewise, the free, open, and interactive communication between community members shaped the identification of the common good and reinforced the positive set of values to generate social capital in the community. Network governance has demonstrated how it can be an instrument of political empowerment and active citizen participation.

Another example of network governance's socioeconomic impact is seen in the interlocal cooperation among LGUs using the GK way of self-reliance, solidarity, and mutual help. This is not too different from GK's *township development* approach, where education, health, environment, peace and order, and public infrastructure local programs are planned, executed, and monitored using GK's principles of self-reliance, solidarity, and mutual help. Such interlocal cooperation was observed in the Province of Cotabato, where five contiguous municipalities, through the assistance of the provincial government, pooled their resources to carry out public works and infrastructure activities. Dubbed the Kabalikat PALMA Infrastructure Project, the five municipalities of Pigcawayan, Alamada, Libungan, Midsayap, and Aleosan decided to form two fleets of bulldozers, graders, dump trucks, and road compacter, which they collectively deployed to work on road construction and rehabilitation projects within the covered towns. Receiving the Galing Pook Award in 2007 for its local innovative practice, the project has rehabilitated and opened new roads in the member towns totalling 282 kilometers farm-to-market roads at a cost of P8.5 million. The newly-built road networks generated dramatic improvements among 145 barangays. There was a 20 percent increase in agricultural productivity, resulting in more income for the farmers, reduced transportation costs, lesser travel time by as much as 50 percent, improved access to social services to far-flung areas, and more livelihood opportunities to residents (Harvard Kennedy School 2007).

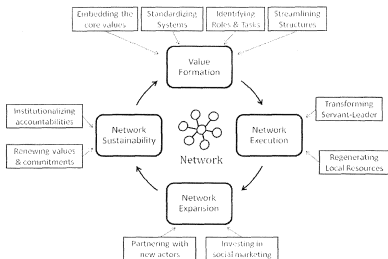
The PALMA network was able to expedite the construction and rehabilitation of the towns' roads at a lesser time and lower cost, estimated at P30,000 per kilometer, than in other similar construction projects. The host municipality or barangay needed only to subsidize the fuels costs of the heavy equipment and labor fees of the construction crew. The PALMA network was remarkably parallel to GK's community governance because of the active involvement and ownership of the residents in planning, implementing, monitoring, and sustaining the project. At the barangay level, the community was responsible for providing food and shelter to the drivers and operators of the heavy equipment, securing and safeguarding the machinery, supervising and monitoring the project implementation, and seeing to the upkeep and maintenance of the rehabilitated roads. Similarly, the municipality tasked to deploy the heavy equipment guaranteed its full serviceability and good working condition including an annual contribution of P200,000 to the PALMA network. This same interlocal cooperative strategy is seriously being pursued by the PALMA network in other development initiatives, like environment protection, health, livelihood, and education.

GK: An Indigenous Model of Network Governance

The GK experience in network management highlighted the strong potential of network governance as a vehicle for community development. Notwithstanding the limited resources, factional interests, and transactional costs for interoperation, the framework of network governance employed by GK demonstrated its high distributive impact in socialized housing and poverty alleviation.

A typical GK community undergoes four program cycles in its network build-up and development, namely: (1) Value Formation; (2) Network Execution; (3) Network Expansion; and (4) Network Sustainability. In each phase, strategic interventions are employed by the Program Managers to achieve specific milestone success. The pictorial representation of this model for network governance is provided in Figure 1.

Figure 1. Network Governance-Value Managed Approach Model



Source: TL Bautista, 2009

In each stage, strategies have been mapped out to reflect the facilitative factors in GK's success as a network governance. A brief discussion of these strategic approaches under each program cycle has been written about.

1. Value Formation

In the Value Formation phase, GK made sure that the core philosophy, mission, and social advocacy were clear to all network actors. Based on several studies on GK, such as, Sulaik (2007), Brillantes and Fernandez (2008), and Bautista (2009), the value formation program was the most integral component that kept the GK vision firm and enduring among network stakeholders, notwithstanding moments of doubts, challenges, and internal struggles.

This study holds true that on many occasions shared values and norms are important to network performance and success. GK was effective in imbibing the positive values of bayanihan, mutual assistance, self-reliance, and respect for the dignity of others. These values created a powerful mobilizing force in the community. The specific strategic interventions employed by GK in this stage are identified below:

a. Embedding the right set of network values was key to GK's network success. Network actors have different life perspectives and underestimating their potential for conflict can be disastrous. Thus, GK ensured that collected values are well-rooted through 14 sessions of value formation and membership training program. It was patterned after the CFC's Christian Life Program that became the unifying force to mobilize and integrate the different network actors to the GK cause.

b. Standardizing/simplifying systems and processes helped GK implement programs effectively and efficiently. The systems and processes provided the series of steps to be taken to achieve predefined goals and objectives. In GK's case, they were clearly designed and produced into templates for uniformity and guidance of network administrators. The selection and identification of beneficiaries, utilization of resources, and process of consultative decisionmaking were axiomatic to all GK villages. It would be advisable that in network management, process standardization should be prioritized to avoid confusion, resource waste, and program delay.

c. Identifying the roles, responsibilities, and accountabilities was emphasized by GK in the designation of specific individuals, teams, and groups tasked to do clearly-defined activities. The Project Director oversaw the program implementation together with his Project Team. Program Coordinators had specific functional areas like shelter, health, or productivity. Even the local community leaders and heads of neighborhood associations were assigned their own responsibilities. By clearly identifying who would be responsible for what, the accountabilities were

clear and guaranteed. Even network donors become accountable for the funding. To monitor fund dispersal, they need to ask GK Partnership Management Group for feedback and reports.

d. *Simplifying/Streamlining the organizational structure* was addressed by GK in its early formation. The study observed that GK's structural form was patterned after its parent organization, the CFC. Although there was a semblance of hierarchy, GK was organized to achieve as much flexibility and decentralization in decisionmaking. Each GK village had its set of layers to ensure check-and-balance and oversight. But they have been simplified to avoid program delay and bureaucratic red tape. GK Project Directors could make an operational decision depending on the exigency of the moment. The atmosphere for engaging was likewise collegial, open, friendly, and transparent. In network governance, it had been very important to create social trust and goodwill among network partners

2. Network Execution

In GK's case, the completion of the social preparation and groundwork paved the way for the execution of the entry-point programs, whether it was shelter, child and youth development, health, productivity, environment, tourism, or community empowerment. Network execution provided the actualization of the goals, objectives, and activities formulated early on. It has to be appreciated that sincerity and commitment alone would not be enough in effectively managing program implementation. Timetables, deliverables, critical dependencies, and resources were important considerations in the GK network. As such, these are the specific strategic interventions:

a. *Transforming network actors towards the servant-leadership mentality* became a guiding principle during the project execution. The barangay chairman in Bagong Silang, who once was one of GK's early supporters, held firm to the ideal that leaders should serve as a good example for others. *Una sa serbisyo, huli sa benepisyo*. (He who is first to serve is last to benefit.) This ideal was exemplified by the community leaders who were the last to receive homes across all GK sites. The transformation of GK required community leaders to forego the trappings of power and privileges of their office. Network governance would become credible and increase in social capital when its leaders are reoriented towards genuine service. Network members would begin to see the high value placed by their leaders on self-sacrifice and service, and adjust their behavior accordingly towards such network norm.

b. Regenerating resources has become critical for GK communities to survive. Funding from corporate sponsors and donors would not be forever. GK communities have begun to realize the need to source out their own funds from the local economy. GK Project Teams have now been taking steps to regenerate local funds and resources through social entrepreneurship, such as setting up small convenience stores, engaging in microfinancing, backyard farming, hog and goat-raising, and food and seed processing. LGUs also invested local funds in "landbanking" to prepare and build shelter sites for expansion of the GK housing program.

3. Expansion

In this stage, a GK village has already laid down the foundations for building-up. There would usually be a frenzied attempt to cover as much ground in the different programs. Productivity would be the next priority, followed by health, environment, and tourism. The network governance is geared up to spread its wings and conquer new horizons. The initial successes would galvanize the network actors to set more targets and increase their breadth and scope. But, it would take more than the concerted efforts of the network actors to expand. There would be more challenges ahead, such as resource mobilization, slippages, leadership changes, and waning community support. The specific strategic interventions to facilitate this stage are discussed below:

a. Investing in social marketing has become the core expertise of GK. The use of quad-media, such as television, print, radio, and internet, has been effectively maximized by GK to gain more funding from a broad network of donors here and abroad. GK has also created the GK Communication Group to handle its social campaign in every province. Individual GK members can contribute articles, photographs, and experiences to spread its social advocacy. The GK Executives would even personally attend any forum, speak in small circles and even do road tours to promote the program. One quality of many GK leaders was the openness and accessibility they afford to anybody who sought to understand GK.

b. Partnering with multisectoral network actors helped GK link with different groups, associations, and institutions. In fact, GK specifically organized the Partnership Membership Group to support the aim for resource mobilization and relationship-building with different partners, such as corporations, schools, churches, professional associations, local government, and NGOs. GK has always welcomed anyone who wished to help regardless of religion, political affiliation, or past record. It has ingrained the culture of being non-judgmental about others who mobilized network actors from various backgrounds. GK leaders were also very

adept in social engagement and community interaction. To reach as many partners as possible, GK tore down walls that had divided the community. It formed partnerships and alliances with Muslims and non-Catholic denominations alike. Finally, GK partners, like local chief executives, have undertaken to start the GK way in their individual advocacies like integrating it with the local development plans and programs.

4. Network Sustainability

GK did not just build homes. It also ensured that there were support services to avoid the beneficiaries slipping back to their life of poverty, hopelessness, and indifference. Sustaining the GK communities required a holistic and integrated approach drawing support from different network actors, such as the local governments, schools, churches, and businesses. Programs had to have network champions to ensure their continuity. In productivity, agribusiness companies and schools had been supporting the Bayan-anihan to make sure that no GK family grows hungry. Food sufficiency is promoted in every GK community through vegetable gardening, ruminants, poultry, small-scale tilapia farming, and bio-organic fertilizer.

Another important dimension of network sustainability was the adherence to good governance practices, namely: accountability, transparency, predictability, and participation (ADB 1995). These norms are very important to maintain and broaden the support of more network donors and partners. Likewise, the GK community would begin to appreciate their value and apply them to day-to-day interactions with network actors. It fostered the sense of common good in the community. The strategic interventions supporting this stage are as follows:

a. *Institutionalizing accountability mechanisms* strengthened the relationship of network actors. Donors began to appreciate GK's zealotness in ensuring that financial transactions were aboveboard. Local government units adjusted themselves to the prevailing norms of openness, transparency, and accountability. GK Project Teams saw the value of prompt and proper accounting, recording, and reporting of program activities, especially those involving fund disbursal. In one way, GK beneficiaries practiced such behavior in their own families by instilling honesty and dignity in their children.

b. *Renewing commitment to the core values* has been emphasized in many GK sites. GK beneficiaries would often return to their old habits of indifference and self-centeredness as years passed. Many would not attend prayer meetings and consultative assemblies, preferring to stand by the

sidelines and letting other people decide for them. In network governance, the renewal of commitment to long-cherished beliefs would periodically be necessary to avoid members becoming morose and complacent with the way things are. Values reeducation programs would be needed from time to time. Self-reflection through mentoring is also another medium. Thus, the constant interaction and communication through community meetings could avoid GK communities from slipping back to their old state. There has to be a recollection of core values to nurture the fundamental virtues.

Conclusion

The theoretical and operational development of network governance as an alternative delivery system of public goods and services will grow and further contribute in enriching the field of Philippine Public Administration. As gleaned in the successful practice of network governance in Gawad Kalinga and PALMA initiative in Cotabato, the discipline is now emerging as both an integrated and distinct field of research. It could not likewise be underestimated that the pace of technological change and institutional reforms would keep the engine of network studies charging ahead. However, there are three underlying concerns that scholars and practitioners alike should watch for. *First*, the formulation of new theoretical propositions should be given emphasis in light of the dearth of Philippine literature on the subject. The increasing focus more on implementation and application has left the field in an epistemological vacuum and lacking in intellectual foundations. *Second*, new quantitative measurements for network performance have to be discovered in order to objectively determine the causal relationship of network variables. The mere fact that network governance worked in one setting has to be revalidated through measurable and verifiable indicators for assessing network outputs and outcomes. *Lastly*, there is a pressing need to establish general principles of network management in the Philippines. The "how" of effectively governing network relationships will remain to bedevil many in lieu of the steady rise of network governance. This study is very optimistic that in a few years, the field of network governance could further mature and become a specialized subdiscipline of Philippine Public Administration. Odds are that circumstances are weighed in its favor.

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Social Capital Formation in Conflict Areas in Mindanao and Local Governance

MARIA FAINA L. DIOLA*

An emerging theory of social capital formation and its implications for local governance are discussed in this article. The theory argues that social capital formation through peace and development initiatives in a local government area that has experienced or is experiencing conflict, characterized by extremely low incomes, lack of access to productive resources and services, and low level of education, is facilitated by a mediating organization that builds trust, enhances collective responsibility and action, and helps increase a group's network or linkages. By consciously incorporating what this article considers as "social capital formation strategies" in peace and development initiatives, implementation of these and new initiatives is facilitated and sustained. The social capital formed has a potential to enable local government units to transform the original vulnerable situation of the LGU so that it achieves desired local governance goals. It is possible that in a conflict area, the resulting outcomes of social capital are more lasting peace, higher incomes, a sense of prosperity and meaningful participation by actors in the local government area.

The first use of the term "social capital," as it is currently used, could be traced to Lyda J. Hanifan's writing in 1916 (Woolcock and Narayan, 2000: 228-229). The term subsequently disappeared for several decades, and then was said to have been reinvented independently in the 1950s, '60s, and '70s, as in the works of Jane Jacobs (1961) and Glenn Loury (1977), with the latter as one of the earliest to use the term that criticized the narrowly individualistic and atomistic understanding of human capital in neoclassical economic theory. Among the writers working on social capital, however, there is growing consensus that the truly seminal contributions to the definition and conceptualization of social capital have emerged since the 1980s in the work of: Pierre Bourdieu (1986), James Coleman (1988), and Robert Putnam (1993).

* Assistant Professor, University of the Philippines National College of Public Administration and Governance, UP Diliman, and Consultant, Asian NGO Coalition for Agrarian Reform and Rural Development (ANGOC).

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In the past ten years or so, a growing literature on social capital has emerged, discussing either the sociological or the economic dimension of the concept. Douglas North (1990) mentions social capital in his new institutional economics, but it was not until about a decade, that the notion of social capital as a unifying concept embodying multidisciplinary views has been put forth. Those credited with stimulating these discussions have been Coleman (1988; 1990) and Putnam (1993). Based on the writing of Grootaert and Bastelaer (2001) produced for the Environmentally and Socially Sustainable Development Network of the World Bank, the social capital of a society includes "*the institutions, the relationships, the attitudes and values that govern interactions among people and contribute to economic and social development*" (Grootaert and Bastelaer 2001: 4). This statement implies the importance of social capital to governance. Social capital is pointed out as not simply the sum of institutions, which underpin society; it is also "the glue that holds them together." The World Bank also cited that the idea of social relations, networks, norms, and values matters in the functioning and development of society, which has long been present in the literature of economics, sociology, anthropology, and political science.

This study adopts Sirianni and Friedland's (1995) and Woolcock's (2001:13) definition of "social capital," with a slight revision: *Social capital refers to stocks of trust and networks that promote, facilitate, and maintain collective action for a mutual development purpose*. This article is based on a study (Diola 2009) which showed that social capital was formed over the period 2001-2005 in three conflict-ridden local government units (LGUs) i.e., Pikit, (North) Cotabato; Barangay Chua, Municipality of Bagumbayan, Sultan Kudarat; and Barangay Manobisa, Municipality of Magpet, also of (North) Cotabato Province (*See Annex for profiles of the three LGUs*). Social capital formation in the three LGUs was made possible through: (1) enhancement of trust; (2) enhancement of collective responsibility and action; and (3) forging linkages and networks by mediating organizations in peace and development programs and projects.

This study presents a grounded theory approach, following Glaser's (1998) definition, in describing and analyzing social capital formation in three selected local government units in conflict areas in Mindanao. First, it presents the initial core of an emergent theory on social capital, using simple constructs or concepts, based on Corbin and Strauss'(1990) explanation of the use of *concepts* as the basic unit of analysis in grounded theory. Then, the article discusses the dynamics of social capital formation and the different strategies used in peace and development initiatives in each local government unit. It then proceeds with formulating a model of social capital formation based on the results of the grounded approach to

analyzing social capital, refining the indicators initially used for social capital. This is followed by a presentation of the results of the survey conducted in each LGU, which traces social capital formation using the proxy indicators. Finally, the author presents a second proposition or a model of the emerging theory on social capital formation and local governance in selected conflict areas based on the study.

Methodology

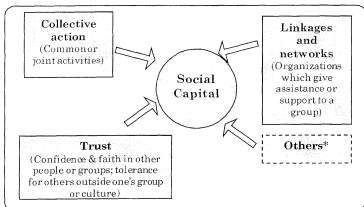
Adopting a grounded theory of analysis¹ in coming up with the results, the study made use of a multiple-case study design. It examined the dynamics of social capital formation in the local governance of two *barangays* and a municipality, involving people's organizations, non-government organizations, and local government units at *barangay* and municipal level.

Although the main intention of this case study was only to describe, analyze, and document the nuances and strategies of social capital formation, a rapid survey was also conducted to quickly determine whether social capital was present among the community residents and whether the residents perceived they have social cohesion. Respondents from the municipality or *barangay* were randomly chosen for this rapid survey. This survey also endeavored to demonstrate the applicability of the proxy indicators for social capital in the realm of local governance. To further validate the results, review of secondary data, focus group discussions, and interviews were conducted. A glimpse of the achievement of the local governance goals of peace, development and good governance is presented towards the end.

The **tentative or initial conceptual framework**, which served as the **core of an emergent theory** for this study, was constructed as follows: *trust, collective action, responsibility and reciprocity, and linkages and networks are basic indicators that make up social capital. Enhancement of these indicators is done through social capital formation strategies employed in peace and development initiatives in a conflict area.*

The core concepts which were used as initial indicators for social capital are among the common indicators used in literature to describe social capital, and which the author believes are also relevant in conflict areas.

**Figure 1. Initial or Tentative Conceptual Framework:
Core of an Emergent Theory**



Source: Diola 2003

"Other indicators, such as "collective responsibility," "reciprocity," and "solidarity," were considered and investigated in the field, and new indicators were expected to surface, although the three indicators, "collective action," "trust," and "linkages and networks," were deemed prominent based on literature reviewed. Later, "responsibility" was merged with collective action and the category "collective responsibility and action" was adopted as these two elements were considered a major indicator of social capital.

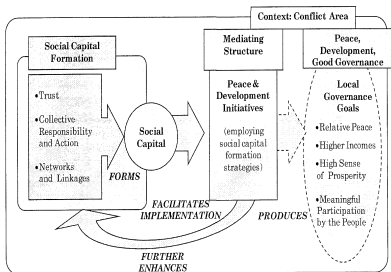
The categories of the core constructs or indicators used in the initial conceptual framework were further refined, and the second proposition, or "emerging theory," is presented in the latter part of this article.

As regards the analysis of possible consequences of social capital, there were two major phases. The *first* phase examined indications of the proxy indicators, trust, collective responsibility and action, and networks and linkages or social capital itself. The *second* phase described and illustrated the attainment of ideal goals for the local government in a conflict area, i.e., peace (reduced conflictive relationships), local economic development (higher incomes and a sense of prosperity) over a period of time, and good governance (meaningful participation by the people in local governance, but not necessarily attributing the achievement of such goals to social capital).

Results

Figure 2 shows the scope of and framework for this study on social capital formation and traces its possible consequences, i.e., (a) more social capital and (b) the achievement of local governance goals, such as peace, development, and good governance. The achievement of such goals may or may not necessarily be a product of social capital formation alone. As the study adopts a grounded theory approach, a subsequent theory is proposed later.

Figure 2. Scope and Framework of the Study on Social Capital Formation and Tracing Possible Consequences



Source: Diola 2009

The study showed that peace and development initiatives in the three LGUs appeared to have employed social capital formation strategies. It was also shown that to some extent peace and higher incomes were achieved in two of the case studies and that a sense of well-being and prosperity among the local residents was also achieved.² In the cases of Barangay Manobisa and the municipality of Pikit, the residents have been participating in local governance meaningfully.

Context of Social Capital Formation

Overall, the results of the three cases show that the conflict areas under study are confronted with social, economic and physical challenges. Most of the physical effects of the war in the conflict areas include the destruction of farmlands, loss of farm animals, and destruction of places of worship and shelter. On the other hand, the challenges of destroyed relationships and trauma of war in Mindanao, and lost cooperative spirit are among the psychosocial challenges afflicting the three conflict areas during the period under study.

In the economic aspect, the populations of the three local government units have generally low incomes and a low quality of life. Two of the villages are on a mountainside — in remote and almost isolated areas — which makes access to basic services and transportation quite rare and challenging. Politically, governance institutions are still slowly being rebuilt, which requires critical participation by the different sectors. This is especially challenging on the part of the local government units, requiring them to exercise their political powers and assume political responsibility to ensure democratic governance.

In Pikit, barangay development councils and their corresponding sitio development councils are in the process of being reactivated. In Barangay Chua, at the time of the study, there was no active barangay development council. In Barangay Manobisa, the barangay development council was already activated, and during the course of the formulation of the barangay development plan the council was also being strengthened. Indigenous justice systems in the three cases are also being institutionalized through the creation of tribal councils, interreligious councils or councils of elders. The challenge is to ensure that these councils are recognized especially in conflict resolution, and when the need arises, to make their decisions binding without unnecessary interruption and intervention by the formal legal justice system in each local government unit. Specific challenges for each case are the following:

• In the *conflict area* of Pikit, the major challenges in peace and development included a recurring conflict (i.e., a 3-year cycle of war as documented, but was broken in 2006) and destroyed relationships. Thus, a major governance goal is to establish a more lasting peace. As claimed by the key respondents at the start of the study, economic goals are secondary; however, some of the key respondents have also begun to recognize that they should now initiate major efforts towards local economic development. The socioeconomic profile of the municipality of Pikit clearly depicts the need to improve the quality of lives of the residents.

• In the village of *post-conflict* Chua, there are different tribal groups, possessing different cultures. The local people and people's organizations had shown an indifference to local government in the recent past. There are also isolated cases of *rido* or family/clan feuds. The local governance goals for Chua appear to be two-pronged: increasing the incomes of people and /or improvement of and access to basic services and sustaining peace. From the point of view of this research, there is need to bridge the gap of indifference between the community groups of the barangay and the local government and government agencies in general.

• In *post-conflict* Barangay Manobisa, the indigenous people's tradition of working in a cooperative "*alayan*" (Bisayan term), or "*pousongoy*" (the Manobo dialect), spirit was lost during and right after the war. Also, the donors implemented projects for selected beneficiaries and, therefore, needed to increase the number of beneficiaries of projects. In general, there is a dearth of donors supporting development projects during the study period. From this study's point of view, to attain a more lasting peace and development, the challenge for local governance for this barangay would be to increase access to more productive resources and to maintain the tribe's traditional collective spirit.

Mediating Organizations

In Pikit, Cotabato Province, the NGO Immaculate Conception Parish (ICP) was instrumental in the early stages of relief and operation after each major war was over, and later through the rehabilitation stages of the conflict-torn area. Other significant facilitative organizations for social capital formation included the federation of the local government units (seven barangays of Ginatilan, Nalapaan, Panicupan, Lagundi, Dalengaoen, Takepan, Kalakacan), popularly called the "G-7," which partnered with the ICP and other NGOs and which eventually became the focal point for peace and development in the affected areas of Pikit.

In Barangay Chua, town of Bagumbayan, Sultan Kudarat, social capital formation for people's organizations in the village was facilitated through peace and development initiatives of the NGO Community Organizers Multiversity (COM) and the PO Federation Daguma Range Tri-People's Federation (DRTPF). These social capital formation strategies are paving the way for developing partnerships by the community groups with the local government unit at the barangay.

Still, in Barangay Manobisa, Magpet Municipality, (North) Cotabato, social capital was built with the aid of the NGO Ichtus Foundation for Development, Inc. (IFDI) which brought major donors to the barangay.

Later, through the active leadership of the barangay unit itself, donors started coming in directly to the barangay. The local government unit, through the leadership of the barangay chief, played a significant role towards democratizing local governance and eliciting the indigenous people's participation in local consultations and decisionmaking.

Dynamics of Social Capital Formation Strategies in Conflict Areas

Overall, the study posits that by combining all the strategies in the dynamics of social capital formation, more trust is enhanced, collective sense of responsibility and collective action are also enhanced, and the density of linkages and networks is increased, thereby releasing a force that enables a group to move out of vulnerability. This force is what is termed "social capital" in the study, which is the "combined product of the ingredients of trust, collective responsibility and action, and density of linkages."

Trust enhancement strategies

Trust enhancement strategies are classified as *bridging* and *bonding*. These two concepts are mainly borrowed from Woolcock's (1998) bridging and bonding capital. *Bonding* roles include activities that promote ties among the members and the leader and also activities that try to prevent conflict/promote solidarity among the members of the community.

Bridging roles, on the other hand, refer to "those activities which function to link the community members, especially members of a people's organization, with 'outside groups,' or those groups that do not belong to their 'community'." Most of these trust enhancement strategies deal with the promotion of trust with external agencies trying to offer "help" to the local community.

Trust enhancement strategies are directed at two levels of trust being formed: at the community or people's organization level, where bonding trust enhancement strategies are lodged, and at the barangay or municipal level and beyond where bridging trust enhancement strategies is put in play. Trust enhancement strategies appear to be more pronounced when the challenge is to restore destroyed relationships or bonds of trust, as in Pikit, or when the traditional spirit of working together among a certain tribe, in the case of Manobisa, among the Manobos, is also lost.

Enhancing collective responsibility and action strategies

Enhancing collective responsibility strategies entails the conduct of prime-moving or strategic roles that enhance leadership or the drive to be ahead in addressing problems or challenges at hand. These strategies include playing maintenance roles or roles that help maintain stability and harmony among the group members and assuming proactive goals.

Results of the study also indicate that enhancement of collective responsibility and collective action requires a common framework or vision that binds the group of people in a collective. A collective sense of responsibility should go hand in hand with collective action. The collective responsibility and action are propelled by a strong leadership. Collective action strategies are usually dominant when there is a strongly felt problem needing an immediate solution, such as poverty and lack of livelihood issues. Collective action strategies seem to be effective when stocks of both bonding and bridging trust already exist.

Forging partnerships, density of networks and linkages

Forging partnerships, linkages and networks is also categorized as performing bridging and bonding roles. The set of strategies includes a category on recognition of the significance of leadership roles.

Density of linkages and organizations is built in two directions, similar to trust enhancement: horizontally, linkages are those for bonding roles, which again means that these linkages are used to strengthen ties among the barangay residents. Thus, the more peoples' organizations are created at the barangay level, the more bonding trust is presumably built.

On the other hand, vertical linkages are those that go hand in hand with bridging trust enhancement strategies, which are perceived to link residents of a barangay to their "outside world." Hence, vertical linkages connect the barangay to other barangays and to other organizations in a municipality.

Tables 1-3 show the different challenges faced by each LGU in the case study and the corresponding social capital formation strategies employed in the peace and development initiatives.

Table 1. Challenges in Local Governance in Peace and Development and Social Capital Formation Strategies in Pikit

Pikit	Social Capital Formation Strategies		
Challenges	Trust Enhancement	Enhancing Collective Responsibility and Action	Forging Linkages
<ul style="list-style-type: none"> •Destroyed relationships due to war and •Low incomes and poor quality of life 	<p><i>Bonding roles:</i> connecting community members/ POs to one another</p> <ul style="list-style-type: none"> •Interreligious festivities (<i>Duyog Ramadan and Buka, Duyog Pasko, Duyog Samayahan</i>) •Peace education and interfaith dialogues •Promoting the concept of tri-people 	<p><i>Community and Barangay level:</i></p> <ul style="list-style-type: none"> •Drafting Declarations for Space for Peace •Forming Interreligious Councils •Forming the Tribal Council 	<p><i>Horizontal or bonding links:</i></p> <ul style="list-style-type: none"> •Forming teams for joint repairs of destroyed buildings
	<p><i>Bridging roles:</i> connecting barangay to other barangays up to municipality and beyond</p> <ul style="list-style-type: none"> •Use of the Culture of Peace Framework in activities; conflict-mediation •Declarations of "Space for Peace" 	<p><i>Interbarangay to municipal level and beyond:</i></p> <ul style="list-style-type: none"> •Forming the G-7 •<i>Bantay Ceasefire</i> •Community-based approaches to implementing projects 	<p><i>Vertical or bridging links:</i></p> <ul style="list-style-type: none"> •NGO Convergence for development planning and implementation of projects; acting as focal point •The Mindanao People's Caucus (MPC) •Peaceweavers

Table 2. Challenges in Local Governance in Peace and Development and Social Capital Formation Strategies in Chua

Chua	Social Capital Formation Strategies		
Challenges	Trust Enhancement	Enhancing Collective Responsibility and Action	Forging Linkages
<ul style="list-style-type: none"> •Fostering closer links among the tripeople (Christians, Muslims, Lumads) •Fostering better relationship between the peoples' organizations and the local government unit (barangay) •Access to productive resources and basic services 	<i>Bonding roles:</i> connecting community members/ POs to one another <ul style="list-style-type: none"> •Value-formation sessions/Peace education •Problemsolving and reflection sessions •Forging Peace Agreements among PO members 	<i>Community and Barangay level:</i> <ul style="list-style-type: none"> •Pooling community organizing volunteers •Forming project management teams •Forming the Council of Elders 	<i>Horizontal or bonding links:</i> <ul style="list-style-type: none"> •Forming teams for Joint repairs of destroyed buildings •Federating the POs
	<i>Bridging roles:</i> connecting barangay to other barangays up to municipality and beyond <ul style="list-style-type: none"> •Installation of a Peace Committee 	<i>Interbarangay to municipal level and beyond:</i> <ul style="list-style-type: none"> •Membership in SINDAW Peace Alliance, forges trust with other peace advocates, Mindanao-wide 	<i>Vertical or bridging links:</i> <ul style="list-style-type: none"> •The Federation of the 5 POs sits in the SINDAW

Table 3. Challenges in Local Governance in Peace and Development and Social Capital Formation Strategies in Manobisa

Manobisa	Social Capital Formation Strategies		
Challenges	Trust Enhancement	Enhancing Collective Responsibility and Action	Forging Linkages
<ul style="list-style-type: none"> •Lost traditional spirit of cooperation, or "pousongoy" •Weak access to productive resources and basic services •Low incomes •Low education 	<i>Bonding roles:</i> connecting community members/ POs to one another <ul style="list-style-type: none"> •Consultation workshops for the formulation of the barangay development plan 	<i>Community and Barangay level:</i> <ul style="list-style-type: none"> •Revival of "pousongoy" to work on the demonstration farms •Goal-setting for the barangay •Forming the Project Management Team •Forming the Council of Elders 	<i>Horizontal or bonding links:</i> <ul style="list-style-type: none"> •Sending sectoral representatives/ leaders to sit in the Project Management Team •Conducting regular project meetings
	<i>Bridging roles:</i> connecting barangay to other barangays up to municipality and beyond <ul style="list-style-type: none"> •Consolidation of the results of the local consultation workshop in a barangay assembly •Installation of a Council of Elders 	<i>Inter-barangay to municipal level and beyond:</i> <ul style="list-style-type: none"> •N/A 	<i>Vertical or bridging links:</i> <ul style="list-style-type: none"> •The Project Management Team sits in the barangay development council •Donor funds integration; funds direct to beneficiaries

A Model for Social Capital Formation

"Social capital" in this study refers to the "stocks of trust and networks that promote, facilitate, and maintain collective action for a mutual development purpose." In this study, the development purposes are peace (harmonious relationships) and development (higher incomes). The ingredients or proxy indicators used for social capital are: trust, collective responsibility and action, and density of linkages /organizations.

The new twists in defining social capital in the context of local governance in conflict areas compared with literature reviewed reveal the following:

1. Social capital formation is not a linear process, but cyclical dynamic, similar to the process of producing an electromagnetic force, to borrow a concept in the physical sciences. As accumulated stocks of trust, collective responsibility and action, and a dense network or linkages, the presence or evidence of social capital can be assessed at any given period.
2. The more the indicators of social capital are enhanced and the more the social capital is used, stocks of social capital are formed. Social capital is increased as the number of times trust, collective responsibility and action, and networks and linkages are enhanced, developed, or used.
3. Social capital in the realm of local governance is always positive and context-driven. The relative importance of each ingredient/indicator may change depending on the current context.
4. Social capital, to endure or sustain itself for a development purpose in a local setting, can be embodied in a formal local governance tool.

Social capital is both an outcome (it can be accumulated or formed as stocks of trust, collective action and a dense network or linkages) and could potentially be a determinant (it can be used in peace and development efforts to facilitate attainment of peace and development).

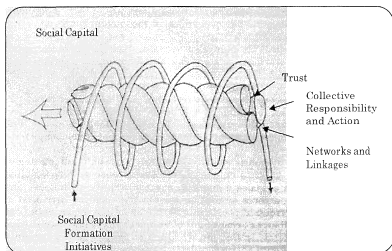
In the overall dynamics of social capital formation, all strategies combined, the more trust is enhanced, collective sense of responsibility and collective action are also enhanced, and the density of linkages and networks increased, a force similar to an electromagnetic force that is released so that the group of people in a barangay or in a municipality can endure pressing challenges or move out of vulnerability. This force is what is termed "social capital" in this study, which is posited as the combined product of the ingredients of trust, collective responsibility and action, and density of linkages (See Figure 3).

To illustrate this force as having "empowering effects," in the case of Pikit, it appears that people are "no longer afraid of war" and would not permit war to hit them again. The people have remained steadfast in their declarations of peace. In Chua, the residents said they have become skilled in problem-solving sessions and in finding solutions to their difficulties and are now willing to link up with the local government. In Manobisa, the residents are clear about what they truly want for their barangay. The residents could say with determination what projects they need. The

residents have learned to trust external donors, perceiving the latter's sincerity in the context of the local-level consultations and in the preparation of their barangay development plan, which has also served as basis for project implementation in the barangay. The residents in the three areas have apparently become resilient and "empowered" to find solutions towards lasting peace and development.

Figure 3 shows a model representing the dynamics of social capital formation in the conflict areas which produces a corresponding force that is produced as a result of the process.

Figure 3. An Electromagnetic Model of Social Capital Formation Derived from the Study



Source: Diola 2009

Similarities between electromagnetic formation and social capital formation are shown in Table 4.

Table 4. Similarities between Social Capital Formation and Electromagnet Formation

Feature/ Characteristics	Electromagnet Formation	Social Capital Formation
Core	Metal or any conductor	Trust, collective action, and linkages
Invisible force produced that can be used in applications	Electromagnetic force	Social capital
Input	Electric current	Social capital formation strategies
Number of coils	The electromagnetic force produced increases with the number of coils wound around the core	Social capital is increased as the number of times trust, collective action, and linkages are enhanced/developed/used
Cutting off of input	When current is cut off, the electromagnetic force disappears	When there is no sustained social capital formation initiative, social capital (as any other output of human relationships) may degenerate

The model developed in this study for social capital formed is similar to an electromagnetic force which shows that social capital, a kind of force produced, is increased as the number of times trust, collective responsibility and action and networks and linkages (i.e., the indicators for social capital used in the study) are coiled or developed/enhanced or used. This model, borrowing from the physical sciences, was derived from the results and analysis of this study.

Tracing Social Capital Formation and the Relationships Among the Indicators

Evidences of trust

"Trust" in the context of this study refers to "the confidence and faith one puts in other people and groups outside one's home or group or people with different cultures and beliefs." Trust is basically expressed as having confidence in lending and borrowing from others and in entrusting one's children or farm possessions when one has to leave for a while. Trust was generally formed in the three cases (Barangay Manibosa, Chua and Pikit) over the period 2001-2005, as shown by the results of the study. In the case of Barangay Manibosa, home to the Manobos, the element of trust was relatively easier to form in a homogenous group bound by a

common tradition, norms and set of values. Hence, based on the survey, a high level of trust (94.0%) was indicated for this case. It is not surprising to note that the level of trust in this area, at least in terms of lending and borrowing, is high compared with the two other case studies. The residents have a high propensity to bond with one another since they used to have a tradition called "pousongoy" or the "spirit of cooperation." Also, the group did not have a history of broken relationships due to war, unlike the municipality of Pikit, where war destroyed the relationships between Muslims, Christians and the Lumads in the area. Pikit, which has experienced cycles of war and related with very few primary organizations or people's organizations during that time, had a relatively low level of trust (45.4%). More effort will be needed to enhance trust among these types of residents with previous negative experiences.

On the other hand, the level of trust in Chua, where there are basically three tribes or groups of people present (i.e., Lumads, Muslims and Christians), is only of medium level (63.3%). This is probably due to the difficulty in achieving full trust between and among the different tribes and the indifference of the residents towards their local government. This situation leads the study to conclude that a previous negative experience will make it more difficult to develop trust even at the village level. Also, where there exist three different tribes and where the residents were indifferent to their local government during the period 2001-2005, trust is difficult to enhance. On the other hand, an initial positive experience with favorable outcomes, such as the experience of the residents of Manobisa with the NGO IDFI, will make it easier to earn the trust of the local people. Hence, it did not seem surprising that perceptions of trust were high in the village of Manobisa.

Indications of collective responsibility and action

Some social capital studies label collective responsibilities and actions as mutually beneficial collective action. This study recognizes that there may be two aspects of this proxy indicator – one cognitive, i.e., *collective responsibility*, the other structural, i.e., *collective action*. As described by the World Bank Social Capital Initiative (1999), cognitive tends to be abstract, whereas structural is more concrete or manifest.

This study defines "(collective) responsibility" as the "feeling of confidence and faith one puts in other people and groups outside one's home or group or people with different cultures and beliefs." The sense of collective responsibility studied here is similar to the sense of reciprocity or mutually-beneficial collective action mentioned in some studies, such as in the work of Grootaert and Bastelaer (2001).

This indicator implies that the group has propensity to think and, as the other aspect of the indicator implies, the group then acts collectively presumably united in a common good that benefits all. The "selfish" tendencies, assumed as the reverse of collective thinking mentioned here, are diminished when there is social capital. This situation is demonstrated in the case of the banana plantation farmers in Manobisa who continued working on their demonstration farm even if they were not considered beneficiaries of the project. Again, a relatively high sense of collective responsibility and positive experiences of collective action are demonstrated in Manobisa (see details of results in Table 5). This situation implies that high levels of trust could produce a high propensity for a group to think and act collectively, but at this point this could only be a hypothesis as the direct relationship of the two variables was not examined.

As this study found in Pikit, there is a low level of trust and also a low sense of collective responsibility. However, in Chua, there is a medium level of trust but a low sense of collective responsibility in the barangay. The presence of tri-peoples (Lumads, Muslims, and Christians) could be one factor which prevented the spontaneous expression of the collective sense of responsibility of the residents of Chua towards the "other tribes" in the area. The indifference of many of the residents towards their barangay captain during the time of the study may have also added to the low sense of collective responsibility among the respondents in Chua.

Indications of a dense network and linkages

"Linkages and networks" in this study refer to "those organizations (formal or informal) or working relationships, which exist in the community and in which the residents are either familiar with or are members of." The familiarity with or relative significance of such organizations to the residents was expressed either as the assistance or support extended by such organizations to the group or the collective. "Density of linkages" in this study "did not refer to the number of organizations to which each resident was a member; rather it meant the number of organizations and partnerships formed towards the attainment of a common goal." The density and significance of the organizations operating in the cases study area are expressed as a diagram for each case study.

Among the three case studies, Pikit showed the highest number of major organizations implementing peace and development initiatives, probably because the unit of reckoning was at municipal level. However, Chua and Manobisa have the presence of strong people's organizations not

apparent in Pikit. Indications seem to be that while the study area with more NGOs working on peace and development also shows increasing incomes for the municipality, i.e., in Pikit, the perceptions of trust and of harmonious relationships are not that high among the respondents. This is probably because there are few people's organizations, despite a sizeable number of non-government organizations in the municipality of Pikit, which could have served as foundations for trust-building.

On the other hand, Manobisa with a fewer number of donor organizations had strong and active people's organizations. At the same time, this barangay demonstrated higher levels of trust. In Chua, there is a presence of medium levels of trust, lesser number of NGOs, but more empowered POs with no formal links to the local government. Thus, compared with Pikit with fewer people's organizations and with low levels of trust and sense of collective responsibility, the levels of trust for both Chua and Manobisa are higher. This is presumably due to the presence of more people's organizations for the latter. A dense network of NGOs or secondary and tertiary organizations as in Pikit does not necessarily mean higher levels of trust. Perhaps the key would be to have more empowered primary or people's organizations in the area.

With regard to achievement of higher incomes, in Manobisa, with a fewer number of donor organizations present than in Chua, but where higher levels of trust are manifested, the number of respondents who had increases in income is also evident. In Chua, the survey shows a medium level of trust with fewer NGOs, but there were indications of more empowered POs than in Manobisa. The POs, however, had no formal links to the local government. Nevertheless, in the case of Chua, there are no significant increases in incomes for the selected respondents. Meanwhile, in Manobisa and Pikit, the local governments had relatively closer links with the local residents. This situation implies that a missing link to higher incomes could be the involvement of local government.

It must be noted that the three indicators used in this study for social capital, *trust, collective responsibility and action, and linkages and networks* correspond almost exactly with the characteristics of effective, viable and meaningful partnerships between and among stakeholders of society, i.e., national and local government, business, and civil society that would lead to good governance, which were argued for at the World Conference on Governance held in 1999 in Manila (Brillantes 2000) which summed up what the Conference taught the participants about partnerships, saying that "such partnerships should be: (1) built upon the bedrock of trust, confidence, transparency and openness (*trust*); (2) bound by the convergence of common values and objectives among the

stakeholders (*collective responsibility and action*); (3) operationalized vertically, horizontally and even multilaterally in order to fully harness the potentials, energies and creativity of the various partners (*linkages and networks*)” (Brillantes 2000: 96).

Table 5 summarizes evidences of social capital formed in each case study area as shown by the results of the study.

Table 5. Summary of Social Capital Formed in the Implementation of Peace and Development Initiatives in the Three Conflict Areas, 2005

Social Capital Indicators (Presence of social capital in 2005)	Pikit	Chua	Manobisa
Trust [*]	<ul style="list-style-type: none"> •Low trust in lending and borrowing and general trust (45.4%) •Trusted family members more when leaving their farmland or their children 	<ul style="list-style-type: none"> •Medium trust in lending and borrowing and general trust (63.3%) •Trusted family members more when leaving their farmland or their children 	<ul style="list-style-type: none"> •High in lending and borrowing and general trust (94.0%) •Trusted their neighbors more when leaving their farmlands or their children
Collective Responsibility and Action ^{**}	<ul style="list-style-type: none"> •Low sense of collective responsibility = low sense of solidarity and reciprocity (4/7) •Collective action expressed in terms of the Convergence of NGOs and in the celebration of festivities 	<ul style="list-style-type: none"> •Low sense of collective responsibility = low sense of solidarity and reciprocity (3/7) •Collective action expressed in problem-solving sessions and the activities of the community organizing volunteers and project management teams 	<ul style="list-style-type: none"> •High sense of collective responsibility = high sense of solidarity and reciprocity (5/7) •Collective action expressed in the Project Management Team; “pousongay” in managing the demonstration farm for banana plantation and dance integration of activities
Linkages/Networks Sharing of resources	<ul style="list-style-type: none"> •Low number of POs, but many registered cooperatives (64) listed •Several NGOs (17) , donors and private companies (5) coming in with assistance •Government agencies (4) 	<ul style="list-style-type: none"> •Presence of five strong POs •Quite a few donors funding projects through the CYM and other NGOs (11); major donors like UNMDF, USAID also have funding •Government agencies (5) 	<ul style="list-style-type: none"> •Presence of five strong POs •Three donors whose projects are integrated (UNMDF, CFLI, Finland Embassy) •NGOs (3) •Government agencies (3)

Sources: key interviews, focus group discussions and surveys conducted for this study (September 2005-March 2006)

^{*}Trust — Low: 0-49% Medium: 50-79% High: 80-100%

^{**}Collective Responsibility — Low: 1-4/7 High: 5-7/7

Achievement of Peace and Development

In terms of the achievement of local economic development goals, the study shows that for the municipality of Pikit, a significant increasing trend in its income is clearly seen. Barangay Manobisa manifests an increase in the number of respondents whose incomes have been augmented by the end of the study period in 2005, while in Barangay

Chua, no significant increases in income are generally manifested from 2001 to 2005. Table 6 shows that the municipal income for Pikit in general attained an increasing rate (income from realty and taxes and total income) from 2000 to 2005.

Table 6. Gross Income of Pikit Municipality, 2000-2005

Year	Income from realty and taxes	IRA (PhP)	Total Income* (PhP)
2000	5,001,648.97	38,842,681.00	43,844,329.97
2001	5,279,317.80	40,611,361.25 ^a	45,890,679.05
2002	5,643,862.60	60,855,505.00	66,499,367.60
2003	5,743,178.06	63,952,654.00	69,695,832.06
2004	6,803,139.74	63,941,916.00	70,745,055.74
2005	6,990,819.62	69,203,884.00	76,194,703.62

Source: Municipal Planning and Development Office, Municipality of Pikit.

^aComputed by Diola from IRA and other incomes for the year.

The study shows that in recent years, overall prosperity among the sample residents in the three cases was not bad, i.e., between 55.0 % and 60.0%. However, these figures illustrate the need to pursue further efforts towards achieving a more positive sense of prosperity and well-being. For all three cases, meaningful participation by all sectors, especially by the local residents, needs to be pursued. In terms of meaningful participation, among the three cases, participation, by different sectors is evident in Barangay Manobisa, where the involvement of a people's organization, the Project Management Team, comprised of different sectors and local leaders, is already institutionalized in the local government unit.

For perceptions of peace in the area, Manibosa ranks highest (94%), followed by Chua (80%) and, lastly, Pikit (49%). In the case of Pikit, there are few development-oriented people's organizations, although several cooperatives exist. Such primary organizations will probably be needed to enhance more trust and the sense of collective responsibility, and hence ensuring more lasting peace in the municipality. In Barangay Chua, there is no clear and institutionalized collaboration between the local government and the local people's organizations or even NGOs. Clearly, this lack of collaboration implies that the residents need to link up with their local government representatives to seek and demand more support for basic services. More dialogues and a culture of peace training workshops need to be introduced and institutionalized, as in the experience of Pikit where sense of trust is lowest among the residents and the members of people's organizations and to enhance the residents' collective sense of responsibility. However, other non-social capital inputs,

such as basic services on health and education, may also play a major role in producing more trust and collective responsibility among the residents. Table 7 summarizes the achievement of peace and development in the conflict areas.

Table 7. Summary of Achievement of Peace and Development in the Three Cases

Local governance goals	Pikit	Chua	Manobisa
Achievement of peace and development in 2005	<p>Peace indicators: peace and order is unstable, but three-year cycle of war seems to have been broken in 2006. Among respondents:</p> <ul style="list-style-type: none"> •45.45% believe Pikit was peaceful in 2005 •48.48% believe relationships in Pikit were harmonious in 2005 	<p>Peace indicators: relatively stable, no risk</p> <p>Among respondents:</p> <ul style="list-style-type: none"> •80% believe Chua was peaceful in 2005 •80% think relationships in Chua are harmonious 	<p>Peace indicators: relatively stable</p> <p>Among respondents:</p> <ul style="list-style-type: none"> •96.30% believe Manobisa is peaceful; 85.19% believe it was peaceful in 2005; 77.7% believe it was conflictive in 2001 •93.59% think relationships in Manobisa are harmonious
	<p>Local economy: Municipal income internally generated from realty and taxes was collected at increasing rate:</p> <p>2000: P 5,001,648.00 2001: P 5,279,317.80 2002: P 5,643,952.60 2003: P 5,743,178.05 2004: P 6,903,139.74 2005: P 6,990,819.62</p>	<p>Local average income:</p> <ul style="list-style-type: none"> •No significant increase in average income of the sample residents from 2001 (P25,727.27) to 2005 (P27,142.86), although there are now more respondents earning in the higher income brackets. •There were more residents who acquired their income from non-farm and off-farm activities in 2005 	<p>Local average income and local economy:</p> <ul style="list-style-type: none"> •Average income for the respondents increased significantly from 2001 (P19,558.82) to 2005 (P33,000.00). •The average income for each group tended to increase from 2001 to 2005, except for the earners from the non-farm group, which slightly decreased from P48,750,000 to P47,322.22. •In general, more respondents were earning in the higher income brackets in 2005 compared with those in 2001 •Income from banana production in Barangay Manobisa is small compared with other barangays in Migpet town
	<p>Perception of overall prosperity:</p> <p>60.61% believe that Pikit has prospered in the last 5 years</p>	<p>Perception of overall prosperity:</p> <p>33.33% strongly agree; 23.33% agree; (total: -56.66% agreed that Chua had prospered in the last 5 years)</p>	<p>Perception of overall prosperity:</p> <p>61.29% agree life has prospered in the last 5 years</p>

Sources: key interviews, focus group discussions and surveys (September 2005-March 2006)

Emerging Theory of Social Capital Formation and Local Governance in a Conflict Area

Governance in a Conflict Area

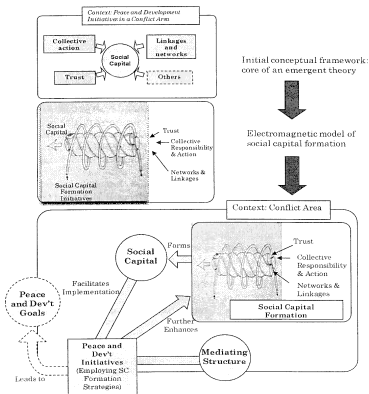
In the social capital approach, the "reaching out" by any of the actors in governance, i.e., government, nongovernment, and private sector, provides the initial force that leads to productive outcomes in a local government area; the interaction and synergy of these three actors is what catalyzes a positive force or development outcome for a local government unit that could prevent further conflict. This positive experience motivates a collective in a given local government unit to hurdle future challenges. The more social capital is used, the more of it is produced and accumulated. The more peace and development initiatives employ social capital formation strategies, the more social capital is produced, made up basically of trust, collective responsibility and a dense network or linkages.

However, since social capital is not a mechanism *per se*, it needs mediating forces or mechanisms to accumulate. Hence the role of mediating organizations is given prominence in its formation. Below is the second proposition or emerging theory offered by this study on social capital formation. An illustration of this "emerging theory" follows.

Based on the results of the three cases, this study posits an overall second theoretical proposition or emerging theory on social capital formation in peace and development initiatives in a conflict area: social capital formation through peace and development initiatives in a local government area that has experienced or is experiencing conflict, characterized by extremely low incomes, lack of access to productive resources and services, and low level of education, is facilitated by a mediating organization that builds trust, enhances collective responsibility and action, and helps increase a group's networks and linkages. By consciously incorporating what this study considers as "social capital formation strategies" in peace and development initiatives, implementation of these and new initiatives is facilitated and sustained.

Figure 4 shows the evolution of the emerging theory from the initial conceptual framework and the electromagnetic model of social capital formation.

Figure 4. Illustration of the Second Theoretical Proposition or Emerging Theory of Social Capital Formation in Conflict Areas



Source: Diola 2009

In the context of local governance, the study shows that in *post-conflict* areas, like Chua and Manobisa, the twin goals of peace and development (i.e., peace promotion/conflict prevention alongside development projects) could be pursued, but more attention needs to be drawn towards increasing incomes. In Chua, the threat to sustaining peace still exists since, as the study seems to indicate, there is only a medium sense of trust among the sample residents. The case is different in Manobisa where the sample residents had a higher level of trust. Pikit does not appear to have moved out of the status of a conflict area, as the level of trust among the respondents is relatively lower, and an increasing trend in some types of criminal offense is noted.

Aside from the achievement of peace and development and an overall sense of prosperity examined as local governance goals for the conflict areas under study, the study also illustrates the existence of meaningful participation by the people in governance. Specifically, the study examines whether peoples' organizations or groups from the nongovernment sector are formally represented in the local government special bodies, such as the sitio development council or the barangay development council or even the municipal development council. The study shows that among the three case studies, Barangay Manobisa has the most meaningful participation in the people's organization since the sectoral representatives and sitio leaders from the community have formal representation in the barangay development council.

Conclusions

In most social capital studies, like Putnam's (1993), "social capital" was thought to have been realized by individuals and their membership in associations, but in this study, contextualized in the field of public administration and governance, "social capital" was reckoned at the level of the association or the community. This reckoning implies that the usefulness and relevance of social capital can be basically extracted at the community (association and/or barangay) level, which is bound by norms, rules and a set of procedures. Based on this assumption, membership of the individual respondent in organizations was not studied; instead the number of organizations or associations working together on a common problem or challenge/issue at hand was analyzed.

Further, the positive aspect of social capital is emphasized. The fact that several positive results of peace and development achievements were documented in this study, expressed in terms of positive trends in income (though in small absolute numbers) and favorable perceptions of peace and

harmony among the respondents, it is argued that social capital could most possibly have positive influences through the peace and development initiatives that have employed social capital formation strategies. In other words, social capital may potentially be tapped for further use in other development endeavors.

The study posits that social capital is *not* a mechanism, as contended by Putnam (1993), but a *product* of a mechanism or a process or a tool used for social capital formation. The study agrees with Putnam that social capital itself is also an *outcome*. In this study, social capital *per se* is an outcome of social capital formation strategies employed in peace and development initiatives. The presence of social capital is evident in the study as shown in the three cases.

Traces of social capital present among the respondents were documented in the study, demonstrating the usability of the proxy indicators used. Stocks of social capital were accumulated over the period 2001-2005, through mediating organizations in the three study areas.

At the time of field data collection and research analysis (2001-2005), one possible aspect of social capital formation was dominant over the other aspects: for example, in war-torn Pikit, where the destruction of social relationships was the pressing challenge, the more dominant aspect of social capital that was enhanced was the *building of trust* among the different tribes/religions; whereas in post-conflict Chua, the mediating organization was into major *enhancement of collective responsibility and action* of the people's organizations and of the federation of the POs, probably as a response to the challenges of accessing more productive resources to find other sources of income, and the low educational level of the residents. In post-conflict Manobisa, where there were few external organizations assisting in development projects, the more dominant social capital formation strategy was for the mediating organization to link up the community with a major donor and *augment linkages or networks* where the obvious resulting activity was donor integration.

Trust enhancement strategies are directed at two levels of trust being formed: at the community or people's organization level, where bonding trust enhancement strategies are lodged, and at the barangay or municipal level and beyond, where bridging trust enhancement strategies are found. Trust enhancement strategies appear to be more pronounced when the challenge was to restore destroyed relationships or bonds of trust, as in Pikit, or when the traditional spirit of working together among a certain tribe, in the case of Manobisa, among the Manobos, is also lost.

Results of the study also indicate that enhancement of collective responsibility and collective action requires a common framework or vision that binds the group of people in a collective. A collective sense of responsibility should go hand in hand with collective action. The collective responsibility and action are propelled by a strong leadership. Collective action strategies are usually dominant when there is a strongly felt problem needing an immediate solution, such as poverty and lack of livelihood issues. Collective action strategies seemed to be effective when stocks of both bonding and bridging trust already exist.

The density of linkages and organizations is built in two directions, similar to trust enhancement: horizontally, linkages are those for bonding, which again means that these linkages are for strengthening the barangay residents. Thus, the more peoples' organizations created at the barangay level, the more bonding trust is also presumably built. More effort will be needed therefore to first build trust among primary organizations or POs as foundation for social capital formation, which may hopefully facilitate also a high collective sense of responsibility. On the other hand, vertical linkages are those that go hand in hand with bridging trust enhancement strategies that appear to link residents of a barangay to their "outside world." Hence vertical linkages connect the barangay to other barangays and to other organizations in a municipality. One important link needs to be carefully considered by the local residents – the local government – which could most possibly be an instrument that leads to higher incomes.

The release of a synergistic force, social capital, which combines the ingredients of trust, collective responsibility and action, and networks and linkages seemed to have "empowered" the residents in the three areas towards finding solutions to a more lasting peace and development using stocks of social capital formed over time.

While social capital was shown in the study to have been built over the years, it is important to see how this condition, in the context of local governance, has potentially brought about a sense of well-being and prosperity among the local residents enabling them to participate in local governance meaningfully, especially in the cases of Barangay Manobisa and in the municipality of Pikit.

As a stock or asset built by trust, collective action and responsibility, network and linkages that facilitate the achievement of a mutual development purpose, social capital can indeed be an important resource that is worth consciously accumulating within local government units. The tools for sustaining social capital formation in conflict areas and implications of social capital for local governance are discussed in a sequel to the study.

Endnotes

¹ The major difference between "grounded theory" and other research approaches is that the former is explicitly emergent and, therefore, does not test a hypothesis. This study tries to depict as accurately as possible the research situation as it is. No linear or direct relationships between two variables are studied in this research, i.e., social capital is not viewed as a variable whose properties are to be tested against another variable in the study. Grounded theory on social capital is inductively derived from the study of the phenomenon, that is, discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to the phenomenon

² However, it was not directly established whether social capital was directly responsible for helping achieve peace, higher incomes, a sense of well-being and prosperity, and meaningful participation in local governance by the local residents as this relationship were not intended to be validated by the study.

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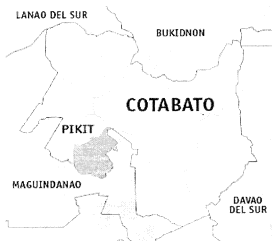
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Annexes

Case I. Brief Profile: Municipality of Pikit, (North) Cotabato

Pikit became a municipality on 29 September 1949, by virtue of Executive Order No. 27, dated 1950 issued by the late President Elpidio Quirino. At present, Pikit, composed of 42 barangays, is classified as a first class municipality in the province of (North) Cotabato in Region XII.

Figure 5. Map of Pikit, (North) Cotabato, Philippines Showing Provincial Boundaries



Source: http://en.wikipedia.org/wiki/Pikit,_Cotabato

Pikit is located along Cotabato-Davao National Highway and is about seventy-two (72) kilometers from Cotabato City. It is bounded on the north by the municipality of Aleosan, on the east by the municipality of Pagalungan, on the south by the municipality of Sultan sa Barongis, on the west by the municipality of Midsayap, and on the southwest by the municipality of Datu Piang. The municipality has a total land area of approximately 60,461 hectares (has).

Pikit municipality is primarily an agricultural area and is known for its vast tract of agricultural lands, approximately 44,049.87 has, representing 72.86% of the town's entire area of 60,461 has (Office of the Municipal Agriculture, Pikit). It has a very rich *Kudarangan* and *Kabacan*

clay loam soil, coupled with moderate climate, best suited for growing commercial crops like rubber, coconut, coffee, cacao, tobacco and food crops, such as rice, corn, root crops and vegetables. Major crops grown are coconut (3,401.25 has); rice (11,012.50 has); corn (6,825 has); mango (658.34 ha); tobacco (1,304.64 has); and banana (1,184.42 has).

According to the latest official data in the 2000 census, the town already reached a population of 68,455 people, with 13,081 households. (2000 Philippine Census Information with data found at http://en.wikipedia.org/wiki/Pikit,_Cotabato and <http://www.t-macs.com/kiso/local>, accessed 14 September 2007). Per data from the Pikit SEP (2005), taken from the Municipal Barangay Household Socioeconomic Survey in 2004, the total population for Pikit had reached 73,444, with a total of 14,659 households in 2004.

Using the official 2000 figure as base, the average population density per household for Pikit is 5.23 persons, which is still closely similar to the figure given for average household size of 5.01 in the town's socio-economic profile in 2005 (Table 11, Pikit SEP 2005).

Educational attainment for the town is not very high. Elementary grade completion rate for the town, based on secondary data as of 2007 was only 27%, while high school completion rate for the town was 38%. The illiteracy rate of household population 10 years old and above was recorded at 31.83% (PEF 2007). In fact, Pikit had the lowest education sector index (0.17) among all the municipalities in the Province of (North) Cotabato, based on PEF's secondary data (PEF 2007). Those who have not completed any grade level totaled less than a quarter or some 23.08 % in 1995.

Majority of the residents in Pikit are considered poor or living below the poverty line. Data from the Municipal Planning and Development Office of Pikit (MPDO)'s Barangay Household Socioeconomic Survey (InfRES 2001 and Table 22 in Pikit's SEP 2005) revealed that the poverty threshold or poverty line for Pikit was P11, 434 in 2004. If the average annual family income for Pikit in that year was P17,000 (Pikit's SEP 2005), and using the average family size of 5.0 for Pikit mentioned above (Table 11, Pikit SEP 2005), the average per capita income of the municipality is P3,400 (P17,000 divided by 5.0 family members), which is way below the poverty threshold for either the municipality of Pikit (P11,434), North Cotabato Province (P10,972), Region XII (P11,328) and way below the Philippine poverty threshold (P12,309) for 2003 (NCSB: <http://www.ncsb.gov.ph/poverty/2004table-1.asp>, accessed 14 September 2007).

The population in Pikit is predominantly of the Islam Religion. The 1995 official National Statistics Office (NSO) Census shows that there are 42,604 or 73.57% Islam believers. The Roman Catholic believers come second with 23.33%.

As regards the major dialects spoken by the people in Pikit, Maguindanao and Cebuano are the major dialects, which account for 42,308 or 73.06% and 14,298 or (24.69%) of its population, respectively, according to the 1995 Census report. Manobo is the only language spoken by the Indigenous Peoples, who are residents in Barangay Nalapaan.

Over the years, Pikit became the battleground of skirmishes between the Armed Forces of the Philippines (AFP) and the Moro Rebels and the municipality has experienced four major wars, starting in 1997, followed by 2000, then 2001. The most recent war was in February 2003, when the AFP attacked Bulion Complex in the Liguasan Marsh, a stronghold of the Moro International Liberation Front (MILF). This war was in line with the government's renewed offensive against the Moro rebels. The wars compelled the townspeople of Pikit to leave their homes and livelihood and to seek refuge in evacuation centers to avoid the crossfire between the AFP and the MILF.

In 1997, about 30,000 persons were displaced, according to Fr. Bert Layson, *OMI* (Oblates of Mary Immaculate), Parish Priest of the Immaculate Conception Parish (ICP) of Pikit. During the all-out-war of the Estrada Administration in 2000 (Pikit then had a population of about 68,000 people), 41,000 civilians were displaced. At that time, 78 evacuees died within three months. In 2001, 24,000 residents were recorded as displaced. Based on the records of the Department of Social Welfare and Development (DSWD), Fr. Layson says the war between the AFP and MILF in 2003 again displaced more than 9,000 families, or more than 45,205 residents of Pikit who were temporarily sheltered in at least 26 evacuation centers around the town and in several villages along the boundary of Pikit and Pagalungan, Maguindanao Province. Of this total number of residents, 68 people, mostly elderly and children died in the evacuation centers due for the most part to lack of food and medicines and the cramped and unhealthy conditions in the evacuation centers. By the end of 2003, based on the records of the ICP's Disaster Response Team and the local DSWD, about 354,308 persons were displaced (GiNaPaLaDTaKa 2006, hereafter G-7). The displaced people stayed mostly in evacuation centers, covering about seven Central Mindanao municipalities. Evacuation centers also spread farther north to Damulog town in Bukidnon.

Case 2 Brief Profile: Barangay Chua, Municipality of Bagumbayan, Sultan Kudarat

Barangay Chua was officially declared a barangay by virtue of SP Resolution-Ordinance No. 147 approved by the Province of Sultan Kudarat on 20 April 1991. The first set of barangay officials was appointed by the Municipal Mayor of Bagumbayan based on *viva voce* elections from among the residents. In 1994, the first election of barangay officials based on the New Local Government Code of 1991 was conducted. In 1995, the barangay hall was constructed, funded through the Annual Investment Plan (AIP) of the Municipality. The barangay was energized by SUKELCO on 22 October 2004.

Barangay Chua is one of the upper valley barangays of the Municipality of Bagumbayan, Province of Sultan Kudarat. Bagumbayan is strategically located in the elevated portion of the province. Barangay Chua is a two-hour drive from Isulan via *habal-habal* or big jeepneys through a winding and seemingly unending climb towards the peak of the Daguma Range.

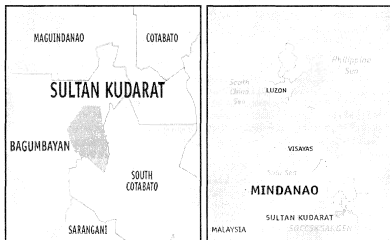
The barangay is about 10 kilometers away from the main camp and office of the Sarmiento Logging Industries at Sitio Sarmiento, Poblacion, Bagumbayan, going southwest passing through a winding road overlooking the panoramic view of the Allah Valley. As a new barangay, it had the following boundaries:

- North – Municipality of Isulan
- South – Municipality of Bgy. Sto. Niño and Masiag
- East – Portions of Bgy. Titulok and Poblacion
- West – Bgy. Kabulanan

Barangay Chua is accessible by land transportation with a distance of 16 kilometers from the town proper. It is composed of 17 sitios, of which two sitios are in the Barangay Proper. The farthest Sitio is Upper Salatan, 15 kms away from the Barangay Proper.

At present, Chua is one of the 19 barangays in the municipality of Bagumbayan, a 3rd class municipality in the province of Sultan Kudarat (Region XII). According to the 2000 census, Bagumbayan itself had a population of 53,444 people in 10,368 households. The municipality has a prominent feature known as the Daguma Mountain Range that stretches from North to South, bounding the whole Western stretch of the great Allah River. It separates the eastern portion of the Municipality from the western mountainous area, commonly known as the Masiag Valley (or upper valleys) comprising of nine (9) barangays, one of which is Barangay Chua.

Figure 6. Boundary Map of the Municipality of Bagumbayan, Sultan Kudarat, Location of Bgy. Chua



Source: (http://en.wikipedia.org/wiki/Bagumbayan,_Sultan_Kudarat)

Barangay Chua is home to Lumads of the Dulangan-Manobo Tribe, Muslims of the Maguindanao Tribe and Christian settlers originally from Iloilo or popularly known as Hiligaynons. The common dialect used is Ilonggo (Hiligaynon). It has a total population of some 2,235 or 410 households (MBN 2004 survey, cited by Barangay Chua Participatory Resource Appraisal 2004). Of the 17 sitios, Little Baguio has the highest population (246), which is 11% of the total population. Family size ranges from 5-7 per household. The dominant age bracket per family head is from 25-50 years old (PDAP 2004).

Barangay Chua has a dominant male population, with the male exceeding the female population by 87 individuals in 2004. The population of Barangay Chua consists of 15% Lumads, 35% Muslims and 50% Hiligaynons. It is the only barangay in the municipality of Bagumbayan where the Maguindanaoan Muslims and Christian tribes have an almost equal number of population. The tri-people inhabitants of Chua are basically farmers producing corn and cassava. These people are the small cultivators that took over the logged areas, cutting down secondary-growth trees for swidden agriculture.

Most of the households in Barangay Chua are involved in farming, which earns them an estimated P1,000 to P5,000 (US\$ 20–100) income per month (PDAP 2004). Most of the farmers practice the monocrop system, where corn is the major crop, with two cropping seasons per year. Some farmers produce rice, coffee, beans, fruit trees and other crops but very minimal compared to corn production.

The barangay abounds with tropical fruits, like durian and *rambutan*, and root crops, such as *gabi* (taro) and *camote* (sweet yam) which are mostly sold in Isulan weekly providing supplemental incomes to farmers on a seasonal basis. However, for about 3 years starting in 2002, farmers lamented the huge losses of their farms due to intense rat infestation, which they tried to eliminate using chemicals, to no avail. In order to survive this grim situation, many of the residents engaged in gold panning. If they are able to find some gold, they had to share 10% of the worth with the landowner (COM 2005).

The whole of Barangay Chua is an ISF (integrated social forestry) area under the CBFMA (community-based forest management agreement) scheme. Both Muslim and Christian residents are holders of CSA (certificate of stewardship agreement) valid for 25 years, which will end in 2016; this is however renewable for another 25 years. The Lumads are still filing for their CADC (certificate for ancestral domain claim) and are hopeful they can file their CADT (certificate of ancestral domain title) thereafter.

As regards educational attainment, most heads of the family finished elementary school (those who have completed sixth grade numbered 305 as of 2004, the highest number among the educational levels completed), of which a majority did not reach the sixth grade.

Case 3 Brief Profile: Manobisa, Municipality of Magpet, North Cotabato

Formerly called "Sitio Napasan" (named after Napasan Creek) of Pangao-an, Manobisa became a barangay in 1979 after a group of residents filed a resolution for its creation as a separate barangay.

There are two accounts of how Manobisa got its name. First, it is known to have been derived from the first letter of the name of the eight original tribal leaders in the area namely: Makasasaw, Akktus, Noda, Osima, Banian, Iwal, Silatan and Angdangan.

The other theory is that the barangay was named after the two tribes in the area, the Manobo and Bisaya. It is said that before, the residents in the area were all Manobos. As time went by, some Bisayan settlers looking for land to till managed to set foot and finally settled in the area with the Manobos. So, when it was declared a barangay, they called it Manobisa, a combination of "Mano" from Manobo word and "Bisa" from Bisayan word as a symbol of peaceful coexistence and unity of the two groups.

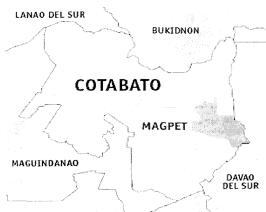
Barangay Magpet (now a municipality) became a barangay of Kidapawan, Cotabato in 1960. It became a municipality by virtue of RA 3721 signed by President Diosdado Macapagal on 22 June 1963. The Municipality of Magpet lies in the foothills of Mt. Apo, the Philippine highest peak, and one of the country's national parks. Municipality of Arakan, bound it on the north, on the south by Kidapawan City, on the east by Davao City, and on the west by the municipality of President Manuel Roxas.

The total land area of the Municipality is 75, 536 hectares covering 35 barangays. The majority of its terrain is mountainous and hilly. The town has a large quantity of natures' resources compared with the adjacent lowland municipalities. Waterfalls and rivers are full of life, while metallic and non-metallic minerals can be found in some areas.

Barangay Manobisa is strategically located at the foot of Mt. Apo. It is ten kilometers of rough road away from the town center of Magpet and about 15 kilometers away from Kidapawan City, the capital of (North) Cotabato. It is bounded in the west by barangay Amabel, in the east by barangay Imamaling, in the south by barangay Pangao-an and in the north by barangay Libertad. The barangay may be reached by any form of land transportation, including public utility jeeps and trucks, although the most common means of transportation is the "skylab"- a single motorcycle designed to carry four to six passengers.

Barangay Manobisa was once classified as among the poorest barangays in the Municipality of Magpet, North Cotabato. The place, where 98% of the population is of the Manobo Tribe, was declared ancestral domain area in September 1996 through CADC no. RXII-057. The ancestral territory comprises about 70% or (1,755) of the 2,650 hectares total land area of the barangay. The place, where 98% of the population is of the Manobo Tribe, was declared an ancestral domain area in September 1996 through Certificate for Ancestral Domain Claim (CADC) no. RXII-057. The ancestral territory comprises about 70% or (1,755) of the 2,650 hectares total land area of the barangay.

Figure 7. Map of the Municipality of Magpet, (North) Cotabato with Provincial Boundaries



Source: http://upload.wikimedia.org/wikipedia/commons/2/2d/Ph_locator_cotabato_magpet.png

Manobisa's Barangay Development Plan reveals a total of 1170 population, with 212 households and an average of five (5) members per household (2003). Barangay Manobisa has a fluctuating population rate due to out migration of families and individuals. Among the reasons for out-migration are poverty and limited economic opportunities within the barangays.

Barangay Manobisa covers a total land area of about 2,650 hectares. The dominant soil type of the barangay is 'clay loam, which is highly suitable for the production of crops, like corn, banana, rubber, coconuts, legume, green onion, root crops, and vegetable. However, the major crops

grown in the barangay are only corn, banana and tiger grass. Fruit and forest trees, such as marang, lanzones, rubber, mahogany, ipil-ipil and other endemic tree species trees are planted in steep, highly and mountainous area to reforest denuded area. Coffee and some fruits are grown in the backyards. There are still wide grasslands suitable to pastures, root crops, and vegetables.

Since its topography is characterized by a mountainous and hilly terrain that stretches to Mt. Apo, almost 74% of the land area remains idle and unproductive. However, being mountainous and hilly, the barangay has abundant water resources. It is traversed by the Mabato River, the Namuaran Creek, Matapo Creek, Inimbay Creek, Kinahongkong Creek and the Napasan Creek. A waterfall is found along Namauaran Creek. According to some technical experts, such may be a source of a microelectric power. The water resources can be sources of irrigation and potable water.

Given the mountainous and hilly area, the barangay is mainly an agricultural area. Close to 100% of the population is dependent on agriculture. Of the total land area, 636 hectares or 24% of the total area are devoted to agriculture.

Resilience Theory as a Framework in Understanding Politico-Administrative Synergy

PAMELA G. OPPUS¹

As a key agent of stability, order and sustainability, the bureaucracy in periods of political transition (usually caused by electoral activities) is challenged in terms of efficiency, effectiveness, responsiveness and continuity of public services and development programs. The bureaucracy is a safety net for change that threads one political term to another. Understanding the bureaucracy using "resilience" theory reconstructs public administration terms such as inefficiency, slavery to politics, partiality to leadership personalities, management failure of sustainability strategies, that oftentimes undermine the role, capacity and strength of the bureaucracy. Resiliency is the capacity for, or the outcome of successful adaptation despite challenging or threatening circumstance.

Resilience for Politico-Administrative Synergy¹

"We cannot preserve and revitalize American industry and our natural resources in the face of increasing global interdependence nor improve the quality of our lives, if our public dialogue is focused on whether or not government has any role in these matters or on how to reduce its role, while the reality of our world, our behavior, and our actions, of necessity trying to grapple with questions of 'How?' and 'What form is most effective?'" (Wamsley et al. 1990:34)

Political exercises influence "stability, order and sustainability" of development programs. Simplistically, the inextricability of politics from administration (an evolution from politico-administration dichotomy, to politico-administrative continuum to politico-administrative synergy) is, to my mind, what bridges public administration with governance. This inextricability helps in understanding the relationship between politics and administration, or leadership and the bureaucracy.

¹Executive Director, ICLEI-Local Government for Sustainability Southeast Asia Secretariat.

As a key agent of stability, order and sustainability, the bureaucracy in periods of political transition (usually caused by electoral activities) is challenged in terms of efficiency, effectiveness, responsiveness and continuity of public services and development programs. I see the bureaucracy as the safety net for change that threads one political term to another. It is influential in ensuring continuity of worthy and worthwhile local agenda and initiatives, or its converse. The qualifiers worthy and worthwhile, however, under postmodern thinking, are contextual and merit a discourse. Wamsley and Wolfe (1990: 21) shed new light on the role of public administration—that of a legitimate actor not only in policy implementation, but as an actor in the governance process. While the bureaucracy is a system in itself, it is also an institution that defines the responsiveness of public administration² across leadership dynamics. I would like to present a collage of descriptions of institutions from Wamsley et al. (1990).

· *Giddens—Institutions are the major shapers of our individual and collective behavior.*

· *Selznick spoke of an institution as an organization infused with value, a collection of persons brought together largely on contractual grounds to achieve a common purpose through cooperation; a social construct in which we think and act organizationally—rationally, contractually, instrumentally, and in defined roles. Or we can think of a social construct as an institution in which people place value—upon which they displace hopes and fears—and in which we relate and act institutionally—ritualistically, symbolically, dialogically, by developing shared meaning language, by socializing new members, engage elite selection, and by ostracizing those who violate institutional norms.*

· *Fox and Miller—Institutions are habits, not things. Discourse may be thought of as the attempt to be more proactively interventionist in the least marginal adjustment of those recursive practices over which influence may be exerted.*

· *One needs to be able to draw a distinction between institutions and agencies....(Wamsley et al. 1990)*

These theoretical grounds on institutions enlighten public administration analysts on institutional dynamics in periods of political transition. Usually, political transitions undergo an institutional "limbo" characterized by slow movements in or inaction over development programs brought about by uncertainties in the leadership agenda. The limbo is accompanied by new appointments, new structures, new tasks, new directions, despite the fact that job descriptions and office mandates remain, and career officials are retained.

The limbo is also accompanied by a socialization process that tends to lean towards the local leadership, by adjustments in bureaucratic norms and interpersonal relationships in light of adjusted (as opposed to new) management. From the perspective of scientific management, this limbo could be interpreted as inefficiency or ineffectiveness on the part of the bureaucracy to transcend changes and overcome the stillness—again, not so much for the usual (rank-and-file) services and governmental transactions, but for the implementation of development policies and programs. From a postmodern perspective, however, the “limbo” can be gleaned as a necessary “rest”³ which for me is an opportune time for “discourse.”⁴

According to Fox and Miller (1995:79), discourse theory “allows affirmation, and may, when properly theorized, induce improvements in tendencies already extant in public administration.” It introduces the concepts of constructivism where organizational reality is socially constructed, and of intentionality where one raises the question of what to do next. The question arises when the limbo is not used for discourse.

What then? This is where the challenge to administrators is posed—if not for discourse, how could limbos be productive? Perhaps for maintenance or “defragmentation,” a term used in computer systems that refers to “internal fixes and clean-up for the system to perform better.” Individual evaluation and reflection are maintenance and reparative procedures that are beneficial in gearing up for the anticipated changes in management and leadership. These processes could serve as precursors to discourse that may be motivated by a mix of actions for constructivism. Among the precursors are individual retreats and reflections on career directions, performance evaluation, organizational development redirection and alignment, strategy formulation, organizational renewal and reconstruction. These processes would provide the necessary benchmarks to meet the administrative, development and leadership challenges awaiting the bureaucracy in transition.

In short, I would like to fashion a theory within the postmodern era where change and emergence are not seen as chaos or disorder—threats to public administration, but as an inherent period in public administration where constructivism to institutional development is considered as a legitimate approach. Here, institutions are not pegged as permanent or nailed to structures, titles, job descriptions, but are habits. Habits are contextualized as those that relate with meeting development goals and making relationships (within and across structures and hierarchies) work to meet these (adjusted, agreed-upon) goals. I would also add the dimension of leadership (politics) as a driving force in molding institutions (among them, the bureaucracy). Further deconstructing the

bureaucracy are the individuals that make this up and govern the institution, and vice versa. The social science disciplines recognize that individuals possess behavior, attitudes, and standards that may be influenced by leadership through institutional development, and vice versa.⁵

Why did one choose to limit one's theory only to the local level? What would be needed to transplant it to a higher one?

As an approach to understanding the bureaucracy in transition brought about by political processes, I am using the theory of resilience⁶ in describing, understanding and predicting bureaucratic behavior and performance in the dispatch of development programs in periods of political transition. Consistent with the postmodern era, I propose resilience because...

(R)esiliency is contextual. It is not a discrete quality that people either possess or do not possess; people may be more or less resilient at different points in their lives depending on a range of factors. Resilience cannot be seen as a fixed attribute of the individual—if circumstances change, the risk alters.⁷

Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats, or even significant sources of stress — such as family and relationship problems, serious health problems, or workplace and financial stressors. It means "bouncing back" from difficult experiences... Resilience is not a trait that people either have or do not have. It involves behaviors, thoughts, and actions that can be learned and developed in anyone.⁸

Resiliency is "the process of, capacity for, or the outcome of successful adaptation despite challenging or threatening circumstances." (Masten, Best and Garmezy 1990: 425-444).

The accompanying approach to the proposed resilience theory would be constructivism, where human nature is analyzed within the changing leadership environment that it operates and how these natures change character within the bureaucracy. This would entail ideographic methodologies requiring immersion and process.⁹ The pathway from change to stability is the critical phase where resilience is tested.

Adapting the key characteristics of resilience from individual behavior to bureaucratic behavior, a combination of contributory factors to resilience could be considered. Among them, a caring and supportive relationship within and outside the bureaucracy (e.g., leadership, business community, civil society), the capacity to make realistic plans and take steps to carry them out, a positive view of oneself (in relation to the

bureaucracy) and confidence in strengths and abilities, skills in communication and problem-solving, and cultural differences. Strategies to building resilience include:

- making connections—good relationships, accepting help and support
- avoiding seeing crises as insurmountable problems
- accepting that change is a part of public administration and governance
- moving toward consensually defined goals
- taking decisive actions
- nurturing a positive view of the institution
- keeping things in perspective.
- maintaining a hopeful outlook.

These strategies, if exported to a theory in public administration, would become its components in understanding the phenomenon of a bureaucratic “limbo” in political transitions. This would aid in describing and understanding the phenomenon. Methodologically, in bundling case studies on such phenomenon, follow-up questions could be raised:

- What kinds of events have been stressful to the bureaucracy?
- How have those events typically affected the bureaucracy?
- What have the bureaucracy learned about itself and its interactions with others during difficult times?
- Has it been able to overcome obstacles, and if so, how?
- What has helped the bureaucracy feel more hopeful about the future?

The strategies and parameters of understanding resilience would be best complemented with a discourse theory. Fox and Miller (1995) identified four warrants of discourse, namely: sincerity, situation regarding intentionality, willing attention, and substantive contribution.

These warrants definitely augur well with the characteristics and strategies of resilience as outlined above. Additionally, it would be appropriate to use Giddens' move towards post-structuralism where he describes the process as moving away from text to ordinary talk. "It is not words themselves, frozen as cultural artifacts in text or media, but rather the process of 'using' words and phrases in contexts of social conduct that constructs meaning in those contexts. It is not in the signifiers themselves that we look for meaning, but the intersection of the production of signifiers with objects and events in the world, focused and organized through the acting individual." (Giddens 1987:91) This understanding offers hope for a continuing role for the public administrator as an actor in the process of creating meaning for governance.

Clearly, understanding the bureaucracy using "resilience" theory would reconstruct such public administration labels as inefficiency, slavery to politics, partiality to leadership personalities, management failure of sustainability strategies, that oftentimes undermine the role, capacity and strength of the bureaucracy. Discourse theory and its applications would complement the resilience theory. If used to understand the bureaucracy, discourse, by itself, becomes a medium for democracy.

Discourse, by itself, is not the only instrument for democratization.¹⁰ It is key in stirring democratization as it provides a ground for leaders, administrators, and civil society members to legitimately and freely express and exchange opinions and reflections. However, discourse could only be meaningful if legitimate representatives of the bureaucracy (and outside of the bureaucracy) take part in the discourse. Here, legitimacy does not only limit itself to certain ranks and positions of bureaucrats. Criteria for legitimacy would include voluntary participation where the opportunity to participate is free to all, and the presence of a cross-section of institutional representatives is ensured. Alongside voluntary participation, key stakeholders should be required to participate in cases where these stakeholders opt to remain apathetic or escape from their accountabilities.

To truly direct discourse for democratization and constructivism, instruments for information exchange and networks should be optimized. Present-day technologies (e.g., internet) are such that these instruments would allow for a more inclusive (so that those interested participants not physically present could also take part in the process) and informed discourse. Likewise, discourse should be grounded on transparency, sincerity, respect, and trust among those who facilitate and participate in the discourse. Only then would discourse be able to optimize substance and productivity of the exercise.

Once lessons are reaped from a number of studies, the bureaucracy could be released from the bondage of demeaning "labels" contextualized in stability and order, and not change and (re)constructivism. Resilience can become an agent of democracy as discourse is charted towards the choice and intentionality for reconstruction, responsiveness, and consensus.

Resilience and Discourse Surrounding Institutions¹¹

Applying the resilience theory to forces outside of the bureaucracy is worthwhile: (a) The business community, by virtue of its critical role in infusing revenues and employment to the community and its strength in determining leadership candidates, could react negatively or positively to bureaucratic performance. Its perception could enter into the formula of bureaucratic resilience. Slack in bureaucratic performance in the dispatch of business transactions, or stringent measures on environmental standards applied on businesses and industries, are part of the "transition limbo." (b) The involvement of civil society in public decisionmaking, regardless of policies put in place ensuring its participation, could change its character. While leadership and discourse could strengthen bureaucratic resilience, resetting institutional norms with forces outside of the bureaucracy may take time and prolong the "limbo." (c) Development volunteer sector entities, such as, global institutions, foreign-funded agents, and development consultants, will cease to see changes in political guards as delaying factors in pursuing programmatic goals, but as opportunities for reconstruction. Authentic discourse would allow the bureaucracy to heal itself (slowly, perhaps) from self-destructive habits institutionalized by leadership or by the bureaucracy itself, administrative culture or societal expectations of their bureaucracy.

The application of discourse for resiliency (and vice versa) would then allow a *more expansive and tolerant* involvement of stakeholders outside of the bureaucracy.¹² Development planning will be understood more as a component of discourse, and not merely as a force of habit driven by set bureaucratic practices and policy instruments. Team-building would cease to be regarded as a "junctet" or "politicking," but as a medium for reconstruction to define, redefine and agree upon institutional bureaucratic behavior and development goals. Consensus-building would be better understood as a valuable process for democratic governance to empower the bureaucracy and align itself with the forces from within and from among those that surround it, and not as a process merely to legitimize the leadership agenda. External support partners (World Bank, ADB, UNICEF) would have to align with the consensual development goals

of both leadership and the bureaucracy to ensure optimum use of development assistance resources. Therefore, in more ways than one, entities outside of the bureaucracy, would be party to using the resilience theory in understanding the relationship between the bureaucracy and the leadership in periods of political transition.

At the macro-level, if electoral processes were equated with the changes in global environmental agreements, and a collection of governments is equated with another bureaucracy, then resilience and discourse theories would be helpful in understanding the administration of global eco-governance. This is why one should not have limited one's discussion to local bureaucracy and only to eco-governance. Also, because one did not put in principles of decentralization such as subsidiarity and lack of sovereignty, a lot of what you say seems to be more applicable at the national than the local level.

Philippine Ecological Governance under Post-Modernism¹³

Do we live in a post-modern world? No one argument wins in addressing this question as realities of individuals and subjects (e.g., phenomenon, organization, bureaucracy, process) of analysis differ, so much so that perceptions of realities vary. The points of view also stem from the individual analytical disciplines anchored on their respective fields of expertise, and because public administration is inherently multidisciplinary. In short, an analysis of a slice of reality of public administration takes on different views. Such is indicative already of the thinking process that reflects some characteristics of post-modernism. At the outset, post-modernism dissects reality into smaller subsets in attempts to describe and understand the "structure" and character of such a subset. Definitions of reality, therefore, are situational and contextual (McSwite in Wamsley et al. 1990). To answer the opening question of this section— the world of public administration that I live in straddles postmodernism and modernism.

My "reality" applies post-structuralism (which belongs to post-modernism) which McSwite considers as ontological and epistemological. Blending these methodological paradigms, I lean towards deconstruction as an approach to post-structuralism where one interprets a reality or phenomenon within the continuum of subjectivism and positivism. Here, the use of deconstruction as a method of analysis tends to veer away from positivism (a characteristic of modernism) towards subjectivism. The reality in focus is global eco-governance operationally driven by, among others, local government institutions.

As characteristics of postmodernism are intertwined in the succeeding discussion, I would like to outline the striking features of government institutions in post-modernism (Giddens in Wamsley et al. 1990), to wit:

1. Duality of institutions—governments serve both local and global interests which have inherent conflicts in leadership and representativeness.

2. Coherence vs. emergence/dynamism—as governments strive towards stability and order, the emergence and dynamism of global environmental imperatives substantively demand that national leadership align decisions with global interests. The response of governments over time, transcending the domestic confines to global interests, somehow challenged their status quo due to the emergence of common environmental imperatives.

Human relations as key component of process—In the absence of penalties and sanctions for nonconformity to global environmental imperatives, apart from leadership thrusts, voluntary commitments in global environmental movements could be a result of human relations, e.g., foreign relations, leadership affiliation.

In more detail...

The inception of the movement for global eco-governance is postmodern. However, the institutional response to manage global eco-governance is modern.

Global eco-governance was a response to endangered global commons that affect (and will continue to pose threats to) the quality of life of people, rippling over public institutions that manage services and development. Over time, such a threat has resulted in the banding together of individual values, group objectives, and institutional mandates. The construct of global eco-governance, therefore, is post-modern, matching McSwite's description of "postmodernism as a set of social conditions and then as an intellectual movement" (McSwite in Wamsley et al. 1990: 207).

Owing to the transboundary nature of global commons (e.g., oceans, climate, atmosphere), the boundaries of public administration challenged (and vice versa) sovereignty, generations, leadership, turfs. Such a change threatened order and stability which usually shape efficiency, effectiveness and efficacy of public institutions. This evolution, to my mind, has enriched the conceptual and operational dimensions of public

administration, from management to governance. Commitment to progress that defined, among others, modernism (McSwite in Wamsley 1990) evolved to sustainable development that reshaped development paradigms of leaders, public administrators and institutional mandates, alongside systems, structures, procedures and processes.

As more institutional stakeholders embraced global eco-governance, an institutional response translated in more structured processes of agreements, commitments, actions, and evaluations of performance. Structuration was inevitable. This is in light of the quest for order and stability to effectively and efficiently manage global eco-governance. In Wamsley et al. ..., "structuralism sees the usual manifestations of coherence, from organizational charts to rules and procedures and rational instrumentality, as inevitable manifestation of the mind's structuring process" (1990: 25). Therefore, while the inception of global eco-governance is post-modern in character, the institutional response to manage global eco-governance can be located in the modern era of public administration theory.

In light of global eco-governance (or even global governance, for that matter), "Think Global, Act Local" has become a buzz-phrase in the advocacy towards effective ecological governance and sustainability. In my view, the slogan is post-modern in itself as it implied a public administration thinking beyond the confines of the bureau, domestic institution, or spatial turf; yet such demanded an applied local public administration with clear territories. Good point.

- The act of decentralization was a movement from modern to postmodern era.

The devolution of authority from national to local governments has been one of the processes that marked the movement to democratize governance. In itself, the adoption of decentralization as a medium for democratic governance shook up public administration, risking stability and order that underlie management and leadership efficiency and effectiveness. *Reinventing Government* (in Wamsley et al. 1990) suggested cutting agencies loose to respond to the public as customer. In a sense, decentralization was a reinvention act which falls within the framework of postmodernism.

In Cariño's criteria for good governance, "decentralization" was described as "a means of breaking down the stranglehold of elite powerholders to give access to the views and involvement of the previously excluded and marginalized."¹⁴ Giddens in Wamsley et al. (1990)

pointed out some characteristics of modernism where individuals are a source of coherence, source of action, instrument of will on behalf of some other institution, actor or group (e.g., chief executive) or on behalf of our own institutional self-interest. Therefore, the concept of decentralization and its accompanying process was a leap from modernism to postmodernism where national government institutions and leaders, by definition, (conceptually) gave up (some aspects of) their powers and authorities as prime sources of action and sole representatives of communities' and local governments' interests. By virtue of the *Local Government Code*, the sources of action and representation of interests have been distributed horizontally and vertically, at the risk of misaligning development imperatives (as feature of limbo discussed earlier). Under postmodernism, local governments as entities have become legitimate sources of actions that can represent and lobby for the interest of their constituents.

Local governments live in a postmodern world of global eco-governance.

Local government institutions can be seen as the subset of global eco-governance. Building on "think global, act local," I would like to preface this section with the statement—cumulative environmental local actions contribute to global sustainability¹⁶.

In varying degrees, the majority of the local governments exercise the power and leadership to decide and act on their respective local development agenda. With the movement towards global eco-governance, the local government's power and autonomy to choose, decide and act on local environmental options with global significance (e.g., climate) are provoked by, among others, national legislative instruments for environmental protection (e.g., Clean Air Act, Solid Waste Management Act), national-led campaigns in response to international environmental commitments (e.g., Gathering on Human and Ecological Security), or growing international movements (e.g., Climate Change and Global Warming). In developing local governments, such as in the Philippines, where provision of basic services and economic development still collides with local environmental decisions and actions, local governments, by and large, are trapped in decisionmaking conflicts. Yet, whether penalized or not, local governments (e.g., in the Philippines, in gradual motions), volunteer to join international campaigns for global environmental sustainability. Such a voluntary response to a burgeoning problem of environmental degradation amidst nagging conflicts between poverty and environment, is indicative of post-modern thinking in public administration among government institutions.

Endnotes

¹ Question #2. Fashion a public administration theory that can describe, explain and (if you want) prescribe the role of the public administration system (bureaucracy, civil service, public energy field, however you call it) in it and how it can become an adequate instrument for development and democracy (again, however you define them). For better grounding, you may contrast or align it with an "existing" theory of your choice (traditional, orthodox, New Public Management, discourse theory).

² Wamsley et al. 1990. Public administration as an institution of government rather than of bureaucracy as an organizational form...

³ Such as in music.

⁴ In Wamsley et al. 1990 "Shift from coherence to emergence, from the search for capital T truth and G Goodness to truth and goodness that are partial, multiple, and momentary to be discovered in discourse, experimentation, and relationship and grounded in specific situations and contexts."

⁵ Under postmodernism, Giddens challenges us to look through deeper structures —myths, ritual, symbols, socialization process.

⁶ I would assume that "resilience" is the coupling of such management concepts as adaptive management, change management, and disaster management.

⁷<http://www.drugstrategy.central.sa.edu.au/eyecontact/aboutds/theoframework/resiliency>

⁸ Taking Stock: Growth Through Resilience, The Posttraumatic Growth Inventory, http://helping.apa.org/resilience/inventory_intro.html

⁹ Insights from PA 399 Class using Burrell and Morgan.

¹⁰ Is discourse the only instrument for democratization?

¹¹ Question #3. Describe, explain, and prescribe how the State, the public and any other social science force you wish to include (such as other nations) interact in it and affect and react to the PA system you posited in #2.

¹² Cariño—Strong points for resilience and discourse there.

¹³ Question #1: Do we or do we not live in a postmodern world? Describe clearly the contours of the world you recognize, and assert directly whether that qualified in your view as postmodern, modern, traditional or any other era.

¹⁴ Cariño, 2000. The Concept of Governance, Chapter 1, p. 14.

¹⁵ As expressed in the mission statement of the International Council for Local Environmental Initiatives.

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Harnessing Geo-Information Technology for Community Empowerment and Identity: The Case of the Bukidnon Tribe in the Philippines

RIZALINO B. CRUZ*

This article chronicles the long and arduous journey of the Daraghuyan community to legally claim its ancestral domain. Key to the success of their struggle is the use of the geographic information system technology, which the community accessed through the support of a local nonprofit organization and foreign funding agencies. The community was able to use the GIS technology to their full advantage as the project addressed critical issues like territorial boundaries and self-determination. Success of the project lies in the fact that the technology was able to empower the community in an organic manner. Indigenous knowledge on mapping was fused with the new technology and the community's own council of elders was made to play a leading role in the implementation of the project.

Introduction

In March 2009, the Daraghuyan community of the Bukidnon Tribe in Mindanao, Philippines was awarded the Certificate of Ancestral Domain Title (CADT) by the National Commission on Indigenous Peoples (NCIP). The acquisition of this title is a momentous feat for the community which has fought long and hard to win the legal battle for its ancestral land. The victory is much deserved as the community has clearly demonstrated its capacity for goodwill, knowledge, and commitment to overcome adversities. A key factor in its success is the use of 3-Dimensional (3D) maps to document its ancestral domain claim.

This article is about the experience of the Daraghuyan community in using geo-information (GI) technology. It highlights the community's attempt to adapt a technology that once was the exclusive domain of

*Assistant Professor, National College of Public Administration and Governance, University of the Philippines Diliman, Quezon City.

scientists and technologists. This is a snapshot of the continuing struggle of the community for self-determination and for recognition of its right to participate and become an active player in local development and governance.

The study traces the beginnings of the community's 3-D mapping project. It examines how the community adapted GI technology to pursue its objectives and to protect and enrich its indigenous knowledge and culture. It presents the lessons learned from the experience as a way to identify good practice in using GI technology for Indigenous Peoples' (IP's) empowerment.

The experience of the Daraghuyan community is one of the earlier attempts at 3-D mapping in the Philippines. It is a replication of the success story of the Mangyans, an IP in Oriental Mindoro, which was ably guided by Mr. John Ong of the Mangyan Mission.³

Field work was done in Bukidnon on 9-12 September 2008, with the support of the Kitanglad Integrated NGOs, Inc. (KIN), a non-government organization based in Malaybalay City, Bukidnon. KIN has established ties with the tribal communities, local government, and other NGOs in the area. It has been a strong ally of the Daraghuyan community in preserving its culture and promoting its cause. The study reconstructed the 3-D mapping experience, which started way back in 1999, through interviews of key informants and a review of available reports and communications.

The Daraghuyan Community

Community Profile

Republic Act No. 8371, or the Indigenous Peoples' Rights Act (IPRA) of 1997, defines "IPs" or "cultural communities" as "descendants from populations that inhabited the Philippines at the time of colonization and continue to live as homogeneous societies in communally bounded ancestral territories, sharing common bonds of language, customs and other distinctive cultural traits." (Article 2, Section 4.) The IP population is estimated to be around 11 million (15% of the country's total population), with the majority found in southern Mindanao and one-third in Luzon (Arquiza 2007).

Despite efforts to uplift the plight of IPs, this sector continues to experience poverty, discrimination, exploitation, and exclusion from local development processes. It continues to confront issues concerning tenure security of its ancestral land, its right to manage the resources within its

territorial boundaries, and the recognition of its indigenous institutions and governance system, cultural identity, customs, and traditions.

The Daraghuyan community is part of the Bukidnon Tribe, which is one of the three tribes residing in Mt. Kitanglad Range National Park (MKRNP). The other two are the Higaonon and the Talaandig Tribes. These three tribes share common cultural ties and historical roots, and have declared MKRNP as their ancestral domain. With the creation of the Provincial Special Task on Ancestral Domains through Department Administrative Order No. 02 in 1993, the different tribal communities filed their individual applications for a Certificate of Ancestral Domain Claim with the Provincial Environment and Natural Resources Officer (PENRO) of the Department of Environment and Natural Resources (DENR) (Moderno 2006). On 19 May 1995, upon the initiative of Datu Migketay Victorino L. Saway of the Talaandig Tribe, the three tribes filed a unified ancestral domain claim.

The Daraghuyan community took the lead in the 3-D mapping project of MKRNP covering 40,176 hectares. Community members from the three tribes participated in the project. Through the 3-D map, the Daraghuyan community was able to delineate its ancestral domain consisting of around 5,000 hectares of mostly forested land within MKRNP. The community is composed of 300 households with more or less 2,000 population. The community is described as:

...peace-loving, friendly, and compassionate. They reside in the upland areas of the barangay and even in portions adjacent to the core protected area. They...are not likely to be involved in violence...the clan and their ancestors have a good reputation for being mediators and spirit mediums as they are known to be *matatao* (tribal experts) (Canoy 2006).

On 3 November 1999, the IPs of Kitanglad made history by proclaiming ownership of all medicinal plants and resources in MKRNP supported by a full documentation of various plant species and their uses. They further declared that those who violate the proclamation would be penalized according to customary laws (*Philippine Daily Inquirer* 1999).

The Case Study Site

MKRNP is located in the northern part of Bukidnon province in Mindanao straddling the municipalities of Talakag, Baungon, Lantapan, Libnoa, Manolo Fortich, Sumilao, and Impasug-ong, and Malaybalay City. MKRNP is home to 28 barangays and 47 sitios where 90% of the residents are IPs (Canoy et al. 2000).

On 14 December 1990, MKRNP was established as a national park through Presidential Proclamation No. 677. It became part of the National Integrated Protected Areas System (NIPAS) through Republic Act No. 7586 of 1992. Presidential Proclamation No. 896 of 24 October 1996 designated MKRNP as a protected area in the category of a natural park. MKRNP was also one of the ten sites of the Conservation of Priority Protected Areas Project, a seven-year project on biodiversity conservation funded by the Global Environment Facility and administered by the World Bank (Canoy et al. 2000).

More than a protected natural park, MKRNP has long been regarded as the ancestral domain of the Talaandig, Higaonon, and Bukidnon tribes. The tribes envision MKRNP to remain a protected area that is managed by the local communities enjoying full security of tenure and exercising their rights and capacities to preserve their culture and cultivate the resources within their domain in a sustainable manner (CoE of the Daraghuyan Community 2008).

Challenges Facing the Daraghuyan Community

Securing land tenure for their ancestral domain has been a long-standing issue among tribal communities in MKRNP. The privatization of some portions of their communal land, the incursion of lowlanders and migrants, the receding forest margins, and deforestation of MKRNP are issues affecting the very survival of tribal communities, such as the Daraghuyan community. These issues remain unaddressed despite the legal framework identifying MKRNP as a protected area and recognizing the rights of IPs. They remain unabated despite tenurial or contractual arrangements imposed by government for natural resource management in the area.

As noted above, the tribes in MKRNP had filed a separate and individual claim on their ancestral domain. In a tribal gathering in June 1997, the IP leaders then agreed to unify their ancestral domain claim. The unified claim, however, did not make any progress despite representation in NCIP. The impediments represented by interests of private owners, business, loggers, and politicians were daunting to have the unified claim approved.

In 2003, the Daraghuyan community pursued its individual claim. Bae Inatlawan Adelina Tarino, its head chieftain, filed the community's application for CADT covering about 5,000 hectares of land in a forested area in MKRNP. There and then, the community started the tedious task of complying with the many requirements of NCIP. There were no opposing claims and no boundary conflicts with other tribal communities.

The community was able to protect its territory with the effective security provided by the Tribal Guards, especially along the forest margins and buffer zones. Thus, in March 2009, the Daraghuyan community finally won the CADT.

Tribal communities have been dogged by the issue of land tenure and its capacity to manage and conserve the biodiversity within its territory. Many programs and policies on protected area management have relegated the role of IPs from passive beneficiaries to threat to national park objectives. Cairns (2000) argued for the granting of ancestral domain titles as a strategy consistent with environment conservation and forest management. He found commonality of agenda between the cultural practices and beliefs of IPs that are driven by deep respect for nature spirits and the wildlife conservation of government. A caveat was put forth, however, that granting ancestral domain title should be accompanied with support for sustainable livelihood programs.

The 3-D Mapping Project

The tribal communities in MKRNP are not new to mapping. The Daraghuyan community had done mapping exercises even before the 3-D mapping project came along, generating sketch maps, picture maps, and delineating cultural zones. Members of the community had shown understanding of the geography and spatial dimension of their ancestral land. In one of their exercises, they had demonstrated the relevance of height by using sand on sketch maps to come up with a tentative diorama of the MKRNP terrain (Decano et al. 2008). Thus, when the 3-D mapping project was introduced, they immediately saw the value of the project and related this to the need to manage their resources and to define their ancestral boundaries.

Why the 3-D Map

A relief model, or a 3-D map, is a miniaturized replica of an actual landscape. It is a visual and tactile tool that facilitates learning and communication among those who have a stake or claim in a territory. It is found to be more useful than a 2-D or flat map in articulating indigenous knowledge about space and time, systems and practices. With the help of a 3-D map, MKRNP communities are able to express in concrete terms what they know about and what they hope to achieve with ancestral domain.

The following observation summarizes the value of a 3-D map for IPs in facilitating learning and communication.

Because 3-D maps can be viewed directly overhead at an angle, communities are easily educated in viewing maps at different perspectives. If communities have strong spatial grasp of their environment, then data can easily be placed on the map. Analyses of landscape (such as drainage), which are commonly done by trained staffs, can easily be accomplished by the communities themselves. Different management issues may be handled (e.g., resource inventory, watershed, territorial conflict, etc.) and spatial relationships of various issues may also be articulated. Aside from increasing community participation, perhaps the greatest power of the 3-D map lies in its ability in allowing individuals, communities, agencies, and organizations to communicate by using the map as a common ground (KIN 2000).

Specifically, the 3-D map enables the community to contribute to the crafting of a resource management plan for MKRNP as a protected area declared by the State and an ancestral domain management plan for MKRNP to support the claim of indigenous tribes. The 3-D map becomes a means to facilitate discussion, generate and validate information, plan and formulate tribal policies about protected areas and cultural zones.

Beginnings of the 3-D Mapping Project

The tribal communities have long been concerned about delineating their territorial boundaries and preserving the resources within MKRNP. They do not have in their possession a map to show the geographic extent of the whole area. At best, maps from government sources, which are in paper form with low resolution, have remained spotty and not useful to the tribes. Mapping exercises have been limited to sketch maps that are not drawn to scale.

In 1998, Easterluna Canoy, the Executive Director of KIN, visited the Mangyan Mission in Calapan, Mindoro to observe the 3-D mapping workshops of the Mangyans. The visit gave Canoy the chance to interact and discuss with the Mangyan leaders about the usefulness of the 3-D map in their ancestral domain claim. John Ong of the Mangyan Mission was then directing the workshop. He was responsible for conceptualizing the whole 3-D mapping project of the Mangyans from the technical details down to the organizational and logistical requirements.

On 4-6 June 1999, John Ong together with an IP staff of the Mangyan Mission, visited Bukidnon upon the invitation of KIN. They shared the experience of the Mangyans in producing a 3-D map, which was

instrumental in facilitating the application for a Certificate of Ancestral Domain Claim (CADC) awarded by the government to the Mangyans. In a meeting with representatives from the Council of Elders of the Daraghuyan community and the Talaandig community of Tulugan, Songco, John Ong presented the various options available to the tribes in mapping their ancestral domain. A consensus was then reached among tribal leaders and participants in the meeting to build a 3-D map of MKRNP to support their unified claim. The tribes agreed to conduct the mapping workshops at the School of Living Traditions at Tulugan, Songco, Lantapan of the Talaandig Tribe. As their counterpart contribution to the project, they would provide the needed labor and food.

The 3-D mapping came at an opportune time when Mt. Kitanglad was identified as one of the ten sites for the Conservation of Priority Protected Areas Project (1994-2001) supported by the World Bank, and KIN was part of a multisectoral consortium implementing the project in Bukidnon. The 3-D mapping was then funded by the Conservation Project and later by other funding agencies supporting KIN. Thus, the 3-D mapping project was finally realized with the confluence of the following factors: the information needs of the tribes to establish ancestral claim, the availability of funding support, the capacity and willingness of John Ong and the Mangyan Mission to provide technical advice, and the unfailing support of KIN in promoting the interests of IPs in MKRNP.

3-D Mapping Workshops

Building the Relief Models

The first workshop was set on 24-30 December 1999. John Ong came along with two other IP staff of the Mangyan Mission. Bae Inatlawan, the leader of the Daraghuyan community and a highly regarded ritualist in MKRNP, opened the workshop by a ritual to seek guidance from the spirits in producing the map to further their tribal aspirations. John Ong then gave an orientation on the basic concepts about maps and map making. He explained in layman's term such technical concepts as geo-reference system, map projections, topographic maps, and contour lines. He brought with him books on cartography, a stereoscope to enable participants to see paper maps in 3-D, pictures of Mangyan workshops, and sample maps.

Participants in the workshop included students and youth of the tribes, old folks, and tribal leaders, numbering between 57 and 83 daily. About 90% of the participants came from the indigenous communities representing 8 municipalities of MKRNP (KIN n.d.).

The participants were divided into the following groups to organize the work flow and assignments.

- Groups 1-6: 3-D map builders (to do tracing, cutting, pasting, and finishing touches)
- Group 7: Cardboard material pressers
- Group 8: Nutritionists or cooks
- Group 9: John Ong and two assistants
- Group 10: 3-D map coordinator and documentor
- Group 0: Children who took the daily attendance sheets and ran errands.

Name tags with corresponding individual assignment were distributed among the participants. As part of quality control, an accreditation system was applied especially for map builders, that is, a tracer or cutter earns a ribbon and gets to start actual work only when he/she has passed a preliminary exercise conducted by John Ong. Many of the tribal youth were involved in tracing the technical maps on cardboards. The groups were assigned their respective work spaces in Tulagan to accommodate simultaneous activities.

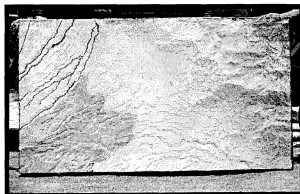
The members of the Council of Elders were actively helping in the map production from leveling of cardboards, measuring to cutting and pasting. Some elders provided entertainment through tribal chants and songs. Also present during the entire workshop was Waway Saway, Talaandig's inborn artist, who brought his instruments to provide music during workshop breaks.

The participants used the topographic maps of the National Mapping and Resource Information Authority (NAMRIA) with a resolution of 1:50,000 meters, which consisted of 16 map sheets to cover 40,176 hectares of MKRNP. The maps were reproduced to a larger scale of 1:10,000, which were used as templates in building the relief models of MKRNP. They were assembled in a mosaic to form a continuous representation of the whole area. The 6 groups of map builders were assigned a particular block or area to work on. From the topographic map, each group traced and cut each contour line on a cardboard indicating an elevation level. The different cardboards representing specific elevations were then laid on top of each other to form the vertical scale of MKRNP.

MKRNP has an approximate height of 2,899 meters. Every cardboard or contour line represents 20 meters of height, thus the 3-D maps or relief model of MKRNP had to overlay 145 cardboards.

The first mapping workshop completed six sheets of 3 x 4 cardboard maps covering the core protected area. This constituted 40% of the entire MKRNP.

Figure 1. Map Output of Workshop



Continuing the Map Building

The second workshop was conducted from 30 October to 6 November 2000, with funding support from Keidanren. This was held in the same venue as the first workshop, i.e., in the Tribal School of Living Traditions in Lantapan. The objective was to add 10 more map sheets in the MKRNP 3-D map to cover all protected areas, ancestral domain claims, watershed, and the buffer zones of 28 barangays.

Participants included those who came to the first workshop—e.g., Council of Elders, tribal youth and students, volunteer tribal guards, and tribal women. In addition, leaders of People's Organizations, selected barangay captains, representatives from NGOs (like Green Mindanao), and park rangers of the Office of the Protected Area Superintendent came as observers. Again, John Ong together with 7 IP volunteers from the Mangyan Mission served as technical consultants. About 85 participants including observers were involved in workshop activities.

Participants were again divided according to work assignments following the groupings in the first workshop. Technical persons—such as tracers, cutters, and builders—who possessed the accredited skills were distributed in each group. A leader was identified in each group to oversee the map production. To prepare the participants for the second workshop, pictures of the first workshop, group assignments, work flow, and attendance sheets were all posted in the venue (Decano et al. 2008).

Land Use and Cultural Zone Identification

The third workshop was held from 26 February to 6 March 2001. The objective was to finish, refine, and preserve the maps built in 1999 and 2000. About 10% was left for construction to complete MKRNP. The participants would have to refine some rough edges of the 16 blocks of 3-D maps to be able to join them together. This time the venue was in the barangay hall of the local government in Songco, Lantapan, which provided a much bigger space for the construction of the safety boxes and wooden base for the 3-D maps. Of the 28 barangays of MKRNP, 11 from Lantapan and Malaybalay municipalities participated in the workshop.

A crucial activity in this workshop was the “pag-ila” or “pagtutukoy,” that is, identifying resource cover, land use, and cultural zones in the map. The workshop enabled community members—particularly the elders, tribe experts, Tribal Guard Volunteers—to express their indigenous knowledge about the resources found in MRKNP. Through the use of push pins, strings, pens, paints, the participants identified sacred areas, prohibited sites, caves, craters, cliffs, ridges, quicksand, water sources, telecommunication facilities, and delineated mountains, virgin forests, secondary forests, mossy forests, grazing land, municipal and barangay boundaries, and many more.

The community elders took an active part in the workshop by narrating the historical and cultural significance of places in the map. Narration preceded every mapping session and served as guide in the “pagtutukoy” done by the community members. One observation about the relevance of the 3-D map workshops was expressed in the following words:

It is always an enjoyable sight to see how the old people cluster around a finished map, identifying natural landmarks and telling tales of where they've been to and to what extent they've seen. I was also happy to see that people learned in the process. The lines now have meaning to them. Now, when they look at the topo map, they won't just see abstract lines, but mountains, ridges, gullies, and valleys (Kyatat Tito 2000).

Figure 2. 3-D mapping workshop session.



The “pagtutukoy” took several workshop sessions. The participants were first oriented with geographic representations of points, lines, and polygons in maps. Different resource features and places of MKRNP were identified according to these geographic representations. The participants had to conduct several sessions to identify, group, and categorize major resource features and places, and locate them in the 3-D map. Those places identified and geographically represented became the various themes or layers in the 3-D map. Legend codes corresponding to the different themes were likewise developed for the areas initially covered in the “patutukoy” exercise.

To validate the location of land use and cultural zones, ground truthing exercise was conducted where NGOs and tribe members were given orientation on the use of the Global Positioning System (GPS) to get geographic coordinates through satellite feeds. This orientation was a preliminary exercise towards building a spatial database in a computer through the application of a Geographic Information System (GIS), which was the next step envisioned by the participants. The 3-D map was then carefully transposed into digital format through the use of a high resolution digital camera to produce images for digitization and enhancement in the computer.

Building the Geo-database for GIS

The training on GPS and GIS was conducted from 30 October to 3 November 2005, with Engineer Benjamin Earl C. Orpilla as resource person. This was participated in by members of Daraghuyan community and NGO staff of KIN and Green Mindanao. Topics covered in the training workshop included the following: introduction to GIS; datum and projection transformation; Philippine Reference System of 1992; data capture techniques; techniques for image registration; digitization; merging the cadastral map and Assessor's tax map; GPS and downloading data from Garmin; and introduction to ArcView.

Part of the training workshop was a GPS field survey validation of the 3-D maps. The exercise was meant to develop the capacity of KIN and the Daraghuyan community in collecting spatial data, integrating spatial and attribute data, and generating map outputs through GIS. Specifically, the training would prepare the community "to determine actual boundaries of the domain, positions of their cultural sites and inventory the resources" (Orpilla 2006) that would bolster the ancestral domain claim of Daraghuyan community.

This process aims to validate the perceived data generated from the 3-D and thematic mapping. This will provide a definitive spatial layout of features identified during the first two mapping exercises. Noteworthy is the community's participation in the technical exercise. The community members themselves used the GPS and digital cameras to determine positions and document their domain (Orpilla 2006:available online at <http://talamdan.wordpress.com/2007/09/26/>).

Before the participants went to the field, Orpilla gave a lecture on geodesy and prepared the maps and data collection forms. In the field, the participants were trained to use field survey forms, digital cameras, and handheld GPS. They were divided into teams and assigned an area each to survey.

From the field, the participants continued the training in geo-database buildup and GIS application. Orpilla held another lecture on the basic concepts of geodesy, cartography, database development, and GIS application using Arcview 3.2. The following were the activities undertaken and skills developed in the second part of the GIS training workshop.

Techniques in data construction involved the use of spreadsheet software, CAD software, and text editors. GPS data were also downloaded to the computer using Arcview. Participants were taught to protect and transform data to the various projection systems used in the Philippines. This will help them integrate

and overlay various data from different agencies and providers. Lastly, they were taught to create and layout maps to scale for printing (Orpilla 2006; available online at <http://talamdan.wordpress.com/2007/09/26/>).

The challenges faced in the conduct of the training were as follows: (1) short duration of the training, i.e., one week was not enough to cover extensively the two training modules given the different levels of education background and experience of participants; (2) difficulty in understanding GIS concepts, i.e., operating the equipment was not a problem but there was difficulty in understanding fully the concepts behind the use of the equipment; (3) difficulty among participants in deciding which geographic features would have to be represented into points, lines, or polygons; and (4) uneven level of computer literacy among participants, i.e., some were still learning to use Windows operating system, while others were already developing the database (Orpilla 2006).

Picture 3. Participants on field survey validation using GPS



Orpilla's recommendations include extending the time for training, developing manuals for software applications in the local language, conducting basic computer literacy program, and determining all geographic features and their corresponding topologies (Orpilla 2006).

Pursuing the Ancestral Domain Claim

The 3-D map, along with the documentation of the physical and cultural features of MKRNP, was an important asset that the Daraghuyan community capitalized on to pursue its claim in 2003. The filing of a

CADT application signaled the community's intent to start the process of complying with the many requirements set by NCIP and manifested its growing confidence to engage with other stakeholders at the national and local level.

Continuing Education through Cross-Visits

On 5-11 November 2005, Bae Inatlawan and Datu Dumapal Benecio Docenos of the Daraghuyan community together with two staff of KIN visited the Mangyan Mission in Mindoro. The Daraghuyan IP leaders were able to learn from the experiences of the Mangyan tribe in developing its 3-D maps and using them to formulate their KAPLANO or its version of the Ancestral Domain Sustainable Development and Protection Plan (ADSDPP), which is a requirement for CADT application. The visit also exposed the IP leaders from Kitanglad to the importance of lobbying for support for their ancestral domain claim.

A similar visit was also conducted earlier by KIN in 2001 in Itogon, Benguet. KIN was among those invited by the Mangyan Mission to observe the 3-D mapping by IPs affected by the construction of the San Roque Multipurpose Dam. KIN welcomed the opportunity to learn from the mapping exercise of IPs and concerned government agencies in the area as it was gearing up for the next mapping workshop of MKRNP, particularly its "pagtutukoy" session. Unlike the mapping of MKRNP that used carton material, the Itogon mapping exercise used foam which was of lighter material, relatively inexpensive, and easy to use (Decano 2001)

Activities and Documentation for CADT Application

The application filed by the Daraghuyan community in 2003 marked the long and tedious process of compiling documentary evidences and conducting activities to prove their ancestral domain claim. The 3-D maps developed from 1999 to 2001 and translated into computerized maps through GIS were part of the many requirements that need to be complied with for a CADT application to NCIP. These requirements include the following: mapping of claim; constructing concrete monuments at ancestral boundaries; census; genealogical survey; ethnographic research to substantiate the people's living customs and traditions; testimony of elders; documentation of physical and cultural features of the area being claimed; conflict resolution; public notification; and survey and validation of documents and ground markers (Canoy 2006).

The 3-D maps were useful in mapping the ancestral domain claim and documenting the resources within the community's territorial boundaries. They were the source from which data about land use, land cover, and

cultural zones were derived. Although the community members were able to write their ideas on resource utilization, it was through the help of the 3-D maps that they were able to study their geographic area carefully and clarify their vision for their ancestral domain, thus setting the process and direction for their ADSDPP (CoE of Daraghuyan Community 2008).

The community members further demonstrated their knowledge about space when they used GPS to establish ground markers and build monuments around its territorial boundaries.

Enlisting the Support of Various Groups

Part of the requirements for the approval of CADT application is to get the endorsements of various governmental bodies, such as the different barangays affected by the claim, local government authorities, and, in this case, the Protected Area Management Board (PAMB) since MKRNP is a classified under NIPAS. PAMB is a multisectoral body that manages a protected area. This is composed of representatives from various local stakeholders, such as the DENR Regional Director, the Provincial Development Officer, representatives from the municipal government, the barangay, tribal communities, concerned NGOs, and other agencies in the area.

The Daraghuyan community successfully conducted the various activities and documentation with the support of various groups and individuals. Funding came from private organizations, such as the following: the Kaisa Para Sa Kaunlaran, a Chinese group, which donated funds for the census; the BPI Foundation and the City Government provided funds for the training of the Daraghuyan tribal council members; the Broederlijk Delen (BD) of Belgium provided project funds for biodiversity conservation in MKRNP; the Volunteer Service Overseas (VSO), the Foundation for Philippine Environment, and the Oxfam of Hong Kong provided funds for activities related to the ancestral domain claim.

The leaders of Daraghuyan community approached KIN in 2003 to seek assistance for its ancestral domain application. KIN had earned the trust and confidence of the IPs given its track record of reviving and strengthening the cultural integrity and capacity of local communities in MKRNP. It was instrumental in helping the community build the 3-D maps of MKRNP. KIN assisted the community in its pursuit of a CADT and mobilized its contacts to secure needed resources.

Technical Survey with NCIP

In April 2008, an NCIP team visited the Daraghuyan community to validate the community's CADT application. The community then had already completed and submitted many of the requirements to NCIP. One important activity conducted by the NCIP team was the technical survey of the ancestral domain. Together with engineers from NCIP, the community members joined and participated in the technical survey. Their knowledge about maps and GPS came in handy when assisting the NCIP team.

Lessons Learned

A number of lessons can be drawn from this experience of the Daraghuyan community in using GI technology.

Technology Meshed with Community Values

Mapping has already been a part of the community. In its effort to understand, preserve, and plan their ancestral domain, the Daraghuyan community has been using maps in various forms. The relief model in 3-D form could be seen as a logical progression to the community's varied attempts to delineate and protect their territory and the resources within. It is a tool that is found to be important and appropriate by leaders and members of the community to advance their interests and reflect who they are and what they want to be as a people. Thus, introducing the concept to the community was not difficult. The 3-D mapping project got overwhelming response from the community as proven by its enthusiasm and support for the project from start to finish.

Community Needs and Interests as Driving Forces for GI Use

What really drove the community members to use GI technology is not the wonders and promise of technology but rather their need to define their identity and to locate their place and relevance in the spatial and temporal world. Their desire for self-determination and for recognition of their rights was the impetus for them to adopt the GI technology. Evidently, they used the 3-D map outputs to file their CADT application and pursue their ancestral domain claim. The community adopted the technology to respond to their needs and interests.

Technology as Empowering Tool to Advance Community Agenda

When the technology adopted is appropriate and responsive, this becomes an empowering tool. For the Daraghuyan community, the utility of the 3-D map went beyond communication and learning. Mapping their ancestral domain empowered the community to externalize their vision and advocate their rights to manage their land. The 3-D map became a means for the Daraghuyan community to engage with outside stakeholders and to articulate their interests in national and local policymaking bodies, such as PAMB and NCIP. The exercise built confidence among tribe members, particularly their leaders, in negotiation and advocacy.

Technology as Medium to Express Indigenous Knowledge

The active participation of the community members, especially the elders, in the mapping project allowed for the sharing of indigenous knowledge among the participants, especially the tribal youth. The 3-D map became a medium to express and codify what members of the community knew about their ancestral domain. It allowed them to describe and make known their cognitive world. This was particularly manifested during the "pagtutukoy" workshop when the members came up with a very rich description of their culture and tradition expressed in different map layers and cultural zones not seen in conventional maps. What made the exercise more meaningful was the narrative account by community elders of the historical and cultural significance of different areas in the 3-D map.

Guidance and Leadership by the Council of Elders

The exceptional leadership shown and exercised by the Council of Elders was critical to the success of the project. The Council of Elders, led by Bae Inatlawan, was able to secure community involvement and was successful and effective in shepherding the process from map making to winning its CADT.

Trust Among Stakeholders

The mapping would not have been successful without the trust and confidence of the community members in the various stakeholders involved in the project. There were various participants and intermediaries in the process, notably KIN as the supporting NGO, the technical consultants coming from the Mangyan Mission, and funding agencies and private organizations tapped to support the 3-D mapping

project and the subsequent activities to pursue the ancestral domain claim.

Conclusion

It took three years for the Daraghuyan community, i.e., from 1999 to 2001, to complete their 3-D maps. And it took another eight years for the community to earn their CADT. It has been a long and arduous journey for the Daraghuyan community replete with many hits and misses. The use of GI technology is one of those hits that made the community stronger and wiser to pursue its rightful claim to their ancestral domain.

The GI technology is one of those tools that the community capitalized on to serve its objectives. It is a tool that the community used to understand and communicate its present realities by linking its environment, culture, livelihood, and security to space and time. The community has been successful in finding meaning and relevance in the technology for their purpose and development.

Earning CADT, however, presents another set of challenges for the Daraghuyan community. How will the community sustain these initial gains? Will it find again the right partnerships and relevant tools to help chart their future? How will GI technology be useful and effective in the community's present and future task of implementing, monitoring, and evaluating their ancestral domain plan? Will there be support from critical stakeholders? The experience and wisdom gained in the 3-D mapping and ancestral domain claim will hopefully help the community meet all these challenges.

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^a On Special Detail



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