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Environmental Effects of Development Programs In Ilocos Sur

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ABSTRACT

This study was conducted from January to December 1998 in the province of Ilocos Sur to identify the existing development programs in the province and to determine their environmental effects. On-going development programs constituted 69% of the total number of programs under the local government units (LGU). Data gathered in this study reveal that 79.3% of the development programs were funded by the government through the Countrywide Development Fund (CDF) and the Internal Revenue Allotment (IRA) while 20.6% were funded by the private sector. Environment- and ecology-oriented programs such as solid waste management, clean and green, agroforestry and water supply development, and organic farming were the priorities of the LGU's and these constituted 61.7% of all the development programs in the province.

Environmental pollution and degradation were the evidences of the bad effects brought about by the programs. Few municipalities implementing the programs employed recycling. Manual recycling technique was used by the programs. Problems like water contamination existed due to lack of trucks used for garbage collection. No illnesses were inflicted among residents as a result of program implementation and the proximity of dumpsites. However, there were reported water contamination in some areas, but no fatalities were observed and recorded.

Introduction

Background of the Study

The province of Ilocos Sur is one of the four provinces of Region 1. It is classified as a first class province as evidenced by economic and social indicators. Like other emerging provinces, Ilocos Sur is characterized by the proliferation of commercial establishments, industrial activities, and provision of basic services by the government. These services are provided through development programs funded by the provincial government through allotments from the national government. However, development programs are not solely funded by the government; some are also financed by non-government organizations (NGO).

Development programs are conceived by the Sangguniang Bayan, approved by the chief executive of the municipality, and implemented by the Municipal Development Coordinator (MDC). Some programs are also conceived through the initiative of the chief executive and further discussed by the policy-making body of the municipality.

Some municipalities of Ilocos Sur are beneficiaries of programs which are funded by the provincial government. Through the Local Government Unit (LGU), these programs are implemented with ample financial requirements, but in some cases, they are stopped due to the unavailability of funds. Such programs range from infrastructure to livelihood, which are social and economic in nature.

The primary goal of development programs is to provide basic services and alleviate the lives of people from poverty. However, the implementation of these programs have also paved the way for the occurrence of problems brought about by the projects. Problems affect very much the peoples' living condition either directly or indirectly. One of these problems is related to environment where most of the populace depend upon.

It has been observed in these municipalities where development is seen that environmental problems do exist also. Although people benefit from these projects, they are unaware of and are unconsciously affected by the negative impacts of the projects in their locality.

Objectives of the Study

This study sought to identify the development programs existing in the province of Ilocos Sur, and to determine the environmental effects brought about by these development programs.

It specifically aimed to:

1. Present the status of program implementation and fund sourcing.
2. Classify the nature of the development programs.
3. Identify the effects of development programs on the environment.
4. Identify the techniques in the disposal and recycling of wastes generated by the development programs.
5. Detennine the illnesses and fatalities generated by the development programs.

Methodology

This study was conducted from January to December 1998. Questionnaires were floated to the MDC's of the different towns in Ilocos Sur, who were under the direct supervision of the LGU of the municipal government.

Descriptive statistics was utilized to describe the development programs of the municipalities of Ilocos Sur. Frequency counts and percentages were used to identify the status and nature of programs, their effects on the environment which include types of wastes generated, kinds of pollution created, techniques of handling wastes generated during the implementation of the development programs, and the illnesses and fatalities resulting from the development programs.

Discussion of Results

Status of Program Implementation

Development programs in the province of Ilocos Sur existed in all the municipalities but they differed in time frame and degree of implementation. Some were short range programs (at least one year); others were long range (maximum of five years).

Data gathered in this study show that these programs were reflected in the records of the Municipal Planning and Development Coordinators (MPDC) of the municipalities and were currently being implemented at the time of the study. Table 1 shows their status of implementation. On-going programs and projects constituted 69% of the total programs; 13.8% were recently completed; 10.3% were half-completed; while only 6.9% were waiting for funding.

Table 1. Status of implementation of the development programs in Ilocos Sur, CY 1998.

STATUS	NO.	%
On-going	20	69.0
Completed	2	13.8
Half-completed	3	10.3
For funding	4	6.9

Funding of Development Programs

Development programs in the municipalities of Ilocos Sur are executed by the government particularly the Local Government Units (LGU) because the sources of funds for such programs come from the government.

Table 2 presents the nature of the funding source of the development programs. It shows that 79.3% of the total programs were funded by the government sector while only 20.6% were supported by private institutions. Government funding sources were the Countrywide Development Fund (CDF), Internal Revenue Allotment (IRA), Republic Act (RA) 7171, and the private institutions were the following: Japan Inter-Cooperation Agency JICA), SRA, ADP and others.

Table 2. Nature of funding source of development programs in Ilocos Sur, CY 1998.

NATURE OF FUNDING SOURCE	NO.	%
Public (government)	23	79.3
Private	6	20.6

Table 3 shows the sources of funds by entities. The data reveal that 34.5% of the Ilocos Sur development programs were funded by the CDF provided by the national government through the congressional representative of the province.

The IRA of the LGU's also funded 27.6% of all the development programs in the province. Likewise, 13.8% of these programs were funded by RA 7171. This Republic Act provides that a share of the excise taxes taken from tobacco would be given by the national government to the tobacco farmers via the provincial government. Ilocos Sur is the top recipient of RA 7171 funds, for it is the biggest Virginia tobacco-growing province in Region I. The HES also funded 3.4% of the development programs.

Table 3. Sources of funds of development programs in Ilocos Sur, **CY 1998, according to institution/entity.**

INSTITUTION/ENTITY	NO.	%
Public (Government)		
Countrywide Development Fund (CDF)	10	34.5
Internal Revenue Allotment (IRA)	8	27.6
Republic Act 7171	4	13.8
HES	1	3.4
Private		
Japan Inter-Cooperation Agency (JICA)	1	3.4
SRA	2	6.9
ADP	1	3.4
Others	2	6.9

On the other hand, some development programs of the province were funded by the private entities such as the SRA (6.9%), JICA and ADP (3.4% each), and others (6.9%).

Nature of Development Programs

The development programs in the province were generally geared towards the preservation and protection of the environment and the maintenance of ecological balance. The programs prioritized by the LGU's are shown in Table 4. The majority (61.7%) of the development programs concerned solid waste management, clean and green, watershed, and organic farming.

Among these environment and ecology programs, solid waste management and clean and green were the major concerns of LGU's (24.1% and 20.6%, respectively). Along the areas of watershed, 3.4% of the programs were geared to agroforestry and 6.8% to water supply development such as development of springs and creeks. Two programs (6.8%) were concerned with organic farming. Infrastructure programs totalled 30.8% of all the development programs. Among them ,13.7% were on construction

of markets, 10.3% on road construction, and 3.4% each on construction of pavement and tobacco curing barn.

Table 4. Nature of the development programs in Ilocos Sur, CY 1998.

NATURE OF **PROGRAM**	**NO.**	%
Solid waste management	7	24.1
Clean and green	6	20.6
Infrastructure:		
Road	3	10.3
Market	4	13.7
Pavement	1	3.4
Tobacco curing barn	1	3.4
Watershed		
Agroforestry	1	3.4
Water supply	2	6.8
Organic farming	2	6.8

Environmental Effects of the Development Programs

Although development programs uplift the peoples' social and economic well-being, disadvantageous phenomena may result from their implementation. In this study, these disadvantages or negative effects on the environment were identified. Table 5 shows that 75.9% of the development programs caused pollution and 44.8% caused environmental degradation. This implies that some programs caused both pollution and environmental degradation. On the other hand, 24.1% of the development programs had no negative effects on the environment. This implies that some programs were environment-friendly and were not hazardous to the locality.

Table *S*. Effects of the development programs on the environment.

EFFECT	**NO.**	%
Pollution	22	75.9
Environmental degradation	13	44.8
No negative effects	7	24.1

Pollution. Table 6 shows the types of pollution generated by the development programs. Soil/land pollution ranked first; 27.6% of the programs generated this. **Air** pollution brought about by 24.1% of the programs ranked second. This was followed by water pollution resulting from 20.7% of the programs. Only one program (3.4%) brought about noise pollution. On the other hand, 24.1% of the development programs did not generate pollution.

Table 6. Types of pollution generated by the development programs.

TYPE	No.	%
Soil/land	8	27.6
Air	7	24.1
Water	6	20.7
Noise	7	3.4
No pollution	1	24.1

Environmental degradation. The kinds of environmental degradation brought about by the development programs are shown in Table 7. Water contamination was caused by 20.7% of the development program; land devastation, by 10.3%; soil erosion and plant/tree wilt, by 6.9% each. It was interesting to note that while three-fourths (75.9%) of the programs generated pollution, more than one-half did not generate environmental degradation.

Table 7. Kinds of environmental degradation generated by the development programs.

KIND	NO.	%
Water contamination	6	20.7
Land devastation	3	10.3
Soil erosion	2	6.9
Plant/tree wilt	2	6.9
No environmental degradation	16	55.2

Waste Disposal and Recycling Techniques

It was found that these development programs generated wastes in the form of biodegradable and non-biodegradable materials. Both types of garbage were disposed of in several ways (Table 8). Nine programs (31.0%) used their own garbage dumpsite. Dumpsites were generally located 3-4 km away from the town proper. But, two programs used garbage dumpsites located within the town proper. Eight programs (27.6%) used their garbage as landfill and burned them, while 17.2% used their wastes as landfill. Only 13.8% of the programs recycled their garbage; 6.9% coursed the pollutants into the seas and rivers; and 3.4% simply allowed the pollutants to be exhausted into the atmosphere. Of the four programs that recycled their wastes, 10.3% used manual recycling and 3.4% used a combination of manual and automatic recycling technique (Table 9).

Table 8. Waste disposal techniques used in the development programs.

TECHNIQUE	NO.	%
Own dumpsite	9	31.0
Landfill and burn	8	27.6
Landfill	5	17.2
Recycle	4	13.8
Seas/rivers	2	6.9
Atmosphere	1	3.4

Table 9. Waste recycling techniques employed in the development programs.

TECHNIQUE	NO.	%
Manual	3	10.3
Combination of manual and automatic	1	3.4
No recycling	25	86.2

One of the problems in handling garbage was the lack of garbage trucks to collect wastes daily especially in big municipalities like Vigan, Candon, Cabugao, Sinait, Sta. Maria, Narvacan, and Tagudin. This study found out that 51.7% of the programs did not use garbage trucks; 24.1% used one truck; 20.7% used two to three garbage trucks; and 3.4% used four to five garbage trucks (Table 10).

Table 10. Number of garbage trucks used in collecting garbage of development programs.

NUMBER OF VEHICLES	NO.	%
0	15	51.7
1	7	24.1
2-3	6	20.7
4-5	1	3.4

Illnesses and Fatalities Generated by the Development Programs

Wastes and garbage generated by the development programs were disposed of into dumpsites owned, leased, or rented by the municipalities which were mostly located 3-4 km away from the town proper. However, two programs disposed of their wastes within their vicinities. The proximity of the dumpsites and the inavailability of recycling techniques resulted to negative effects on the environment and eventually to humans. While it was found out that water contamination was one of the environmental hazards, neither illnesses nor fatalities occurred as a result of the implementation of the development programs.

Summary and Conclusions

1. On-going development programs constituted 69% of the total number of programs/projects in the province of Ilocos Sur under the Local Government Units (LGU).
2. Most of the programs (79.3%) were funded by the government; only 20.6% were funded by private entities. The CDF of congressional representatives and the IRA of LGU's were the major funds sources of the development programs in the province.

3. Among the development programs listed, environment- and ecology-oriented programs, specifically solid waste management, clean and green, watershed, and organic farming were the priorities of the LGU's.
4. Soil, air, and water pollutions were created by the majority of the development programs.
5. Environmental degradation brought about by the development programs was evidenced by water contamination, land devastation, soil erosion, and plant wilt.
6. Biodegradable and non-biodegradable garbage and wastes generated by the programs were disposed of in the dumpsite, as landfill and bum and as landfill only. Recycling by hand was also practiced.
7. Lack of garbage trucks was a problem of the municipalities. Only one program used four to five trucks while half of them had no truck used for garbage collection.
8. There were no illnesses inflicted among residents as a result of implementation of the development programs and the proximity of dumpsites made.
9. Although there were reported water contamination in some areas, no fatalities were observed and recorded.

Recommendations

1. There is a need to evaluate annually the existing development programs in Ilocos Sur.
2. Proposals of Local Government Units for funding must be extended to all sectors of society to allow interested parties especially non-government institutions to enter into agreement and finance worthwhile programs.
3. LGU's and local executives must also think of development programs on areas other than environment and ecology. Programs geared towards livelihood must be prioritized to help the people.
4. There must be a close coordination among government agencies, particularly DILG with DENR, in order to have check and balance of possible negative effects of development programs to the environment.
5. The government must provide additional garbage vehicles to augment the lone existing vehicle in the municipalities and allot funds for the acquisition of lots for dumpsites.
6. The national government, through the LGU's, must design and promulgate measures in order to protect and preserve the environment.

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