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Jigsaw Map Making and Photo/Writing Wrap-up

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SUMMARY: This note describes the design and application of two activities used in assessing community development needs of villages in Cambodia. Descriptions include the method of use, further applications, and costs of each tool.
1. **The Ecuador Project**: Discusses the basic goals, philosophy, and methodology of a rural, nonformal education project.
2. **Conscientizacao and Simulation Games**: Discusses Paulo Freire’s educational philosophy and the use of simulation games for consciousness-raising.
3. **Hacienda**: Describes a board game simulating economic and social realities of the Ecuadorian Sierra.
4. **Mercado**: Describes a card game which provides practice in basic market mathematics.
5. **Ashton-Warner Literacy Method**: Describes a modified version of Sylvia Ashton-Warner’s approach to literacy training used in Ecuadorian villages.
6. **Letter Dice**: Simple, participatory letter fluency games; a non-threatening approach to literacy.
7. **Bingo**: Describes Bingo-like fluency games for words and numerical operations.
8. **Math Fluency Games**: A variety of simple games that provide practice in basic arithmetic operations.
9. **Letter Fluency Games**: A variety of simple games that provide practice in basic literacy skills.
10. **Tabacundo - Battery-Powered Dialogue**: Describes uses of tape recorder for feedback and programming in a rural radio school program.
11. **The Facilitator Model**: Describes the facilitator concept for community development in rural Ecuador.
12. **Puppets and the Theater**: Describes the use of theater, puppets, and music as instruments of literacy and consciousness awareness in a rural community.
13. **Fotonovella**: Describes development and use of photo-literature as an instrument for literacy and consciousness-raising.
14. **The Education Game**: Describes a board game that simulates inequities of many educational systems.
15. **The Fun Bus**: Describes an nonformal education project in Massachusetts that used music, puppetry, and drama to involve local people in workshops on town issues.
16. **Field Training Through Case Studies**: Describes the production of actual village case studies as a training method for community development workers in Indonesia.
17. **Participatory Communication in Nonformal Education**: Discusses use of simple processing techniques for information sharing, formative evaluation, and staff communication.
18. **Bintang Anda - A Game Process for Community Development**: Describes an integrated community development approach based on the use of simulation games.
21. **Q-Sort as Needs Assessment Technique**: Describes how a research technique can be adapted for needs assessment in nonformal education.
22. **The Learning Fund - Income Generation Through NFE**: Describes a program which combines education and income-generation activities through learning groups.
23. **Game of Childhood Diseases**: Describes a board game which addresses health problems of young children in the Third World.
24. **Road-to-Birth Game**: Describes a board game which addresses health concerns of Third World women during the pre-natal period.
25. **Discussion Starters**: Describes how dialogue and discussion can be facilitated in community groups by using simple audio-visual materials.
26. **Record-Keeping for Small Rural Businesses**: Describes how facilitators can help farmers, market sellers, and women’s groups keep track of income and expenses.
27. **Community Newspaper**: Describes how to create and publish a community-level newspaper in a participatory fashion.
28. **Skills Drills**: How to make and use a simple board game for teaching basic math and literacy skills.
29. **Jigsaw Map Making and Photo/Writing Wrap-Up**: Describes two participatory activities designed for needs assessment of rural communities in Cambodia.
This technical note describes two activities that were designed and implemented as part of the needs assessment process at the beginning of the Cambodian Village Development Project (CVDP), implemented in rural Cambodia during 1992-1994. The former activity was implemented at the beginning of the needs assessment to get the process started, and the latter at the end to provide summary and closure.

The first activity, Jigsaw Map Making, was a response to needs on two levels: first, the need for a village map to organize and chart progress of the daily house-to-house data gathering conducted by village-level volunteers (VLVs) and, second, the need to employ, from the outset, activities and approaches that were participatory and cooperative as a way to mitigate the fragmentation and isolation that characterized Cambodian communities at that time. The map making activity also provided opportunities for villagers to learn more about their environment and to practice leadership and organizational skills.

The second activity, Photo/Writing Wrap-Up, was utilized at the end of the needs assessment process and enabled participants to see the major needs of their villages through a different medium (the lens of a camera). More importantly, the activity was a way of summarizing the major needs of the villagers, action-planning, and providing closure. This activity, like the Jigsaw Map Making, was participatory and required cooperation among the VLVs. Owing to its design, it provided opportunities for participants to exercise leadership and organizational skills. Beyond that, the photo-writing activity nurtured important critical assessment and problem-solving skills that were lacking in the participants at the beginning of the CVDP project.

Although both activities resulted in products that were integral to the needs assessment process, to a large extent in both cases the process was the most important product. The process of conducting the activities, and the skills and perspectives that were gained in doing so, were arguably more important than the actual material outcomes. After a brief description of the setting and the nature of the CVDP project, the two activities will be described in turn with regard to the Basic Method, Utilization, Further Applications, Costs, and Conclusions.
This technical note describes two activities, Jigsaw Map Making and Photo/Writing Wrap-Up, used in training community development workers in Cambodian villages during 1992-1994. Clear and concise explanations of how these tools encouraged indigenous assessment of needs in rural Cambodian communities suggest ways of applying them to contexts beyond the particular ones mentioned here.

The authors would like to acknowledge the input of US-based project staff -- Hollyn Green, Bob Miltz, and Phyllis Robinson -- who assisted in producing the Cambodian Village Development Project field manual, "Assessing Needs and Strengths in the Cambodian Village Development Context: The Case of Trapaing Chan". Figures 9-14 (pp. 15-20), with minor changes, are derived from this manual.

Readers are encouraged to share reactions to this technical note as well as suggestions for future ones. Please direct correspondence to:

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The overall purpose of the CVDP project, implemented by the Center for International Education through the University of Massachusetts Foundation, was to enhance the abilities of rural Cambodian communities to effectively articulate their needs, to organize themselves, and to implement development projects to meet those needs. The more specific goals of the project were (1) to train the existing leadership in community organizing, (2) to assist in the development of village-level organizations, (3) to provide assistance and seed money for village-identified projects, and (4) to connect the four villages of Khum Trapaising Chan, the project site, through a federation trained in community development skills.

Given the preceding two decades of civil war and internal upheaval, the social fabric of Cambodia had undergone a severe unraveling, resulting in villages and communities where levels of trust have been deeply shaken. This, in turn, effects the capacity to develop leadership and organizational skills that are much needed in rural villages. Consequently, the situation in rural Cambodia is characterized by fragmentation and isolation. In response to this, the CVDP project assisted Cambodian communities to assess, articulate, organize, and problem-solve for themselves at the local level and to implement small-scale development projects that addressed their self-identified needs.

Although project strategy evolved over time, at the beginning one of the major vehicles of project implementation was the selection and training of ten village-level volunteers (VLVs) who would conduct a house-to-house needs assessment. The VLVs were relatively young, had obtained an average of four years of formal schooling, and were inexperienced in leadership and organizing initiatives. Consequently, the first tasks of project staff were to design a needs assessment instrument in concert with the VLVs and village leaders to be used in the house-to-house survey, train the VLVs to conduct the needs assessment, and monitor the data collection process. The Jigsaw Map Making activity was carried out in the afternoons during the needs assessment training, and the Photo/Writing Wrap-Up activity was implemented at the end of the data gathering process to provide closure. In both instances, the concern was to utilize materials that were low-tech and locally available.
Khum (Commune) Trapaing Chan is comprised of four villages (Kandal, Kbal Domrey, Sanlong, and Trapaing Chan), with a total population of 3,600. Because initially the project's work centered on building a prototype of its community development model in one village, data were gathered only from the village of Trapaing Chan, comprised of 182 households. As the project progressed, the needs assessment data were used as a basis for planning interventions in the other three villages because of their close proximity and similar needs.
Basic Method

Fundamental to the Jigsaw Map Making activity was the belief that map making should be a participatory process where, as in assembling a jigsaw puzzle, the success of the whole depends on the input and teamwork of the parts. The map would be complete and serviceable only if all participants completed their assignments and cooperated in contributing their "piece" to form the whole. The rationale for making the map emerged through discussion between the VLVs and the two authors during the morning training. Initially the VLVs were unable to answer the question, "Why do we need a map of Trapaing Chan in order to conduct a needs assessment?" By asking further questions, however, the authors helped the VLVs see the value of a map: "Where are all the houses in the village? How will we know when houses have been visited? How will we plan the next day's work?" The need for a map to organize the needs assessment process and to chart daily progress soon became apparent.

(a) The process (see Figures 1-8) began with the authors and several VLVs driving around the village and making a very simple map depicting only the main roads and paths (Figure 1).

(b) Next the map (drawn on a normal-sized sheet of paper) was divided into five parts and color-coded (Figure 2). (Note: In this technical note the different pieces of the map are not represented by colors but by different styles of lines.) The VLVs were then paired and each pair was given an enlargement of their particular piece (Figures 3-7) of the larger map. The pairs were then asked to walk their route and to mark all houses and smaller paths on their portion of the larger map.

(c) The VLVs spent two afternoons walking their designated route in order to locate the houses and paths, which were marked on the enlarged portion of the map to roughly represent actual physical distance and proximity.

(d) On the third afternoon, the VLVs joined together and, in jigsaw fashion, fit their pieces of the map together. After drawing the major and minor roads and other geographical
features and landmarks on two large sheets of glued-together newsprint, the VLVs plotted all houses onto the large map (approximately 5' by 6'). Each house was then assigned a number (Figure 8). The map was later taken to a nearby market and sealed in plastic; then it was mounted on a wall in the training room.

(e) At the end of each day, houses that had been canvassed were marked off (on the plastic) and the houses to be canvassed the next day were noted, the households were informed of this by the next day's team leader, and assignments of households to canvas were made to pairs of VLVs. The data collection encompassed four weeks.
Utilization

Several observations regarding the use of the Jigsaw Map Making activity are worth highlighting. First, map making had strong appeal to the VLVs. Perhaps it was simply the novelty of the activity; perhaps it was the empowerment felt by the VLVs in organizing and successfully carrying out a relatively complex task; or perhaps it was the increased knowledge and sense of efficacy at being able to better place one's self spatially in relation to other things. The broad appeal of map making has been confirmed by others working in community development.

Second, map making illustrated perspectives. People orient themselves differently in their "world" depending on their physical standpoint and cultural conventions. The preliminary map with only main roads and paths (Figure 1) was oriented north-south, like every "good" map in the West. This was also the direction from which project staff approached the village from their office in Kompong Chhnang City. The commune leader drew a small map of the village, oriented east-west (east at the top, west at the bottom) which was the view of the village from his house. Finally, the VLVs drew their map oriented west-east (west at the top, east at the bottom), probably because most of them live on the eastern side of the village and view the village from that standpoint.

Third, the jigsaw approach was effective as a way to make a complex task manageable and genuinely participatory. Dividing the village into five parts, each assigned to a pair of VLVs, enabled the VLVs to canvass all paths and houses without confusion and overlap. Moreover, with regard to the rationale of the activity, the jigsaw nature of the exercise required that all VLVs participate fully and work collaboratively in order for the overall effort to succeed. The empowerment and ownership derived from the activity were unmistakable. In fact, the commune leader had produced a sufficiently sizable map that could have been used for needs assessment purposes but this was rejected in favor of having the VLVs go through the process of producing their own map. The benefits far outweighed the cost in terms of time.
Further Applications

Enclosing the map in plastic has benefits that go beyond protecting the map from the elements. It also enabled the VLVs to mark off the houses visited each day on the plastic rather than on the map itself. Subsequently, the outside plastic was wiped off after data gathering and used for village development activities such as forming community groups according to location of houses or deciding the location of community wells, latrines, and vegetable garden plots.

The jigsaw concept itself has further applications, particularly as a training tool. The basic concept involves collaborative problem-solving where each member of a group is given a piece of information, or is asked to perform a task, which will be combined with the information or tasks of others to complete an activity or endeavor. For example, the CVDP project in a training on well-digging drew the various steps of the process on large cards, distributed the cards to eight participants, and asked them to put the cards in the correct order. The people holding the cards and the remaining participants needed to negotiate the correct order together. Similarly, different segments of a written critical incident were cut up and distributed to members of a training group, who were then required to re-combine the events into a coherent scenario and then arrive at a solution to the problem. To make use of the information required negotiation. The participatory, cooperative, and dialogical nature of these activities, beyond having value in themselves, served to model the major processes of development.

Costs

Jigsaw Map Making is a genuinely low-cost, low-tech activity. It requires several sheets of regular-sized paper, pencils and pens, two sheets of newsprint (or several smaller sheets of paper), tape, and plastic sheeting to enclose the map (preferred but not necessary). If color markers are not available for color-coding, different styles of lines and symbols can be used (as in this tech. note) to distinguish the five major jigsaw "pieces" of the preliminary map.
Coming soon.

Having the village-level volunteers walk around the village to make the map prepared them for the house-to-house survey to follow.

Conclusions

The Jigsaw Map Making activity described here had strong appeal and was very effective as a dimension of the needs assessment process conducted by the CVDP in collaboration with the villagers of Trapang Chan. The benefits far exceeded the costs in terms of time. Having the VLVs walk around the village to make the map prepared them for the house-to-house survey to follow. This was not insignificant given the fact that the ten VLVs were a mixture of people from all four villages of the commune and that there was little interaction or familiarity across villages because of the distances between villages and the general isolation in rural Cambodia. Further, having a grounded, playful activity to pursue in the afternoons while conducting more formal training in the morning, sustained interest and energy without overloading the trainees.

More importantly, the activity required the VLVs to exercise leadership and organizing skills. Throughout the month-long needs assessment process the role of team leader was rotated weekly, with equal opportunities for women. The responsibility and the empowerment it represented had a significant impact on the VLVs. Most importantly, the values and processes the Jigsaw Map Making activity required -- participation, cooperation, ownership, empowerment -- were exactly those required of village development in general. In that sense, the activity itself modeled sustainable development processes.
First they brainstormed about the 12 most pressing needs in Trapaing Chan... At this time there were spirited discussions of how to best capture the various needs on film.

PHOTO/WRITING WRAP-UP

Basic Method

After the house-to-house survey was completed there was the need to give closure to the data gathering and to begin the important process of data analysis and strategic planning on how to meet the identified needs. While this latter process of data analysis, critical assessment, and problem-solving continued for some time with clusters of villagers organized into focus groups (in agriculture, education, and women's issues), it started with the Photo/Writing Wrap-Up activity.

(a) The authors began by explaining to the VLVs that it would be useful to summarize and expand upon the findings of the needs assessment. This could be effectively accomplished by looking at Trapaing Chan through a different medium -- through the lens of a camera. The Photo/Writing Wrap-Up activity was then explained.

(b) Training was provided on the use of the camera, a simple Canon auto-focus.

(c) Organizing: As the VLVs became clearer about the task they faced, they realized the need to organize themselves. First they brainstormed about the 12 most pressing needs in Trapaing Chan. When these were listed on newsprint, the VLVs paired up and decided which pair would take pictures depicting which needs. With the guidance of the team leader for that week, they drew up a schedule for when each pair would have the camera. At this time there were spirited discussions of how to best capture the various needs on film.

(d) Photo-taking: The VLVs spent one day taking snapshots of the primary needs of the village, drawing upon the insights they had gained from the recently completed house-to-house survey. The VLVs were encouraged to take more than one photograph of each need so that the most vivid one could be selected. The film was then developed in the capital, Phnom Penh.

(e) When the photos were developed, they were taped (temporarily) onto a large sheet of cardboard with the heading, "The Needs of Trapaing Chan". The VLVs were then asked to
The group decided which photo best depicted each need, a process involving energetic discussion and negotiation.

identify the pictures they took and which need was represented. This generated much interest and enthusiasm. The group then decided which photo best depicted each need, a process involving energetic discussion and negotiation.

(f) Each of the selected photographs was taped to the top of a sheet of paper on which there were four headings: "Problem", "Causes", "Need", and "Activities". Three such sheets with headings were stapled together, with the picture only on the first page. The VLVs were asked to write responses for each picture under each heading. (See Figures 9-14 for completed sheets of six needs.)

In order to guide the VLVs through the writing process, a framework was provided in the form of questions for each heading, which were written on newsprint. For example, under the heading "Problem" questions included "Is it an old or a new problem?" "Is it continual or seasonal?" "Is it shared by many or few people?" Under the heading "Causes" the following prompts were provided: "Is the cause environmental? social? economic? educational? cultural?" The "Activities" portion asked the VLVs to think about what action should be taken with assistance from the CVDP project to alleviate that particular need.

(g) The VLVs were then divided into three groups, each with one of the needs, i.e., each group had one set of three pages with a photo at the top and headings underneath it. The writing portion was conducted in a round-robin fashion: For the first 30 minutes each group brainstormed about the problem their picture depicted, the causes, the need, and what action the community should take to alleviate that need. The responses were written under each heading. After this first contribution, the papers were rotated. The second group read the input of the first group and then added whatever relevant information they wished under each heading on the second page. The papers were then rotated a second time and the third group read the contributions of the first two groups and, when possible, added further insights and comments regarding that need on the third sheet. This process was repeated until all 12 needs captured on film had been analyzed.
PROBLEM: Too many children

According to our survey, 40 percent of the families in Trapaing Chan say they have too many children. Having too many children makes their lives so difficult. They do not know how to deal with this problem because there is no birth control education or program available for them.

CAUSE: Having too many children in the family is one of the problems that causes poverty in the village.

NEED: They need birth control education and a program to limit the number of children.

ACTIVITIES: We, the people and the authority of Trapaing Chan, are ready to work with any agency to implement a program to help us in dealing with this problem.

Figure 9
PROBLEM: Lack of drinking water

In the dry season, near-by ponds are dry, leaving 80 percent of villagers without adequate, clean drinking water. As shown in the picture, the villagers have to take a long walk to take a bath and carry the water back home in containers they carry on their heads, shoulders, and with their hands.

CAUSE: There is no rain in the dry season and there is a lack of knowledge and leadership in digging wells.

NEED: The villagers need help in acquiring knowledge about digging wells and promoting leadership for that project.

ACTIVITIES: People of Trapaing Chan are waiting for help and willing to cooperate with the project.

Figure 10
PROBLEM: Food shortage

Seventy percent of the people in Trapaing Chan do not produce enough rice to feed themselves all year round. Several months of food shortage makes life in the village so miserable.

CAUSE: Having too many children, lack of an irrigation system, poor agricultural land, a lack of education, and a lack of economic opportunity besides agriculture cause food shortages in Trapaing Chan.

NEED: Seventy percent of the population in Trapaing Chan need food for several months to live all year round.

ACTIVITIES: People in Trapaing Chan are ready to join in development.

Figure 11
PROBLEM: Poor farm land

Trapaing Chan has poor farm land which affects everyone's life in the village. The villagers are farmers who totally depend on farming as their main source of income and food. They have used all the available resources -- cow manure, leaves, and artificial fertilizer -- to upgrade the farm land. So far they have not succeeded in producing enough rice to feed themselves.

CAUSE: Naturally, being too dry in the hot season ruins the farmland, and the government does not provide fertilizer and education to farmers to improve their farming.

NEED: The farmers in the village need to learn how to improve their farmland and how to make fertilizer.

ACTIVITIES: People and the authority of Trapaing Chan are ready to support a project that will help them to solve this problem.

Figure 12
PROBLEM: Lack of sanitation, latrines

There are no latrines in Trapaing Chan. Villagers dispose of their waste in the nearby forest or bushes. Sometimes they bury it to eliminate its odor.

CAUSE: Culturally, people of Trapaing Chan do not use latrines. They are poor and not formally educated. Therefore, they cannot understand how important the latrine is.

NEED: People of Trapaing Chan need to be educated about sanitation and taught how to build a latrine.

ACTIVITIES: If there were a project to help people learn how to build latrines, the villagers would actively participate.

Figure 13
PROBLEM: Lack of capital

A survey shows that 95 percent of the villagers need some capital to invest in their basic farming equipment. With a small amount of capital for the equipment, they would be able to increase their agricultural production.

CAUSE: People are too poor to afford to buy new farming equipment or create any new business.

NEED: They need small capital, seed money, to invest in farming equipment and in creating new businesses to generate extra income.

ACTIVITIES: The villagers would like a loan or some seed money to invest in farming and to start up new businesses.

Figure 14
The village-level volunteers were encouraged to consider and take pictures of needs that are less physical -- needs that are abstract, emotional, or psychological. Capturing these on film requires imagination.

Utilization

Several observations about the use of the Photo/Writing Wrap-Up activity are worth making. First, like the Jigsaw Map Making activity, the Photo/Writing Wrap-Up activity generated a great deal of enthusiasm, and had a powerful effect on the VLVs. Again there were several possible reasons for this: the novelty of using a camera for the first time; the natural curiosity regarding how their pictures turned out; and a feeling of efficacy derived from carrying out a new and creative task.

Second, like the Jigsaw Map Making activity, organization is important in this activity. Before sending the VLVs off to carry out the activity, some planning was done with the help of project staff. In order to avoid getting many monotonous photos of the same need, the VLVs brain stormed the major needs of the village based upon the data they had gathered earlier. This enabled them to select the needs they wanted to capture on film so that there was no overlap between pairs. Further, it was effective to have the team leader organize the time each pair would have the camera. This prevented misunderstanding and delays during the photo-taking process. However, even with the best of planning, things can go awry. For example, despite cautions not to open the camera, one pair of VLVs capitulated to their eagerness to see their pictures, and opened the camera, exposing the entire roll of film. Fortunately this was near the beginning of the roll and caused only a minor delay.

Third, the authors encouraged the VLVs to consider and take pictures of needs that are less physical -- needs that are abstract, emotional, or psychological. Capturing these on film requires imagination. The authors, as facilitators, were caught in the tension between giving too much guidance for the VLVs so that they nearly co-opted the creative aspect of the task versus providing too little guidance so the VLVs could not effectively carry out the task.

Fourth, the round-robin format is a valuable approach to generating input and dialogue among many individuals. The technique begins as one person or group writes an idea on a piece of paper -- in this case, the major needs of Trapaiing Chan and their analysis. The paper is then passed along to another group to read and add their own comments. This process
continues until all people/groups have had an opportunity to analyze each need or issue or problem, and to comment on the other ideas. Groups appreciate the opportunity to interact with each other's work. Moreover, adding to the previous group's responses becomes an exercise in critical thinking. The VLVs' responses to the "Activities" aspect of each need sheet started a process of critical analysis that was nurtured for the following 14 months as they continued to be involved in the project. By the end of that period, the VLVs' ability to identify genuine needs, analyze them, and plan action to solve them, was much stronger.

Further Applications

Photography can be put to many creative and effective uses in community development. Beyond its use in needs assessments as in the present activity, it can be used for monitoring and evaluation, and for myriad purposes in training. Beyond these uses, the CVDP project maintained community bulletin boards on which were mounted enlargements of photos depicting various project initiatives. In addition to disseminating information about project events and accomplishments, the photos encouraged a sense of collective achievement on the part of the people. As part of the healing mission of the project, the community bulletin boards became community rallying points.

Further, the round-robin approach used for the writing aspect of the activity is one that has broad potential as a general training tool. As described above, round-robin approaches encourage collaboration, interaction, critical thinking, and the feeling of shared achievement.

Costs

The activity, of course, assumes that either project staff or participants have a camera and that film can be developed within a reasonable amount of time. To simplify the task and nearly guarantee technical success, an auto-focus camera should be used. Other materials include sheets of paper, one large sheet of thin cardboard, tape, and pencils, pens, and markers.
The idea of importing what is largely alien and generally unavailable technology into rural communities is one that needs considerable reflection before being acted upon.

Conclusions

The benefits of the Photo/Writing Wrap-Up activity have been identified already: it provided the opportunity to utilize a new technology and to see oneself through a different medium, something that has strong natural appeal; it set in motion the process of critical thinking and analysis; and, like the Jigsaw Map Making activity, it was by nature participatory, empowering, and provided ownership of the materials produced. As with the Jigsaw Map Making activity, here too the process was the most important product.

Unlike the Jigsaw Map Making activity, however, there are more costs and potential difficulties. The idea of importing what is largely alien and generally unavailable technology into rural communities is one that needs considerable reflection before being acted upon. Issues of appropriateness and sustainability are serious concerns. In the case of Trapaing Chan, some villagers were on the verge of having access to locally made cameras; consequently, the discontinuity seemed less severe and disruptive. One change that would have helped to mitigate feelings that the technology was an external input would have been to use black and white instead of color film. That way the VLVs could have taken responsibility for having the film developed in Ponley, just nine kilometers from Trapaing Chan, instead of project staff doing that in the distant capital.

A further concern is that the photography aspect of the activity might become gimmicky and detract attention from the subsequent analysis and strategic planning phase. In the case of Trapaing Chan, responses of the VLVs to action planning were rather unimaginative. However, rather than the result of distractions caused by the novelty of using photography as a medium, this seemed attributable to the VLVs' lack of experience and skills in delving deeply into analyzing needs and problem-solving. Perhaps more guidelines for the writing were needed as well. Interestingly, the needs analysis sheets (Figures 9-14) provide a baseline for how much the VLVs learned and the skills they developed in the following year as they continued to work on the CVDP. This might suggest that the Photo/Writing activity would work best at a somewhat later point in the VLVs' development when they possessed the requisite skills in critical assessment and strategic planning.