

Evaluation 2004

China Polioproject



Forord

Det ble i 2004 gjennomført tre lokalbaserte evalueringer i Polioprojektet. Evalueringene tok sikte på å kartlegge

- Fysisk status for ungdommene i polioprojektet
- Psykisk helse
- Mikrokredittprogrammet som er en del av polioprojektet

Vedlagt følger de tre rapportene fra årets evalueringer.

Kunming 31.12.2004

Jon Harald Tune

Physical Status of Poliomyelitis Sequela in PiZhou City

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There was a epidemic outbreak of poliomyelitis in Pizhou City of Jangsu province of China during June to October, 1989, which resulted in 597 polio victims. The new hope center, initiated by Dr. Zhang Fushi with support of the Norway***** and the Amity Foundation, was established for the rehabilitation of those victims in 1992. Most polio victims have significantly improved their function through 12-year rehabilitation service and also attributed to the growth and development. However, most of them still have dysfunction and difficulties with independent life. A survey and follow-up study was done to assess the progress of the polio victims and future direction for their rehabilitation service in June, 2004.

1. Subjects and Methods

1.1 Subject The survey included 333 polio victims in the new hope center or from the registered victims from the communities of Pi City and surrounding areas.

1.2 Method The study was carried out by 5 groups. One group consisted of 2 physiatrists and 1 therapist. Assessment included muscle strength, joint rang of motion, limb deformities, activities of daily living (ADL), previous surgical interventions operation and orthosis.

1.2.1 Muscle strength Manual Muscle Testing was employed (0~5grade) to assess muscle strength including iliopsoas, gluteus medius, gluteus maximus, quadriceps, hamstrings, tibialis anterior, triceps, peroneus longus and peroneus brevis. The strength was scored according to the grade of strength. Muscle grade one is equal to one point of the score. The point 40 or Greater was defined as the margin of able limb.

1.2.2 Range of joint motion (ROM) measured by goniometer.

1.2.3 Limbs length The distance was measured from the anterior superior iliac to medial malleolus and from nave to the medial malleolus, respectively. Anatomical length and functional length were considered during the measurement.

1.2.4 Deformity analysis Foot, pelvic, hip, knee and ankle joint were analyzed by physical examination and X-ray.

1.2.5 ADL The same items of daily living as previous were evaluated. The items included: orthosis (10 points), bed and chair transferring (15 points), grooming (5 points), toileting (10 points), bathing (5 points), walking (15 points), capability to resume upright position after falling (10 points), house keeping (15 points), group activities (15 points) and community activities (15 points). The grades included: dependent <25 points; moderate dependent 25-49 points; partially independent 50-74 points; independent \geq 75 points.

2 Results

2.1 Epidemiology

2.1.1 Region distribution 47 (14.1%) in Chenlou town, 46(13.8%) in Picheng town and 43(12.9%) in Guanhu town table 1).

Table 1. Epidemiology of the poliomyelitis victims in Pizhou

region	Number	Percentage
Xulou	1	0.3
Yitang	1	0.3
Zhaodun	1	0.3
Xueji	1	0.3
Jiakou	1	0.3
Daishan	1	0.3
Bayiji	1	0.3
Hegou	1	0.3
Shuyang	1	0.3
Suojin Village Of NanJing	1	0.3
Xiaoxian Of Anhui Province	1	0.3
Xinqiao	2	0.6
Tanshang	2	0.6
Xutang	3	0.9
Nianzhuang	4	1.2
Xinglou	4	1.2
Paoche	6	1.8
Gangshang	8	2.4
Yanzibu	9	2.7
Lianfang	11	3.3
Baibu	11	3.3
Chefushan	12	3.6
TieFu	17	5.1
Zhouzhuang	17	5.1
Daizhuang	18	5.4
Hongqi	20	6.0
Chahe	21	6.3
Sihu	21	6.3
Guanhu	43	12.9
Picheng	46	13.8
Zhenlou	47	14.1
Total	333	100.0

2.1.2 Age Most victims aged 15 to 17 years old (97%, table 2).

Table 2. Age of the poliomyelitis sequela

Age(Years)	Number(person)	Percentage(%)
14	1	0.3
15	56	16.8
16	197	59.2
17	70	21.0
18	4	1.2
19	3	0.9
20	2	0.6
Total	333	100.0

2.1.3 Gender The number of male was 170 and female was 163.

2.2 Physical function

2.2.1 Ambulation 135 subjects walked independently and 148 walked with orthosis and/or crutches (table 3).

Table 3. Feature of ambulation

Ambulation	Number(person)	Percentage(%)
Crawl	2	0.6
Independent Walking	135	40.5
Single-crutch	37	11.1
Double-crutch	148	44.5
Wheelchair	11	3.3
Total	333	100.0

2.2.2 Discrepancy of lower limbs The discrepancy was between 0.5 cm to 13.0 cm. Most victims (162 cases) had discrepancies lesser than 3.5 cm. However, 133 subjects may need surgery and/or orthosis for the correction and/or compensation of the discrepancy for a better gait or ambulation (table 4).

Table 4. The discrepancy of the lower limb

Discrepancy (cm)	Subject number	Percentage(%)
0.0	38	11.4
≤3.5	162	48.7
4.0	36	10.8
4.5	4	1.2
5.0	24	7.2
5.5	2	0.6
6.0	24	7.2
7.0	15	4.5
7.5	2	0.6
8.0	7	2.1
9.0	7	2.1
10.0	4	1.2
11.0	4	1.2
12.0	2	0.6
13.0	2	0.6

Total	333	100.0
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2.2.3 Deformity Subjects of paraplegia were 112 (33.6%) which was lesser than the subjects with monoplegia (211, 65.8%). There were 3 quadriplegia and 2 involves in upper limb (table 5). Most common deformities were knock-knee (126), foot-drop (122), foot inversion and foot eversion (109 people) is the sufferer's most familiar malformation in three kinds of poliomyelitis sequela. Iliotibial tract contracture (55 people), talipes cavus (53 people) and scoliosis (44 people) are the next in order, seeing the table 6. There has been 46 sufferers have already underwent the scoliosis prthomorphia.

Table 5. The circumstance of Sufferer's body of poliomyelitis sequelae

The Body Involving	Number	Percentage (%)
Monoplegia	112	33.6
Paraplegia	211	63.4
Quadriplegia	3	0.9
Upper limb	2	0.6
No limb involvement	5	1.5
Total	333	100.0

Table 6. Deformity of poliomyelitis sequelae

Deformity	Number
Genu varus and Genu valgum	126
Drop foot	122
Equinovarus Foot	109
Iliotibial band contracture	55
Talipes cavus (club foot)	53
Scoliosis	44
Hip dislocation	32
Knee Hyperextension	26
Talipesalcanus	23

2.2.4 muscle strength More than half victims had reasonable muscle strength for ambulation, indicating the need for orthoses modification (table 7).

Table 7. Classification of muscle strength

Muscle score	Left leg		Right leg		Both legs	
	<24	≥24	<24	≥24	<48	≥48
No	129	204	135	198	147	186

2.3 ADL Most subjects were independent in daily living (94.8%, table 8).

Table 8. ADL profile

Score	Number	Percentage(%)
<25	1	0.3
25~49	2	0.6
50~74	14	4.2
≥75	316	94.9
Total	333	100.0

2.4 Surgical intervention Two hundred and two people had surgical intervention before. Among them, frequency of surgical interventions was: 2 subjects experienced more than 3 times, 17 subjects had 3, 17 subjects had 2 and 106 had once. It was not uncommon that the real physical function did not improve post operation.

2.5 Application of orthosis and walking aids There were 254 subjects with orthosis, including 110 knee ankle foot orthosis (KAFO) for both legs and 131 KAFO for one leg. Only 3 ankle foot orthosis were employed.

Table 9. Profile of orthosis application

The type of orthosis	No	Percentage(%)
LKAFO	55	16.5
LKAFO + BB	1	0.3
LKAFO + SEC	4	1.2
LKAFO + BUC	2	0.6
LAFO	1	0.3
LAFO + RKAFO	1	0.3
RKAFO	56	16.8
RKAFO + BB + BUC	2	0.6
RKAFO + SEC	2	0.6
RKAFO + BUC	13	3.9
RKAFO + BEC	6	1.8
RAFO	1	0.3
BKAFO	108	32.4
BKAFO + BUC	1	0.3
BKAFO + BEC	1	0.3
Back brace	1	0.3
Without orthosis	78	23.4
Total	333	100.0

LKAFO: knee ankle foot orthosis in the left side

LAFO: ankle foot orthosis in the left side

RKAFO: knee ankle foot orthosis in the right side

RAFO: ankle foot orthosis in the right side

BKAFO: knee ankle foot orthosis in both sides

BUC: arm crutches in both sides

SEC: elbow crutches in one side

BEC : elbow crutches in both sides

2.6 Needs of Rehabilitation services One hundred and forty-eight subjects need further surgical interventions 117 need orthosis modification. Muscle strength training and stretching will be important for a better outcome of rehabilitation.

Suggestions

1. the improvement of physical function of polio victims in this group is significant.
2. There are great potential to make further improvement of physical function through surgical intervention, orthosis modification and rehabilitation training.
3. A multi-disciplinary team is essential to have a better outcome.

Research Report

on

the Development of Children Affected by Polio

in Pi Zhou Area

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I. Introduction

In the 80s of the twentieth century, there was a big epidemic of polio broke out in Pi Zhou area due to flooding and the polluted water. About 600 children in age of new born to 3 years old were affected by the epidemic disease. As a result, these children were paralyzed with either one leg or two legs. This caused a great intention to the society. Under the care and support of the leaders in different levels of the government and under the cooperation of the Amity Foundation and the Norwegian Mission Alliance, a group of volunteers were organized and they set up the New Hope Center - the Rehabilitation Resource Center for providing a comprehensive medical, educational and vocational rehabilitation services for the children. For the past 15 years, the New Hope Center has done effective rehabilitation and educational work for these children and gained a great result, thus winning wide praise from the society. In order to sum up the experiences of the work of the NHC so as to better help the polio victims in the future, we have done this investigation and research, aiming to find a more effective way to improve the psychological well-beings of the victims so as to lead them to develop in a healthier way in the society in the future.

II. Children being studied and the methodology

This investigation has done on 500 children in random and collected 427 questionnaires. Of them, 212 were polio children as **the experimental group** and 215 ordinary children as **the comparative group**. In the experimental group, we call those who lived and studied in the NHC for over 3 years consistently as **the Institutional Group** (they are 59 students now in the first grade of middle school and 29 students in The second grade of middle school). However, the polio children in the Institutional Group also entered community schools in their first year of middle school study. For those who lived at home and studied in the local community schools, we call them as **the Community Group** (scattered group) (they are 55 students now in the first grade of middle school and 69 students in the second grade of middle school). The comparative group consists of ordinary students from community schools (they are 115 students now in the first grade of middle schools and 100 students in the second grade of middle schools.) The materials used on this investigation are “Raven’s Standard Progressive Matrices” (SPM), “Cattell 16PF

Personality Factors”, “Symptom Check List 90” (SCL – 90), (Version for Middle School, revised by Shanghai Personal Resource Development Research Center), “Study Adaptability Test Matrices” (Drawn Up by the Psychology Department of East China Normal University). Using these materials we tested the experimental group and the comparative group respectively and we divided the results of the tests of **the Institutional Group** from **the Community Group** and did comparative analysis on the statistics collected from those two groups respectively.

III. Results and Analysis

1. Intelligent Development

From Figure 1, it can be seen the average results of the intelligence test of the Institutional Group in the first grade of the middle school are apparently better than both the Community Group and Comparative Group. The average results of the Institutional Group in the second grade of the middle school are also apparently better than those of the Comparative Group, but only a little bit higher than the Community Group. No matter in the first grade or second grade, the average results of the intelligence test of the community experimental group are better than the comparative group. This is shown that the intelligence development of the polio children in Pizhou area is better than the level of the intelligence of the ordinary children in the local community and the performance of the institutional experimental group is much more remarkable.

Figure 1: The comparison of the average SPM scores of the students from all the groups (the average scores after considering the difference caused by the ages of the students)

Groups	Mid. School, The first grade				Mid. School, The second grade			
	Student No.	Average scores	Standard difference	Test on the difference between the average scores	Student No.	Average scores	Standard difference	Test on the difference between the average scores
1. Institutional Polio Children	59	44.18	—		29	47.36	—	
2. Community Polio Children	55	38.48	—	1>2** 1>3**	69	44.27	—	1>3*
3. Ordinary Children	115	36.86	—		100	41.40	—	

2. Personality Development

From Figure 2, there is no apparent difference in the 16 personality factors, such as affinity, aggressiveness, excitement, sensitivity, suspiciousness, experiment, self-discipline and so forth. Nevertheless, in the item of intelligence, the average scores of the comparative group and institutional group in the first grade of the middle school are higher than the community experimental group, which is not the case for the groups in the second grade. With the reference to the investigation result in Figure 1, it may be concluded that the performance of the community experimental group being slow in reaction does not result from the differences of their ability, but probably from the affection of the change of the surroundings. When they just entered the middle school from the primary school, the students were slow to adapt themselves to the new surroundings, which made them fluctuate in mood and hard to achieve high scores in the test.

Figure 2: The comparison of the results of Cattell 16PF test of the students from all the groups (original scores)

Test items	Group	The first grade				The second grade			
		Student No.	Average scores	Standard difference	Comparison of average scores	Student No.	Average scores	Standard difference	Comparison of average scores
A. Affinity	1. Institutional Polio Children	59	9.83	2.20		29	9.59	2.50	
	2. Community Polio Children	54	10.28	2.74		68	10.28	2.30	
	3. Ordinary Children	115	9.58	2.72		100	9.43	3.39	
B. Intelligence	1. Institutional Polio Children	59	7.56	2.42	1>2*	29	7.69	1.91	
	2. Community Polio Children	54	6.54	2.11	2<3*	68	7.19	1.91	
	3. Ordinary Children	115	7.92	1.82		100	7.29	1.96	
C. Steadiness	1. Institutional Polio Children	59	13.90	2.89		29	14.52	2.77	1>3*
	2. Community Polio Children	54	14.85	3.19		68	15.12	3.83	2>3**
	3. Ordinary Children	115	14.23	3.72		100	12.85	3.56	
E. Aggressiveness	1. Institutional Polio Children	59	11.95	2.49		29	12.31	3.91	
	2. Community Polio Children	54	11.76	3.24		68	11.62	3.12	
	3. Ordinary Children	115	11.70	3.33		100	11.22	3.21	
F. Excitement	1. Institutional Polio Children	59	13.36	3.48		29	13.69	4.25	
	2. Community Polio Children	54	13.56	3.63		68	13.87	3.89	
	3. Ordinary Children	115	14.12	3.80		100	13.94	4.19	
G. Perseverance	1. Institutional Polio Children	59	12.37	2.80		29	11.45	2.57	2>3**
	2. Community Polio Children	54	12.39	3.07		68	12.53	2.48	
	3. Ordinary Children	115	12.11	2.91		100	11.29	3.13	
H. Boldness	1. Institutional Polio Children	59	11.07	3.12		29	11.07	3.93	2>3**
	2. Community Polio Children	54	11.15	3.40		68	11.99	3.73	
	3. Ordinary Children	115	11.52	3.42		100	10.37	4.09	
I. Sensitivity	1. Institutional Polio Children	59	10.80	2.27		29	10.66	2.42	
	2. Community Polio Children	54	10.48	2.45		68	10.96	2.65	
	3. Ordinary Children	115	10.25	2.55		100	10.52	2.80	
L. Suspiciousness	1. Institutional Polio Children	59	9.31	2.28		29	10.03	2.20	
	2. Community Polio Children	54	9.28	2.55		68	9.03	2.62	
	3. Ordinary Children	115	9.39	2.49		100	9.75	2.81	

M. Illusions	1. Institutional Polio Children	59	13.20	3.20	1>2* 2<3*	29	13.00	2.99	
	2. Community Polio Children	54	11.87	2.97		68	13.50	2.68	
	3. Ordinary Children	115	12.86	2.60		100	13.19	2.80	
N. Worldliness	1. Institutional Polio Children	59	9.47	2.09	1>3**	29	9.52	1.70	1>3** 2>3*
	2. Community Polio Children	54	8.65	2.56		68	9.29	2.67	
	3. Ordinary Children	115	8.38	2.27		100	8.03	2.65	
O. Anxiousness	1. Institutional Polio Children	59	11.14	2.80		29	10.97	2.96	2<3*
	2. Community Polio Children	54	11.13	2.84		68	10.31	3.71	
	3. Ordinary Children	115	11.10	3.30		100	12.40	3.72	
Q1. Experiment	1. Institutional Polio Children	59	10.47	2.22		29	11.34	2.78	
	2. Community Polio Children	54	10.26	2.83		68	10.75	2.48	
	3. Ordinary Children	115	10.95	2.64		100	11.33	2.67	
Q2. Independence	1. Institutional Polio Children	59	10.42	2.53	1>2*	29	11.00	2.85	
	2. Community Polio Children	54	9.26	2.92		68	10.60	2.72	
	3. Ordinary Children	115	10.29	3.31		100	10.30	3.21	
Q3. self-discipline	1. Institutional Polio Children	59	12.10	2.84		29	12.14	2.26	
	2. Community Polio Children	54	11.96	3.34		68	12.09	2.61	
	3. Ordinary Children	115	12.11	2.83		100	11.48	2.52	
Q4. Intense-ness	1. Institutional Polio Children	59	13.42	3.40	1>2*	29	13.17	2.99	2<3*
	2. Community Polio Children	54	12.07	3.13		68	12.24	2.92	
	3. Ordinary Children	115	12.75	3.27		100	13.98	3.84	

In the item of steadiness, there is no apparent difference among the groups in the first grade, but in the second grade, the average scores of institutional experimental group and the community experimental group are obviously higher than the comparative groups, which suggests the polio children are more realistic and more “meekly submit to oppression” in facing the obstruct and failure they come across in their life.

From the items of perseverance and boldness, it is shown that there is no obvious difference among the groups in the first grade, but in the second grade, the average scores of the community experimental group are much higher than its comparative group and those of the institutional experimental group are a little bit higher than its comparative group, which suggests that the polio children are more perseverant to carry things to the end.

In the item of illusion, there is no apparent difference among the groups in the second grade. The average scores of the institutional experimental group in the first grade are much higher than the

community experimental group, and a little bit higher than its comparative group. The average scores of the comparative group are also higher than the community experimental group. This can be understood that the polio children in the community experimental group are more realistic and endeavor to handle the things properly and rationally.

In the item of worldliness, the average scores of the institutional experimental group in the first grade are apparently higher than its comparative group, and the average scores of both the institutional and community experimental groups in the second grade are also much higher than their comparative groups, which demonstrates that the polio children are more worldly and behave more properly than the ordinary children.

In the item of anxiousness, there is no apparent difference among all the groups in the first grade. In the second grade, however, the average scores of the comparative groups are much higher than the community experimental group, which suggests that the ordinary children are more easily affected by the daily troubles, feeling bothered and depressed.

In the item of independence, there is no apparent difference among the groups in the second grade. In the first grade, the average scores of the institutional experimental group are much higher than the Community experimental group and a little bit higher than the comparative group, which suggests that the polio children in the institutional experimental group have more independent sense without depending on others.

In the item of intensesness, the average scores of the institutional experimental group in the first grade are apparently higher than the community experimental group, while the average scores of the comparative group in the second grade are higher than the community experimental group. This suggests that the polio children in the community experimental group prone to adapt themselves to different circumstance and to be content with their lots.

In accordance with the analysis on the above-mentioned personality factors, the personality development of the polio children is basically normal without any particular defects. On the contrary, the polio children seem much more well experienced, worldly with the bearing in proper form, and more patient and calm. But with the analysis from another angle (see the comparison of study scores in Figure 5), it may be found that the polio children's desire to make progress is not as strong as the ordinary children/their peers, and they lack the ambition, which is much more outstanding in the institutional experimental group.

3. Mental Health Conditions

From Figure 3, in the first grade, the average scores of the institutional experimental group in the items of coerciveness, sensitiveness in human relations, anxiousness, hostility, stubbornness, etc. are apparently higher than the community experimental group; and its average scores are also higher than the comparative group in the items of coerciveness, sensitiveness in human relations, terrorization, etc. Therefore, on the total grade point, the average scores of the institutional experimental group are higher than the community experimental and comparative groups. In

comparison of the results between the community experimental group and the comparative group, although there are some differences on the individual items, the total grade point shows no difference. It is to say, the mental health condition of the students in the institutional experimental group is rather bad, not up to the expectation and need to be given special concerns, which is shown in the following aspects:

- a) Knowing well that it is not necessary, they cannot get away from some nonsense thought, impulse, behavior, etc. For instance, they have some otiose thought or phrases in their mind, work very slowly to guarantee to make out the exactitude, and after the job is done, check it over and over again without trusting themselves; they have some reaction behaviors like repeatedly washing hands, counting numbers and touching things, etc.
- b) They always feel themselves inferior and dispirited, in comparing with others. For instance, they always feel themselves not as good as others, and when being looked at or talked about by other people, they feel uneasiness and easily suffer from disservice.
- c) They contain anxious reaction. They always feel unsecured, frightened without any reason, easily get nervous, restless and distracted.
- d) They prone to be hostile, easily getting worried and excited, with an impulse to hit or hurt other people and a thought to throw or destruct things. Not being able to control themselves, they often lose their temper and argue with others.
- e) They often feel terrified frightened to go outside by themselves, and nervous to be alone. They are frightened to embark transportation tools like car, train, airplane, etc., and feel uneasy in a crowded place.
- f) They prone to have stubbornly biased reaction, always feeling that someone or other want to take advantage over them, and that the most people cannot be trusted, blaming and scolding the other people manufacturing the trouble, and feeling themselves in the surveillance and discussion from someone or other, and so on so forth.

In the second grade, the students' health condition of mental state is contrary to what is above-mentioned in the first grade. The average scores of the comparative group in the items of coerciveness, sensitiveness in human relations, melancholy, anxiousness, hostility, stubbornness, mental illness, etc. are apparently higher than the community experimental group; and its average scores in the items of anxiousness, mental illness, and so forth are also higher than the institutional experimental group. Therefore, on the total grade point, the average scores of the comparative group are remarkably higher than the community and institutional experimental groups, although there is difference in some individual items. It can be thought that the polio children's mental health condition is better than their healthy peers.

Figure 3: The comparison of the results of SCL-90 test of the students from all the groups (original scores)

Test items	Group	The first grade				The second grade			
		Student No.	Average scores	Standard difference	Comparison of average scores	Student No.	Average scores	Standard difference	Comparison of average scores
Body type	1. Institutional Polio Children	59	20.42	6.73		29	20.83	5.94	
	2. Community Polio Children	51	17.82	4.53		68	19.37	6.09	
	3. Ordinary Children	114	19.13	5.77		100	21.39	6.20	
Symptom of pressing	1. Institutional Polio Children	59	22.80	5.07	1>2* 1>3**	29	21.31	5.24	2<3**
	2. Community Polio Children	51	20.27	5.40		68	20.06	5.44	
	3. Ordinary Children	114	20.48	5.51		100	23.39	5.58	
Sensitivity in personal relationship	1. Institutional Polio Children	59	20.08	5.19	1>2* 1>3**	29	19.28	4.72	1>2* 2<3**
	2. Community Polio Children	51	17.12	5.30		68	16.96	5.29	
	3. Ordinary Children	114	17.64	4.93		100	20.59	5.82	
Depression	1. Institutional Polio Children	59	26.34	6.84		29	23.97	6.01	2<3*
	2. Community Polio Children	51	23.51	7.70		68	23.21	7.12	
	3. Ordinary Children	114	23.88	6.24		100	27.31	8.59	
Uneasiness	1. Institutional Polio Children	59	19.64	6.06	1>2*	29	17.48	5.29	1<3** 2<3**
	2. Community Polio Children	51	17.18	4.89		68	17.56	5.82	
	3. Ordinary Children	114	18.26	5.51		100	21.47	5.91	
Antagonistic	1. Institutional Polio Children	59	12.53	3.64	1>2*	29	11.93	3.92	2<3*
	2. Community Polio Children	51	10.94	3.47		68	11.44	3.47	
	3. Ordinary Children	114	11.59	3.48		100	13.22	4.10	
Fear	1. Institutional Polio Children	59	14.68	4.88	1>3*	29	13.24	3.81	
	2. Community Polio Children	51	13.00	5.10		68	12.96	4.68	
	3. Ordinary Children	114	13.07	4.19		100	14.30	4.60	
Stubborn	1. Institutional Polio Children	59	12.10	3.41	1>2** 2<3*	29	12.14	3.15	2<3*
	2. Community Polio Children	51	10.00	2.84		68	11.04	3.49	
	3. Ordinary Children	114	11.23	3.55		100	12.93	3.86	
Mental disease type	1. Institutional Polio Children	59	18.58	5.17		29	18.07	3.91	1<3* 2<3*
	2. Community Polio Children	51	17.45	4.22		68	17.47	5.32	

	3. Ordinary Children	114	17.63	5.17		100	20.44	6.00	
Others	1. Institutional Polio Children	59	12.00	3.85		29	12.31	3.66	2<3**
	2. Community Polio Children	51	11.16	3.73		68	11.28	3.72	
	3. Ordinary Children	114	12.04	3.40		100	13.83	4.60	
Total scores	1. Institutional Polio Children	59	179.2	41.6 2	1>2** 1>3*	29	170.6	36.2 4	1<3 2<3**
	2. Community Polio Children	51	158.5	37.7 0		68	161.3	42.9 9	
	3. Ordinary Children	114	164.9	39.5 1		100	188.9	46.8 4	

The above analysis shows that, in the first grade, the mental health condition of the Polio students in the institutional experimental group is not as good as the comparative group, while in the the second grade, the comparative group is not as good as the experimental groups in the mental health condition. A further study is needed for this phenomenon.

4. Study Ability

In Figure 4, the total scores of the institutional experimental group in the the first grade are higher than the comparative group. There are apparent differences in the average scores of the items of friendship relations, independence, note-taking for reading, etc. The total scores of the community experimental group are also higher than the comparative group, and the apparent differences of the scores are found in the items of enthusiasm for the study, method for the lessons, note-taking for reading, friendship relations, etc. There is no apparent difference in the scores between the institutional and community experimental groups, except some individual items.

In the the second grade, the total scores of the institutional experimental group are higher than the comparative group, and the score differences are found in the items of study plan, method for lessons, friendship relations, independence, perseverance, etc. The total scores of the community experimental group are also higher than the comparative group, and its scores are especially higher in the items of study enthusiasm, study plan, method for lessons, study technique, method for test, school environment, friendship relations, independence, perseverance, etc. There is no apparent difference in the scores between the institutional and community experimental groups, except some individual items.

Figure 4: Comparison of the results of Study Adaptability Test of the students from all the groups (original scores)

Test items	Group	The first grade				The second grade			
		Stu- dent No.	Aver- age scores	Stan- dard diffe- rence	Compa- rison of average scores	Stu- dent No.	Aver- age scores	Stan- dard diffe- rence	Compa- rison of average scores
Enthusiasm in study	1. Institutional Polio Children	60	12.78	3.37	2>3*	28	12.86	2.69	2>3**
	2. Community Polio Children	53	13.64	2.54		68	13.03	3.27	

	3. Ordinary Children	113	12.65	2.71		99	11.31	3.30	
Study plan	1. Institutional Polio Children	60	11.35	2.79		28	11.43	3.14	1>3** 2>3**
	2. Community Polio Children	53	11.72	3.06		68	11.35	3.30	
	3. Ordinary Children	113	11.05	2.49		99	9.18	3.19	
Method in classroom learning	1. Institutional Polio Children	60	11.73	2.67	2>3*	28	11.82	3.12	1>3** 2>3**
	2. Community Polio Children	53	12.17	2.71		68	12.07	3.18	
	3. Ordinary Children	113	11.18	2.50		99	10.25	2.70	
Reading and keeping notes	1. Institutional Polio Children	60	13.13	2.88	1>3* 2>3*	28	13.36	2.77	
	2. Community Polio Children	53	13.10	2.93		68	13.26	3.01	
	3. Ordinary Children	113	11.87	3.09		99	12.18	2.93	
Skills in study	1. Institutional Polio Children	60	13.02	3.52		28	11.71	3.61	2>3**
	2. Community Polio Children	53	12.47	2.86		68	13.21	3.51	
	3. Ordinary Children	113	12.37	3.02		99	11.31	2.97	
Methods of coping with tests	1. Institutional Polio Children	60	12.72	2.64		28	11.64	2.83	1<2* 2>3**
	2. Community Polio Children	53	12.77	2.37		68	13.29	2.91	
	3. Ordinary Children	113	11.92	3.04		99	11.40	2.87	
Family environment	1. Institutional Polio Children	60	11.67	2.51		28	12.61	2.48	
	2. Community Polio Children	53	12.06	2.57		68	12.47	2.74	
	3. Ordinary Children	113	11.71	2.43		99	11.14	2.70	
School environment	1. Institutional Polio Children	60	11.05	3.35		28	11.21	3.33	2>3*
	2. Community Polio Children	53	11.15	3.71		68	11.82	3.87	
	3. Ordinary Children	113	10.47	3.44		99	10.36	3.46	
Relationship with friends	1. Institutional Polio Children	60	12.83	2.56	1>3** 2>3**	28	13.93	2.18	1>3** 2>3**
	2. Community Polio Children	53	12.91	3.18		68	13.93	2.90	
	3. Ordinary Children	113	11.34	2.94		99	11.90	2.84	
Independency	1. Institutional Polio Children	60	13.43	2.43	1>2* 1>3**	28	14.11	2.31	1>3** 2>3**
	2. Community Polio Children	53	12.42	2.86		68	13.91	2.63	
	3. Ordinary Children	113	11.66	2.76		99	12.16	2.94	
Fortitude	1. Institutional Polio Children	60	12.90	3.18		28	13.32	2.65	1>3* 2>3**
	2. Community Polio Children	53	12.74	2.83		68	13.63	3.04	

	3. Ordinary Children	113	12.31	3.15		99	11.88	2.88	
Psychological health	1. Institutional Polio Children	60	11.77	3.04	1>3** 2>3**	28	11.71	2.97	1<2* 2>3**
	2. Community Polio Children	53	12.34	2.90		68	13.13	2.84	
	3. Ordinary Children	113	10.39	3.53		99	11.21	2.91	
AIN total scores	1. Institutional Polio Children	60	148.4	23.7 3	1>3** 2>3**	28	149.7	25.0 7	1>3** 2>3**
	2. Community Polio Children	53	149.5	20.7 5		68	155.1	25.0 1	
	3. Ordinary Children	113	138.9	20.6 9		99	134.3	22.7 3	

According to the above analysis, it may be regarded that both in the first grade and second grade, the study abilities of the polio children are better than their ordinary peers, and those in the community experimental groups are especially outstanding.

From the results of their study (see Figure 5), however, the academic achievement of the institutional experimental group is higher than both the community experimental group and the comparative group at the beginning in the first grade. After one year, the margin disappeared. This shows that the academic achievement of the institutional experimental group comparatively stepped backwards obviously. In the second grade, although the study scores of all the groups do not show apparent differences at the beginning, but the average study scores of the institutional experimental are much lower than the community experimental and comparative groups after one year. It is also proved that the academic achievement of the institutional experimental group set retrogressed comparatively. This kind of phenomenon does not really match the reason, and need a further analysis.

Figure 5: Comparison of the overall appraisal on the standard scores of Chinese and mathematics of the students in all the groups in the first grade and two

Groups	One Year before				One Year After				
	Student No.	Average scores	Standard difference	Comparison of average scores	Student No.	Average scores	Standard difference	Comparison of average scores	
Mid. School The first grade	1. Institutional Polio Children	58	55.8	7.36		57	49.7	9.39	
	2. Community Polio Children	52	49.4	6.77	1>2, 3**	52	48.9	7.71	
	3. Ordinary Children	87	46.5	8.98		87	50.8	8.83	
Mid. School The second grade	1. Institutional Polio Children	28	47.0	8.00		28	45.2	8.31	
	2. Community Polio Children	67	50.4	7.35		67	51.0	7.33	1<2, 3**
	3. Ordinary Children	100	50.6	9.08		100	50.7	8.77	

IV. Discussion

1. Issues regarding to Intelligent Development

A person's intelligence development is primarily affected by the inborn heredity factors, the postnatal environment and education, relevant to the development of his/her subjective initiative. Judged with their intelligence quotients, it seems that both the polio children and ordinary children are normal, which shows that the innate heredity factor is not a main reason that cause the different intelligence development, and which can only be analyzed with the postnatal factors. Our investigation shows that Pizhou area was economically underdeveloped ten years ago, and per capita annual income was only about 1000 yuan RMB. A lot of families with health children were worried about their means of livelihood, not to mention the spending of the money on the investment and development of their children' intelligence. On the contrary, because of the success of the New Hope Center, the living environment of the polio children there has been improved greatly with the subsidizing and supporting from all walks of life, especially the living condition, food and other daily necessities for polio children in the institutional experimental group are much better than their local health peers. Besides, the budget from the New Hope Center on the educational input is plenty, the polio children are enjoying relatively special care in all aspects, from the arrangement of curriculum, assignment of teachers to the activities after class. Therefore, compared with the ordinary children, the polio children there have been provided with better conditions for the intelligence development, which is advantageous to their intelligence development.

What should particularly been mentioned is that the intelligence development and teaching work are very closely related, and the polio children' intelligence development is obviously better than their health peers. Therefore, it can be considered that the educational work or the project of the New Hope Center for the polio children in the Pizhou area is effective and fruitful, and has achieved apparent success, which must be fully affirmed. Because the limit of the length of this writing, the author will not elaborate the details on the analysis of the educational work of the New Hope Center, which will be described in another text.

2. Issues regarding to Personality Development

Because of their disabled limbs, the polio children easily suffer from disservice from outside and develop an abnormal personality. But what is worthy of rejoicing is that the polio children involved in the project of the New Hope Center are basically normal in their personality development, and not different from other ordinary people. This primarily is attributed to the influence of the postnatal environment. In the investigation, it is found that only minority among the people who were randomly selected for the investigation discriminate against the polio people, taking up 25%, but the majority cherish a sympathetic attitude towards them, taking up 75%. In Pizhou area, there is a comparatively tolerant atmosphere in the families, schools and communities, which has formed a healthy environment for the personality development of the polio children. Of cause, the polio children, compared with their health peers, will pay much more efforts and

experience more hardships in their grow-up and development. Therefore, they become mature earlier, looking experienced and worldly, which made them seem to have experienced many vicissitudes of life, and become easily adaptive and peaceful and calm.

3. Issues regarding to psychological Health

People's mental health are mainly affected by the postnatal environment, depending on the subject's attitude towards the stimulation from outside and its inner feelings and experiences, not inevitably having something to do with its disability degree. The polio students in the institutional experiment group in the first grade were brought up in the New Hope Center from they were very young, living and studying within there and having less contact with outside world. Therefore, their abilities of dealing with new stimulation are not strong and their sensitivities to the stimulation from outside are high. For their middle school education, they entered the community school like the polio students of the community experimental group. In facing new study and living environment, they have to adapt themselves again. Much less, the study in the community middle school is different from the primary school study in the New Hope Center, and the study contents and methods have changed tremendously. The effectiveness and results of their study not only rely on their efforts, but also on their study abilities and on whether they can master a set of effective methods for their study. Therefore, in the aspect of the mental health condition, the students in the institutional experimental group are more easily to have psychological conflicts and confusions than the community experimental and comparative groups.

However, after entering the the second grade, the society places higher expectation and requirement on the development of the ordinary children because of the pressure for higher education, while the society's attitudes towards the polio students are magnanimous, without any higher requirement for their development. What was resulted in is that the polio students, compared with the ordinary children, can keep a better mindset. In the contact with the polio students, it can be felt that they often embrace a steady mindset, peaceful mood and life attitude of adapting themselves to different circumstances. No wonder that, their total scores in the mental health condition is much lower than the ordinary children.

4. Issues regarding to Learning

Study activities are rather complicated, which involves various aspects, such as the attitudes towards study, study methods, study environment and perseverance for study, etc. The results of the investigation show that the study abilities of the polio students are obviously better than the ordinary children, and the students in the community experimental group are especially outstanding, which primarily results from the support of the project of the New Hope Center. First of all, there is a clear concept on education for the project. In order to help the polio children return to main stream society, the New Hope Center has been paying attention not only to the improving of their physical health condition, but also to their thoughts, emotions and the enhancing of their comprehensive cultural quality. This has been set as the guideline for the project and carried out from beginning to end in the project's rehabilitation work. Secondly, the educational sponsorship for the project was provided in time. The education and teaching are

long-term work, relying on the strong support of funds. The New Hope Center has input plenty amount of money for education for ten years, spending it on the school's facilities, the sponsoring of tuition fee, the book collections for the library, etc. It improved the condition of the school, and laid a good material foundation for the polio children. Thirdly, it has been guaranteed that there are enough teachers for the teachings. In order to make up with the lack of the teachers, the Center, with the help from the local government and Red Cross, has utilized the local educational resources, by inviting the local experienced teachers to instruct the activities of various kinds of interest groups of the polio students. And in order to raise the quality of the teacher and staff members and to guarantee the teaching full of vibrancy with the sustaining strength, the Center strengthened the contacts with other schools by arranging the teachers to visit other schools and inviting teachers from other schools to exchange teaching experience.

It is pity that the study results of the institutional experimental group are not satisfactory. The IQ of the polio students is not poor (see Figure 1), their study abilities are also quite strong (see Figure 4), and they received more attention and care. Therefore, they should have had better academic achievement, at least their study results should not be lag behind the other two groups too much. The fact found in the investigation, however, shows that the study results of the institutional experimental group are not as good as the ordinary students, and even much lower than the students in the community experimental group. That is to say, the study retrogression of the institutional experimental group did not result from the intelligence problem, study abilities and techniques. It has something to do with the study attitude. The students in the institutional experimental group might lack the motivation for their study.

V. Suggestions

1. **Keeping on the road of “Community Based Rehabilitation”.** It has been proved in practice that “Community Based Rehabilitation” is an effective way, which can promote the communication and interaction between the polio and the ordinary people, and make them understand and adapt to each other. In this way, the polio children can receive more helps from the communities to increase their endurance against the bad stimulation, and the society can also better understand them, accept them and provide them with the appropriate support. The fact found in the investigation also shows that although the polio children in the community experimental group did not receive the special care as the institutional experimental group did, their developments in various aspects are as good as the children in the institutional experimental group, and even surpass the institutional experimental group in some indexes. Therefore we think that the concept of “Community Based Rehabilitation” must be adhered. The polio children should be encouraged to actively enter the community and a good interaction between them should be established, to facilitate the polio children to better understand the society, adapt to the society and merge themselves into the society. As a medical rehabilitation center, the New Hope Center is actively exploring the effective methods and ways for the community based rehabilitation, with the efforts to carry it out persistently, and summing up and improving the work of the community based rehabilitation continuously.

2. **Strengthening the educational work on the mental health.** In “The Guidelines of Education on the Psychological Health in Primary and Middle Schools”, Ministry of Education indicates: “A good psychological health is the important part of a person’s comprehensive quality...is the important content in practicing quality education.” In accordance with the spirit of the guidelines, we should actively carry out the relevant education. On one hand, the training of the teachers should be carried out to improve their understanding on their work and teaching techniques. Then they can help the polio children, by using effective psychological consulting techniques and the relevant knowledge, to deal with the psychological confusions and conflicts they come cross in their daily lives. On the other hand, the various activities of the education on the mental health should be carried out further, to raise the level of the mental health of the polio children, and to build up their abilities to withstand the mental illness. And by tapping the mental potential of the polio children, their strong points and advantages should be brought into a full play, and then they can strive to make contribution to the society in their power.

3. **Building up a comprehensive rehabilitation working system.** In the practical work, we usually attach importance with the rehabilitation of the polio children’s disabled limbs, while the work on their psychological development does not receive sufficient attention. Therefore, we need further clarify the concept on the rehabilitation work, pay a close attention to the development of the polio children comprehensively. When we are rehabilitating the polio children’s disabled limbs, we should strengthen the educational work on their mental health. In all the links from setting up the guiding principle, working up the work plan to placing the rehabilitation staffs, we need to put the work on the mental development of the polio children in an appropriate position, help them to take preventive measures for both physical and psychological rehabilitation.

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Dec. 27, 2004

Summary of Evaluation Report

On

Micro-Credit Program in Pi County

(Draft)

July 4th – July 10th 2004

Submitted by WangBaocheng
July 11, 2004

ACKNOWLEDGEMENTS

Mr. Chu Chaoyu, a key Amity person is responsible for the micro-credit program in Pi County, and he helped to arrange this evaluation activity. He also met with the president of the New Hope Center (NHC) in order to introduce the evaluator to local partners. Finally, he provided invaluable suggestions on editing this evaluation report.

Mr. Zhang Fushi, the president of NHC, provided invaluable logistic support. He spent most of his time working with the evaluator during the evaluation period including project field visits. Mr. Chen Yinghui, a key person working for the micro-credit program in NHC, helped the evaluator to carry out interviews with peasants.

Mr. Xu Guangzhi, a vice chairman of the Economic Promotion Association (EPA) and who is over 75 years old, provided great support for this evaluation. He spent two days in the field where he participated in peasant interviews. Mr. Xu Wensheng, deputy general secretary worked together with Mr. Chen Yinghui to conduct interviews with peasants for the whole process of evaluation in the field although both of them are over 60 years old.

Finally, many thanks to all the participants at county level and township level who provided the opportunity for the evaluator to interview them and sincerely expressed their ideas towards this program. They did not hesitate to provide all the information they could.

This report is largely based on interviews with peasants and people from NHC and EPA. The data analysis is based on the information collected during interviews with peasants. Most of them generously gave of their time, inspite of the heat, in order to share with us their family experiences. So many thanks should be given to them!

ABBREVIATION

EPA	Economic Promotion Association
FIS	Financial Information System
MC	Micro-Credit
MF	Micro-Finance
NGO	Non-Government Organisation
NHC	New Hope Center
NMA	Norwegian Missionary Alliance
PFA	Polio Family Association
RCC	Rural Credit Co-operative
RLF	Revolving Loan Fund PPA
PPA	Polio Peasant Association
RMB	Ren Min Bi, Chinese Currency (¥)

Units of Measure:

1 kg equals 2 jin

EXECUTIVE SUMMARY

Introduction

The micro-credit program formally began in 1998. For the first two years, it was implemented through the Rural Credit Co-operative (RCC). From early 2000 until now, EPA has been responsible for its management and implementation; NHC also actively participates in the project implementation for example by providing name lists of polio families in different townships. This program aims to reduce the poverty of polio families by carrying out various income-generating activities through loans, as well as to strengthen their capacity of self-help and self-support.

An important part of the whole project in Pi County, is that it has been implemented for many years. The Norwegian Missionary Alliance (NMA) hopes to undertake a thorough evaluation of the project, so they asked Amity Foundation to coordinate a preliminary investigation and put forward some practical suggestions.

This evaluation activity was carried out from July 4th to July 10th. A total of 40 clients were interviewed in the field, which covers about 20% of total clients. 40 copies of a questionnaire were completed, along with a set of facts about income and expenditure. On July 8th, a group workshop was conducted in EPA with the participants from EPA and NHC. At this workshop, parts of the investigation results were reported, and all participants shared their views towards MC management. On July 9th, the evaluator informed Mr Zhang Fushi of the investigation results.

Result

According to the survey conducted by NHC, there are 640 families with polio children, about 73% of them live in poverty. Subsequently, 467 households need financial assistance. In 2003, a total of 141 clients received loans that ranged from 2000 RMB to 10,000 RMB. Until now, 190 clients received loans with total principal of ¥730,000 RMB. But there are still a number of adults with polio disease. They remain in poverty, and also require financial assistance to carry out income-generation activities.

Economic impact

Data results show that the MC program plays an important role in the family income of polio victims. Of the 40 clients, only one client could not make money in 2003, the remainder (39 clients) made profits. The following data is collected according to the level of business undertaken in 2003 by clients. The average data is as follows:

Table 1: Statistics on business profit

							Unit: RMB
Loan size	Income	Cost	Repayment	Net profit	Profit margin	Business profit/family income	Net family income
4000	6733	4165	4133	2450	61%	17%	3370

This data shows that most clients are able to make a profit from income generation activities, and significantly increase their family income by as much as 17%. Compared with a 30% profit margin in the western parts of China¹, the profit margin is much higher because 57.5% of clients in our project area were engaged in small businesses such as transportation, trade, and services. Even for the people engaged in animal husbandry, the business scale was comparatively large.

Among these 40 clients, the average family income in 2003 is about ¥20,000 RMB, we can then calculate the extra profit made through the MC program - ¥20,000 RMB × 17% = ¥3,400 RMB. This figure is also larger than ¥3,370 RMB, which indicates the MC program brings clients income surplus besides covering the medical expenditure of their family members.

Besides the business profit data we collected, data of family expenditure and income among these 40 clients were also collected. The following data shows business diversification and the average figures of family income and expenditure. Table 3 and table 4 show the cash flow in an average family among our clients.

Diagram 1: Business of Clients

Unit: Person

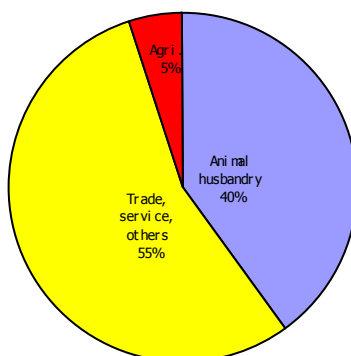


Table 2: Family Expenditure

Unit: RMB

Repayment	Gift	Agriculture	Daily expense	Tuition	Medical treatment	House construction	Total
6352	1838	2216	4240	2008	1134	2200	20004

Table 3: Family Income

Unit: RMB

Loan	Money borrowed	Gift	Agriculture	Off-farm work	Animal husbandry	Others	Total

¹ Canadian International Development Agency and the Chinese government cooperate with the Amity Foundation to carry out a micro-finance program in Gansu province. Data is often collected after each loan cycle. The Report on the Sixth Loan Cycle Analysis mentioned the profit margin in their project.

4087.5	4593	1237	1267.5	8980.5	3079	95	23374
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Compared with “agriculture” items in table 2 and table 3, we find that expenditure is much higher than the income. When collecting this data, clients did not convert the grain they kept in their families into cash, so these two figures are not balanced. However, when we converted their grain into cash, we would find agriculture was not very lucrative under current land policies. Consequently, peasants have to seek out other activities to increase their family income if they are to make a living from agriculture.

Diagram 1 shows most clients are engaged in lucrative businesses, especially in the trade, transportation and service sectors. Of course, as living standards increase in neighboring cities, animal husbandry businesses begin to be lucrative. Table 3 shows that the income of clients mostly comes from ‘off-farm’ work and animal husbandry in which clients take out loans.

Table 2 shows that peasants now pay more attention to their lodgings and medical treatment than when their family is in poverty. It means that peasants now have extra money to meet the demands of health and living.

Social impact

In order to conduct a survey of social impact of MC among clients, we conducted interviews with 40 clients. The result of questionnaires shows a positive social impact to the clients, it verifies that MC is able to play a very important role in improving the living conditions of residents including the improvement of social status in their communities.

First of all, most clients said they begin to build up confidence about their families after taking loans to run small businesses. When they become wealthier through their labor, they find they also can be rich like other families with healthy children. Then they will feel full of hope in their families.

Table 4: Compared with the time before project, how do you view your life now?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Have more confidence	39	97.5	100.0	100.0
Missing	System	1	2.5		
Total		40	100.0		

Secondly, MC also brings harmony to the clients, especially when husbands and wives work together to run businesses. Before the project, family members often argued with each other over issues. Every time they saw their children suffering from the disease, they felt helpless as they could do nothing consequently, they would feel guilty. Now the MC helps them to make more money, and they are able to buy the medicine to treat their diseases, then there is less quarrels in their families.

Table 5: Compared with the time before project, how is your family life now?

		Frequency	Percent	Valid	Cumulative
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				Percent	Percent
Valid	Have more arguments	1	2.5	2.6	2.6
	No Change	3	7.5	7.7	10.3
	Is in harmony	35	87.5	89.7	100.0
	Total	39	97.5	100.0	
Missing	System	1	2.5		
Total		40	100.0		

Thirdly, the MC program changed the views of their neighbors towards the families with disabled people. They began to accept these polio families in their communities when they saw the living standard of polio families increased and that their children with polio were well taken care of.

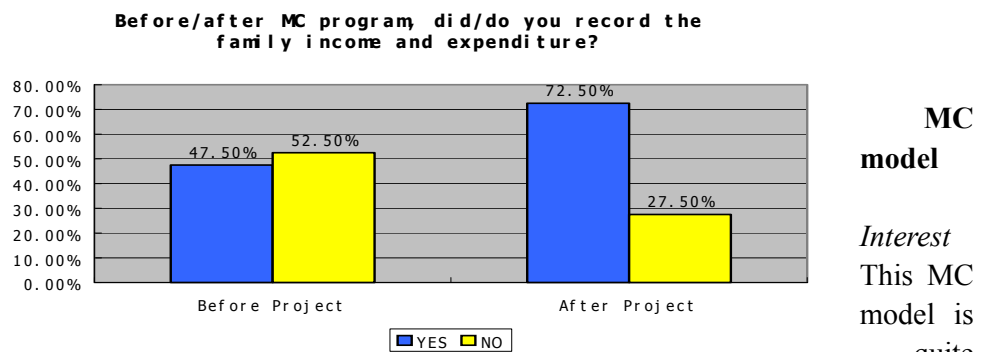
The answers to the following question tell us that the polio families try hard to improve their family income while their neighbors reassess the relationships among them and fully accept them.

Table 6: Compared with the time before project, how do your neighbors view you now?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No change	1	2.5	2.9	2.9
	Begin to accept them	33	82.5	97.1	100.0
	Total	34	85.0	100.0	
Missing	System	6	15.0		
Total		40	100.0		

Fourthly, our investigation also shows that the MC program helps clients to develop the habit of recording their family income and expenditure. This is an of improvement of capacity.

Diagram 2:



different from other MC systems in China. The interest rate is the key factor in MC, which ultimately decides the sustainability of the MC program in finance. Without careful calculation based on the development of an organization and external factors, it would be very hard to decide an interest rate. In this program, the interest rate was set at 4% a year that is much lower than commercial bank interest. For example, the interest rate in RCC is around 10%, in some areas it may reach 12% a year. Such low interest rates are unlikely to cover administration fees, especially as many loans have not been charged interest since their initiation.

The low interest may reduce the financial costs to clients, however, one unwanted consequence is clients often view these loans as charity. The Government Provincial office tells us that when clients hear the program is for a limited period of time, they often stop repayments. This severely damages the sustainable development of the program in finance. The practice of MC done by government poverty alleviation office tells us that many clients take these loans as a charity.

Loan size

The survey states that the average individual loan size is ¥4000 RMB. According to the name lists provided by NHC, there were 46 clients whose individual loan size was ¥5,000 RMB or above in 2003, which covers 33% of total clients. For three clients, individual loan size was over ¥15,000 RMB. To some degree, this loan size is much higher than the tolerable loan size of the MC program. If we put table 1 and table 3 together, we will find that the average net family income would be ¥11,008.5 RMB when we deduct the loans, borrowed money, gifts and business profit of the MC program. If the clients have over ¥5,000 RMB, it means s/he is gambling because s/he could use half of the family yearly income to carry out business, this types of loan is very risky. Although we did not find a case in this survey, staff from NHC and EPA told the evaluator that the township government and the staff of the township EPA were responsible for paying back loans when an emergency occurs in a family and they are unable to pay.

Loan period

The business cycle decides the loan period rather other factors. Diagram 1 shows that 55% of clients are engaged in trade and services that have a very short period of business. Even for 40% of the clients who run animal husbandry, we know when they take up large-scale animal rearing since the individual size and borrowed money are quite large, so the business cycle is less than one year. For this MC program, the loan period is one year that is much longer than the business cycle.

Loan disbursement and collection

According to the inspection of finance in the County EPA, we found it is quite common for some township EPA's to carry very large sums of money when they receive or repay money from the County EPA. First of all, it is not safe; secondly it is also not very convenient because township EPA staff have to meet County EPA staff in the county seat.

There is usually a period of two to three months between two loan cycles because the cash has to flow from clients, to township EPA, then to County EPA, finally to NHC when collecting loans. When disbursing loans, it will follow this same route in reverse. However, business opportunities seldom wait for your loan disbursement.

Target clients

The MC program aims to target poor families. In general, this program covers many poor

clients, however, family interviews show some clients are not poor. The 33% of clients had individual loan over 5000 RMB last year, it means at least, those clients are not below the poverty line.

Project implementation

Finance management

The inspection shows that the County EPA does not have a clear entry of finance in their accounting books. First of all, the ending balance of 2002 does not match the opening balance of 2003; secondly, the balance at present does not match the cumulative figures; thirdly, there are very few formal vouchers to support the accounting book; fourthly, there is no accounting books in the township level although there is a contract for each client. At present, they don't use interest to cover any administration fees. If they change this system in future, major accounting problems will arise.

No detailed implementation regulation

There is a simple regulation made by the County EPA together with the NHC, however, it is not comprehensive, especially as it covers many clients with a large amount of funds. Such a situation easily causes frustration during implementation. Often the field workers (township EPA staff) do not know how to implement this regulation, so they will decide according to their understanding of the MC program. When unforeseen problems arise in a family, and the client is unable to pay back the loan, then the local township government and the field worker would have to repay on behalf of this client. This action hurt the enthusiasm of local township government and field workers.

Personnel

The EPA now implements this program. But the staff working for this program often change due to the conclusion of their office term. For example, the County EPA changed most of their staff in 2003, so the new staff are not very familiar with this project. The township EPA's also change their staff often. Sometimes, when a field worker has released a loan to a client, but has left before the loan is collected, the newcomer can find it very hard to collect loans because the client might refuse to pay due to the change of personnel.

Most people working for this program are over 60 years old and mainly retired, some of them have diseases, and so it is hard for them to work intensively. This factor may influence the quality of this program. According to interviews, the county EPA staff visit project sites about twice a year, township EPA staff visit households about two to three times a year.

Vague relationship between NHC and EPA

Although EPA implements this program, NHC also work very closely with EPA. There is no contract between NHC and EPA. NHC think EPA helps them to work, so NHC gave EPA ¥10,000 RMB as an administration fee last year. EPA staff feel it is good work to do since

they are not busy at their office, however they also regard it as extra work which returns little profit.

Interest incentive

The incentive system is not applied in this MC program. For most township field workers, they work voluntarily without much incentive. Last year, each field worker received a ¥200 RMB allowance, whether they have more clients or not. This provides little incentive for workers to do a good job and is not a fair arrangement. For example, ¥60,000 RMB was distributed to 4 households in Chahe Township in 2003, which is against the principle of MC program. County EPA does not directly receive any benefits from this program because they don't collect the loan interest. NHC has to give County EPA some funds as an administration fee, so they certainly don't have the benefits of the program.

Guarantee system

In order to ensure a high repayment rate, the County EPA signed contracts with local governments that states if some clients are unable to pay, the burden falls on the local government and field workers. This system has severely lessened the enthusiasm of field workers. Some local governments or field works have refused to continue to work for this program, so the polio families in this township won't have such service any more.

Sustainability

Sustainability is the key issue of the MC program. As a development program, MC requires sustainability in finance and organization in order to continuously serve and target more poor people.

Organization

Staff are the main composition of an organization, especially the professional staff. In Pi County, most staff in EPA do not receive any training about the MC program because of regular staff turnover. This also happens to most EPA staff at township level. Untrained staff are often confused with project implementation. Fewer project visits by county EPA staff severely impact project implementation and monitoring.

Finance

Income must cover various expenditures, which is a principle of the MC program. At present, NHC subsidize the County EPA for the implementation of MC program. But it will be hard for NHC to continue take out money especially for this program because NHC also has to think about its own sustainability in the near future when polio children graduate from Junior High School.

Recommendations

Organization

1. Assign a person in NHC to take care of this project. This person should receive systematic training on MC management.

2. Still rely on the government system at present in project implementation. Gradually set up Polio Family Association (PFA) under a government office specially running this program such as project office, etc. Amity and NHC may negotiate with county government to set up an office with 2 to 3 staff.
3. Create a constitution for the PFA which is committed to providing financial service for poor polio families.
4. Encourage younger people to be involved in this program. If PFA can be set up in a government office, it will be easier to recruit staff.
5. The principal can be increased to ¥1.4 million RMB (640 polio children/family *73%* ¥3,000 RMB). Adults who suffer from polio can also apply to this fund.

MC model

6. Carry out thorough training on MC/MF for staff working at county level as soon as possible in order to set up clear management regulations and change the mindset of “charity” into “development”. After training at county level, County staff will organize another workshop to call in all contact persons at township level to confirm the management regulation. The idea of “development” also should be emphasized in this workshop.
7. Interest rates should be charged to all clients, and it should also be increased to a figure (such as 7% to 10%), which is more closely aligned with the commercial interest rate. But it should be decided by the allowances of staff, administration cost and inflation.
8. The loan size should be controlled below ¥3,000 RMB. If someone is not satisfied with the size of this loan, s/he might borrow money from other sources according to the survey (see table 3).
9. The loan period should be one year or less because a short loan period may reduce the potential risk. Repayment should also be made in installments for example, they may pay some interest in the middle of the loan period in order to remind clients they have this obligation.
10. The loan disbursement date should be flexible. As long as a client applies for a loan in any time, s/he should get it if field workers approve his or her business plan.
11. Choose right clients. A thorough investigation should be carried out for each polio family in the whole county in order to set up a database (it also can be used in future evaluation). The poor polio families could be chosen in this database. Of course, this information should be discussed with township field workers.

Management

12. Complete the financial transaction entry of MC, and open a new account only for MC program in the EPA.
13. Look for a professional accountant to record the transaction in County EPA. S/he should produce clear financial statement according to the constitution of PFA.
14. Loans should be transferred through bank facilities rather than by cash. When disbursing loan funds from county to township or collecting loans from township to county, the loan and its interest should be transferred through a bank in order to avoid accidents.
15. Set up information system of MC program as soon as possible. It can be classified into three parts – basic information of clients, the business types of clients and the loan information of clients.
16. Open an account for each client in the township where the client lives, and make an agreement with this bank that County EPA can disburse or collect loans through this account.
17. The current guarantee model should be abandoned. This will encourage the cooperation of township governments during initial project implementation. It is better to tell the township government that they should cooperate with the township field workers to collect loans, but they don't have to take any responsibility for repayment.
18. Interest incentives should also be adopted in the program implementation. The allowance can be given to the field workers according to their achievement and the numbers of clients they are responsible for. A series of performance indicators can be made corresponding to the constitution of PFA or other regulations.
19. Carry out a thorough training program on MC/MF for staff working at county level as soon as possible in order to set up clear management regulations and change the minds of “charity” into “development”. After training at county level, County staff will organize another workshop to call in all contact persons at township level to confirm the management regulations. The idea of “development” also should be emphasized in this workshop.
20. Carry out training on business operation for all clients. This should focus on market analysis, product confirmation, business record and business analysis.

Conclusion

This MC program has been successfully implemented for nearly 6 years in Pi County, about 200 polio-families benefit from it. Although it has shortcomings in the project management area, it still has great impact on the clients in terms of family income and social status, which exceeds the proposed aims of this program.

At present, this program covers about 30% of total polio families in Pi County, there are still great numbers of poor polio families needing help. Furthermore, as the polio children graduate from Junior High School, some of them might not continue further higher education, they also have to enter into society, and so they may also need starting out loans. There are also some adult polio suffers who have very poor family lives, the loan may change their lives. So it is very necessary to continue and expand this program in the future with a complete management structure.

Annex 1: Lists of persons interviewed

The Amity Foundation

Mr. Chu Chaoyu Amity staff

NHC staff

Mr. Zhang Fushi, President of NHC

Mr. Chen Yinghui Deputy President of NHC

County EPA staff

Mr. Jia, Chairman of EPA;

Mr. Xu Shuben Vice Chairman of EPA,

Mr. Wang Guangze Vice chairman of EPA, General Secretary

Mr. Xu Wensheng Deputy General Secretary

Mr. Wang Huaiji Accountant of EPA, deputy general secretary

Township EPA staff

Mr. Liang Longyan Member of EPA in Yanzibu Township

Mr. Zhang Yunzhong Secretary of Township President in Xinglou

Mr. Song Chenghai Member of EPA in Xinglou Township