NAI TALIM:

TOWARDS A WORKABLE MODEL

Innovations to help Bihar- style of initiatives to shape NaiTalim as the mainstream educational pattern

Dr T Karunakaran

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NAI TALIM:
TOWARDS A WORKABLE MODEL

(Innovations to help Bihar- style of initiatives to shape NaiTalim as the mainstream educational pattern)

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Dedicated to

AND THE VISIONARIES WHO WANT TO CREATE AN 'EDUCATION FOR LIFE' IN BIHAR

and to the memory of Nalanda

PREFACE

NaiTalim, based on Gandhi-vision, is a global concept now adopted in totality by world bodies like UNESCO. The UN has gone a step further to create a global Gandhi Institute MGIEP (Mahatma Gandhi Institute of Education for Peace and Sustainable Development), at New Delhi.

Bihar State which came forward to embrace Nai-Talim at its birth in 1938 is once again first in the revival of NaiTalim. Its vision of making Nai-Talim as the 'mainstream' education model is most exciting and its strategic plan and resource allocations are quite promising.

When Shri.Nitish Kumar, after releasing my Nai Talim book 'Liberating Education' on 1.12.2011 made the announcement that the 391 NaiTalim Schools will be revived I was pushed to a state of ecstasy. Three weeks later when I retired from my job I went straight to Bihar for a 13-day planning work with financial help from NCRI-Hyderabad and logistic support from AN Sinha Social Work Institute of Patna.

I was overwhelmed when the 3 member committee of brilliant administrators set up by Shri. Nitish Kumar called me during 28-29th May 2013 at Patna to deliberate on the vision document. The guiding philosophy that 'the Nai-Talim schools will be in no way inferior to the other schools; on the other hand they will be created as examples of excellence, as model block level schools, so that the schools could be brought to their style and standards'- could not but be reassuring to any educational activist.

Well, the truth is: NaiTalim schools need far more resources as compared to the normal schools and are far more complex to create and run. There are far too many issues to tackle if the said schools are to emerge as creativity based schools. One such issue is to create a sustainable vocational environment. In fact these are the true reasons that make such costly dreams unrealized. Luckily the country has the maturity to think of the cost of not adopting these logically sound HRD practices. The challenge is now one of strategy. The good message that this book wishes to bring is that these problems are not formidable for an 'INNOVATIVE INDIA'

- Author

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The present booklet would not have taken shape without the massive help in survey and organization effort besides crucial pieces of information from the following two teachers of West Champaran:

- Mr.Vinod Kumar Singh, Head Master , BS Mahuawa, West Champaran
- Mr.Jagadanand Chaudhari, Head Master, BS Jokaha, West Champaran

The efforts of Dr Regi Thomas, a multi-disciplinary scholar of eminence became instrumental in giving physical shape to the volume- his sparkling comments on the themes notwithstanding.

Thanks are due to NCRI that provided nominal support to the survey in 4 districts of Bihar during Jan 2011. I am grateful to Dr Prabhat IAS, the then Chairman NCRI and Dr Dash Assistant Director, NCRI for their help.

ANSinha Institute of Social Studies provided a platform for the survey and intellectual discussions related to the NaiTalim works of Bihar. I am grateful to Dr D M Diwakar, the Director, and to Dr Awdesh Kumar, Assistant Professor of ANSISS, who spent his valuable time to accompany me in the 13-day survey on behalf of ANSISS. The other faculty, Dr Hansda has to be remembered for various organizational supports rendered.

I am grateful to the two senior officers of Bihar: Dr.Amarjeet Sinha, Pricipal Secretary, Education and Mr. Ajay Kumar Chowdhary, Director of Primary Education, Bihar for their valuable discussions and encouragement. In fact the motivation for the present volume came out of the workshop on 28, 29 May 2013 for which these officials enabled me to come all the way from Kanyakumari to Patna and gave me a prime platform to share all my views.

Professor Ramjee Singh, the renowned Gandhian of the country has been my guide and mentor during the last 3 decades. His passionate guidance helped me to navigate through many difficult terrains. Another intellectual who provided encouragement and support is Mr. I C Kumar, a retired senior IAS Officer of Bihar.

Besides the ones mentioned earlier, there were also other persons, from various districts of Tirhut Commissionary, who spent their valuable time in helping me during my survey. I mention a few representative names for want of space: Mr.Awdesh Pd, Mr.BiseshwarJha, Mr.Shambhu Singh, Mr.AjesyeshwarPandey, Mr. Sunil Kumar Tiwari, Mr Lalbabu Mishra, Mr.Girdhari Paswan, Mr Harihar Nath Jha- DEO West Champaran, Mr.Jagdish Narayan Pandey .....

Thanks are due to Nishant Burnase, Abhijeet Magar and Mamta for their help in typing.

- Author

Chapter-wise outline

The objective of the book is to take Bihar as a case study for working out a fail-safe strategy for implementation of a tricky program like the activity (or work) based education. The final product aimed at is a plan. This is very complex since Bihar has set the lofty objective of making Nai-Talim as the mainstream model.

The book has been organized into four parts, A to D.

Part A is historic and deals with the growth (1938-1940) and decline (1940-) of NaiTalim in Bihar.

Part B outlines Bihar's bold initiative to revive and strengthen the Nai Talim schools

Part C attempts to identify the major roadblocks like:

i) difficulty in identifying vocational / activity directions
ii) training teachers in the needed attitudes / skills
iii) issues of self-reliance and
iv) other issues like a mechanism for inclusion of local content, liberating the child from the language burden, creation of the ideal evaluation board that would respect the nuances of Nai Talim without creating any recognition problems.

In Part D, the report also takes up the problems of implementing NaiTalim in urban schools, in the primary and pre-primary stages, and also for the dropout children. It ventures to outline suitable techno-support systems and administrative structures.

Outline of chapter-wise coverage

Chapters 1-3 present a snapshot of the rise and fall of NaiTalim during 1938 to 1960 and beyond, along with some hints of the historic circumstances.

Chapter 4 presents the revival and strengthening strategy that has been initiated in Bihar through the report of the 3-member committee appointed on the basis of the CM's commitment (on 1-12-2011) for the revival of the 391 NaiTalim schools in Bihar

Chapters 5-11 address the road blocks that could impede the progress of the project along with various solution directions.

In particular chapter 5 and 6 explore the possibility of making the vocation based learning to the broader framework of life related activities and further indicate compact models through which education could be made as a prime mover of social development indicators like MDG.

Chapter 7 addresses the problem of self-reliance and presents a 'workable' frame work for realising self-reliance at individual and community levels with possible impact on the national level.

Chapter 8 presents a strategy for training- the stupendous problem of creating the special type of teachers needed for NaiTalim

Chapter 9 presents innovative new ways of tackling the conflicts arising while handling the issue of languages.

Chapter 10 describes a nested 3-tier structure of the NaiTalim curriculum and realising it through local, regional and national structures like NCERT, SCERT etc.

Chapters 11 to 15 deal with more complex issues related NaiTalim, for example:

Chapter 11 provides hints for pushing the NaiTalim agenda for urban schools and indicate how problems like space could be solved.

Chapter 12 deals with the difficult problem of expanding the range of NaiTalim to hitherto un-explored areas like pre-buniyadi stage, drop-out schools etc.

Chapter 13 outlines ways of implementing the complex problem of work-based education by creating an enabling environment made up of decentralized rural industries arising out of value addition of agricultural produces and artisanal products and practical ways of realization of the industrial scene through innovative structures like Micro Industrial Complexes and Rural Economic Zones.

Chapter 14 addresses the organizational problems through which the complex problem of teacher training, the vocational training of the students etc. could be solved and also outlines a hierarchical/decentralized administration through a Regional Development University and a set of Rural Development Institutes using the existing institutions like Bihar Vidyapith to the best possibility.

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PART A:

BIHAR'S UNIQUE EFFORTS IN THE MOVEMENT OF BASIC EDUCATION

1. GANDHIJI'S SCHOOL DREAM WAS IMPLEMENTED FIRST IN BIHAR

This chapter outlines the efforts of Bihar over two decades (1939 to 1960) to establish Nai Talim. The excellent booklet by Ramsharan Upadhyaya : 'Nai-Talim Shiksha in Bihar'[1] provides the groundlevel details of the movement of Basic Education under the leadership of Gandhiji- on a national level but with some focus on Bihar. We furnish those aspects that are relevant to the analysis of the current efforts of revival of NaiTalim.

Historically, a review of the 2-decade old Nai-Talim experiment was carried out in Turki, Bihar in 1957 (vide Report of the 12th All India Nai-TalimSammelan at Turki, Bihar Nov 1957[3] published by Hindustani TalimiSangh, Sevagram, Wardha). The present chapter reviews the Nai-Talim efforts in Wardha and Bihar during 1938-1957. This will help link with the efforts that are beginning in Bihar, after a break of more than half a century.

The details of the story of the 'education for life' movement from the Nalanda University period to the Gandhian era are narrated in T.Karunakaran and Regi Thomas: 'Liberating Education'[7].

1.1 Gandhiji's First 3 Schools In Bihar (1917-18)

The idea of starting a school first arose in Gandhiji's mind when he established the Phoenix settlement in Durban. His letter to Gokhale in 1905 clarifies his vision [7]. During the first satyagraha in Champaran in 1917 Gandhiji realized that the major reason for the farmers being exploited by the Britishers was their lack of education.

Bhitarawa Ashram in West Champaran

Gandhiji initiated action immediately and started three schools in the Champaran region.

The following were the sequence of events during 1917

- On 13.11.1917 Gandhiji started the first 'free school' in the Badharva Lakhansen village of Champaran near Dhaka. For this Shri. Shiv Gulam Lal donated his building. The team consisting of Mr.Devadas Gandhi, Er.Babban Gokhale (Bombay) and his wife Mrs.Avantikabai Gokhale became the teachers.
- On 20.11.1917 Gandhiji established his second school near Bhitiharwa (a village 40 miles north of Betia). For this the team consisting of Mrs.Kasturba Gandhi, Mr.SadashivLakshman Soman, Mr.BalakrishnaYogeshwar Purohit and Doctor Dev

became the teachers. Gandhiji stayed here for many months and looked after the works related to sanitation and cleaning.

- On 17.01.1918 Gandhiji started his third school at Madhuban. Mr.Narahari Dwarika Das Parikh, Mrs.Manibai Parikh, Mr.Mahadev Desai (Gandhiji's Personal Secretary) and Mrs.Anandibhai became the teachers.

The above 3 schools were organized in the style of Ashrams and thus their activities could create social awakening in their neighbourhoods.

Here we reproduce Gandhiji's announcement on the occasion of commencement of his educational mission to understand his perception in 1920 on a nationally relevant educational system:

Gandhiji's statements after establishing 3 schools in Champaran (1917-1918)

In the schools I am opening, children under the age of 12 only are admitted. The idea is to get hold of as many children as possible and to give them an all round education, i.e. a good knowledge of Hindi or Urdu, [and] through that medium, of arithmetic and the rudiments of history and geography, a knowledge of simple scientific principles and some industrial training. No cut and dried syllabus has yet been prepared because I am going on an unbeaten track. I look upon our present system with horror and distrust. Instead of developing the moral and mental faculties of the little children it dwarfs them. . . .

……I shall endeavour to avoid the defects of the present system. The chief thing aimed at is contact of children with men and women of culture and unimpeachable moral character. That to me is education. Literary training is to be useful merely as a means to that end. . . .

Gandhiji outlines a 'national school'

The education will be physical, intellectual and religious. For physical education there will be training in agriculture and hand-weaving and in the use of carpenter's and blacksmith's tool. . . . In addition, they will be given drill, . . . and as part of this, they will be taught how to march in squads and how each one may work with quiet efficiency in case of accidents such as fire. . . . They will have instructions on how to preserve health and on home remedies for ordinary ailments, with as much of physiology and botany as may be necessary for the purpose . . . . For intellectual training, they will study Gujarati, Marathi, Hindi and Sanskrit as compulsory subjects . . . . There will be no teaching of English during the first three years".

Regading medium of instruction

It should be obvious to everyone that the first thing to do in this connection is to come to a definite decision about the medium of instruction. Unless that is done, all other efforts, I fear, are likely to prove fruitless.

Regarding examination

Having regard to the view that examinations are quite undesirable, pupils in this institution will be tested periodically from two points of view — whether the teacher has made the right effort and whether the pupil has followed. The pupil will be freed from the fear of examinations. . . .

1.2 Vision of a National Educational Framework: Birth of NaiTalim (1937)

During the Silver Jubilee Celebration of the Marwari Education Society, Wardha a conference on education was held and Gandhiji was invited by Jamnalal Bajaj to preside over it. Gandhiji used it as an occasion to communicate to the nation his views on education in a consolidated way — views which he had been expressing through 'Harijan' during the politically charged climate of those days. In it, he mapped out the basic pedagogy :

"By education I mean an all round drawing out of the best in child and man: body, mind and spirit. Literacy is not the end of education nor even the beginning. It is only one of the means by which man and woman can be educated. Literacy in itself is no education. I would therefore begin the child's education by teaching it a useful handicraft and enabling it to produce from the moment it begins its training. Thus every school can be made self-supporting, the condition being that the State takes over the manufactures of these schools.

I hold that the highest development of the mind and the soul is possible under such a system of education. Only every handicraft has to be taught not merely mechanically as is done today, but scientifically i.e. the child should know the why and wherefore of every process..... I have myself taught sandal-making and even spinning on these lines with good results. This method does not exclude a knowledge of history and geography. But I find that this is best taught by transmitting such general information by word of mouth. One imparts ten times as much in this manner as by reading and writing. The signs of the alphabet may be taught later..... Of course, the pupil learns mathematics through his handicraft.

I attach the greatest importance to primary education, which according to my conception should be equal to the present matriculation less English....".

Inspired by Gandhiji's prescription of Nai-Talim, the National Education Conference (October 22-23, 1937) in Wardha cameup with a resolution that proposed :

- free and compulsory education for seven years
- use of mother tongue as a medium of instruction
- basing the educational process on practical and manual activities and
- linking education to handicrafts in such a way that the remuneration of teachers will be met from the earnings of the handicraft.

Soon after this event, a teacher's training school at Wardha and a model school in Segaon village were opened. The old government school in the Segaon village was closed by the government so that the basic school could be started. This led to two decades of intensive experimentation in Wardha under the inspiring leadership of Aryanayakam and Ashadevi. This led also to the creation of allied activities like pre-basic school. Similarly, post basic school was started after Gandhiji's demise.

The Hindustani Talimi Sangh which emerged as an apex body for the Nai-Talim experiment in Wardha and later in the whole country.

1.3 Wardha Experiments on Nai Talim

It should be noted that Gandhiji's Nai-Talim vision has a synthesis of many national experiments: by Tagore (1912), by Nanaji Bhatt in Gujarat (1910), etc. In the 1920s he was instrumental in the creation of 5 universities: Gujarat Vidyapith, KashiVidyapith, Bihar Vidyapith, Tilak Maharashtra Vidyapith and JamiaMilia Islamia and nearly 1000 national colleges all over the country thus creating a true national movement on education. Thus his Wardha vision was a culmination of his efforts from 1905 to 1935.

Interestingly there were also global movements in the Scandinavian countries due to NFS Grundtvig (1783-1872) and in the USA starting from the Land Grant College movement initiated by none other than Abraham Lincoln (1862).

After Gandhiji gave out his Wardha Educational Plan the Hindustani Talimi Sangh was established in 1938 with Dr.Zakir Hussain as Chairman and E.W.Aryanayakam as the Secretary. The aim was to create a workable framework, curriculum etc. for the country. For this an experimental school was established in Wardha itself (1938) under the patronage of Aryanayakam and Ashadevi.

Based on its Buniyadi School work and Uttar Buniyadi work and after further meditation during his long jail terms Gandhiji was able to pronounce his expanded vision of Nai-Talim (1944) as 'an art of living' applicable to all stages of life from childhood to adulthood. This led to the visualisation of Nai Talim in terms of the 4 stages: (a) Purva-Buniyadi, (b) Buniyadi (c) Uttar-Buniyadi and (d) Adult-Education .

Following this Wardha experiment Nai-Talim activity was started by 7 provincial Governments: 1.Bihar, 2.Bombay, 3.Central Provinces, 4.Madras, 5.Orissa, 6.United Provinces and 7.Kashmir. The curriculum worked out by Zakir Hussain became the basis.

1.4 Teacher's Training

Eighteen schools were created as nodes and a number of schools were created around these nodes. Gandhiji's suggestion of keeping the class strength between 25 and 35 was followed.It was realized at the early stage itself that the choice of craft was a sensitive factor for success. The craft was to be chosen not from the point of view of how much earning it could help achieve but on the basis of its educational possibilities and the scope for cooperative action in it. In short the search is not for vocational education but for 'education through vocation'. It was realized that the basic need dimensions namely food, clothing and shelter would indeed provide the above said contexts in abundant measure. The shelter dimension where scope for working with wood and clay exists will be ideal to draw out the creativity in the young individual. In fact this idea of creativity and art based activities became strongly emphasized during the review conference in 1941 in Jamia Nagar, Delhi under the leadership of Zakir Hussain.

With a view to try out Gandhian ideas of Nai-Talim the Hindustani Talimi Sangh started a teacher's training school at Wardha. As indicated earlier, they converted the Government

Primary School in Segaon village (today's Sevagram) into a model school so that it could serve as a practicing school. The capacity of young students to undergo work based education was tested during July-September 1938 through takli spinning, though activities ranging from weaving; and related processing like dyeing were planned for the future. Surprisingly the children not only survived the experiment but showed positive inclination in such work-based education. Yes, there was a promise that the dream of children's growth of body, mind and character could be achieved. The results of this school also helped validate the targets fixed by the Zakir Hussain Committee which formulated the Nai-Talim syllabi under the auspices of Hindustani Talimi Sangh.

This and the following developments were nurtured and guided by Ashadevi and Aryanayakam – both of whom had their background in Shantiniketan:Asha as a staff member and Arynayakam (of Sri Lanka) as the Secretary of Tagore. When Ashadevi heard the call of Gandhiji she along with her husband Aryanayakam left Shantiniketan and came to
Wardha, where they first worked in the Marwadi Vidyalaya and then joined Bapu and became the main pillars of NaiTalim.

1.5 Nai Talim Initiations and Growth In Bihar

The following activities were after the formal announcement of Nai-Talim by Mahatma Gandhi in Wardha (1937).

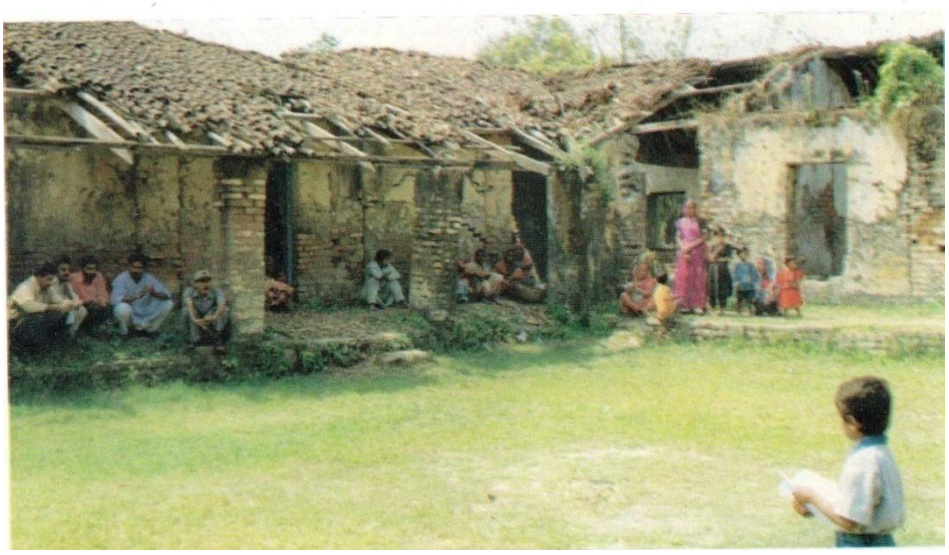


Fig.1.5 .a The Brindavan School in the Chanpatia block of West Champaran

The move to make the Chanpatia Block of West Champaran as the region for large scale (intensive) experimentation of Nai-Talim concept was in the mind of many Gandhians of Bihar. During 6-11 April 1939 they chose the region around Brindavan (Chanpatia Block of W. Champaran) and organized 35 Buniyadi Schools within a region of 125 square miles.

During 2-9 May 1939 Mahatma Gandhi personally visited Brindavan to attend the Fifth session of Gandhi Seva Sangh. On 4 May 1939 he inspected the Buniyadi school at Brindavan and appreciated this admirable initiative and gave his blessings.

Dr.Rajendra Prasad, Mr.K.T.Shah, Mr.Prajapati Mishra and Pandit RamasharanUpadhyay were behind this and similar initiatives. Sixty teachers trained in Patna were also part of the movement.

- During this period the Brindavan Intensive area for Nai Talim got recommended (by the Central Board for Education) for the establishment of a Teacher's Training College. This was set up at Kumarbagh over 35 acres of land and became the second such teachers training station.

Fig.1.5 .b The Brindavan School after rejuvenation

- Since the children who emerged out of the Basic Schools in the Brindavan Region needed a place to go for higher education a Post-Basic School (Uttar Buniyadi Shala) was established in 1947 in Kumarbagh itself (in a campus contiguous to the 53 acres mentioned above) for this purpose.

2. GROWTH OF NAI TALIM IN BIHAR

2.1 Distribution of schools in the 39 districts:

Bihar has 9 Divisions and 39 districts. Buniyadi schools were set up in all the districts.

Buniyadi schools were 100 as on 1949. It became 535 in 1950. The Post-Basic schools became 13 in number and the training colleges 19.The distribution of the schools is shown in Table 2.1.a

It is seen from the above table that Tirhut Division has the maximum number of 115 schools. Further among the six districts in the Tirhut Commissionary the West Champaran has the maximum number of 43 schools. This indeed is the contribution of the 'intensive block' Chanpatia where the Gandhian enthusiasts had created 28 schools.

Note: The school Bhagerwa Ratanmala in block Majhaulia when added to the 28 above constituted the '**compact area**' for the model NaiTalim cluster of that time.

Fig 2.1a The districts of Bihar

Table 2.1.a Distribution of schools in various districts

SN	DISTRICTS	Division	Nr. Sch
1	Muzaffarpur	Tirhut	29
2	Vaishali	Do	22
3	Sitamarhi	Do	9
4	Seohar	Do	2
5	East Champaran	Do	10
6	West Champaran	Do	43
7	Darbhanga	Darbhanga	13
8	Madhubani	Do	14
9	Samastipur	Do	27
10	Patna	Patna	19
11	Bhabhua	Do	6
12	Rohatas	Do	4
13	Buxar	Do	7
14	Bhojpur	Do	10
15	Nalanda	Do	11
16	Mungher	Mungher	7
17	Jamoi	Do	8
18	Begusarai	Do	5
19	Khagaria	Do	4
20	Lakhisarai	Do	5
21	Shekhapura	Do	1
22	Gaya	Magadh	12
23	Navada	Do	12
24	Arawal	Do	1
25	Jahanabad	Do	4
26	Aurangabad	Do	6
27	Puraniya	Purnea	14
28	Katihar	Do	7
29	Arariya	Do	1
30	Madhepura	Koshi	8
31	Saharasa	Do	2
32	Supaul	Do	1
33	Chapra	Saran	22
34	Gopalganj	Do	9
35	Siwan	Do	12
36	Bhagalpur	Bagalpur	14
37	Banka	Do	10
38	Kishanganj	Purnea	0
	Total		391

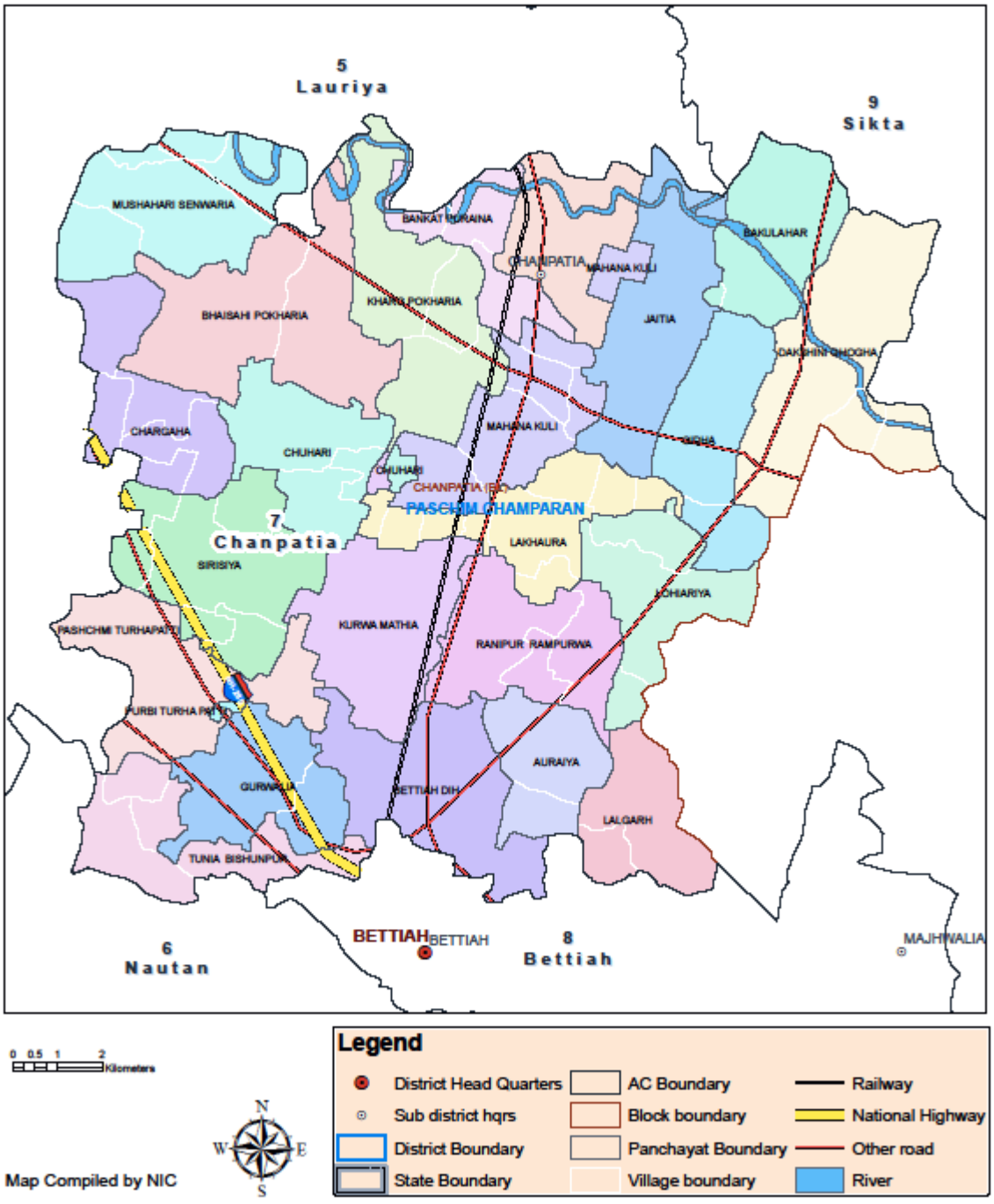
Table 2.1.b provides the list of the 29 schools of Chanpatia block along with minimum details regarding student strength, teaching resources and other physical resources like land.

Table 2.1.bDetails of the NaiTalim schools of Chanpatia Block				
SN	**Name of school**	**Nr. teach**	**Nr. Students**	**Land(acres)**
1	BrindawanBoy	1	739	2.8
2	BrindawanGirl	3	331	2
3	Shekhdhurwa	0	200	1.70
4	Lakhaura	2	132	2.08
5	Lalgadh	2	227	0.17
6	PandayTola	1	75	7
7	ShivTola	2	212	1.65
8	Yadavchapar	2	120	1
9	Ghoghapatbandi	2	162	5.77
10	Chaubeytola	2	165	13.77
11	Mathiyabakuchiya	2	146	5.75
12	Jokaha	4	187	1.5
13	Bishnupurbrit	1	65	3
14	Sirsiyaadda	2	736	5
15	Lagunaha	1	95	11
16	Srinagar	4	146	0.93
17	Khardeur	2	128	2.74
18	Ghoghabazar	3	390	1.27
19	Lohiaria	1	170	2.22
20	Sambhuapur	3	178	2
21	Bakulahar	2	196	2.53
22	Bhangaha	2	192	5
23	Mahuawa	2	175	2.86
24	Raidharwa	2	257	3.53
25	Ranipur	2	560	4.54
26	Awraiya	4	176	1.36
27	Gidha	3	183	4.64
28	Belwa	3	213	1.63

Fig 2.1a The districts of Bihar

Fig.2.1 .b District map of West Champaran

Block map
State : BIHAR
District : PACHIM CHAMPARAN
Block Name : CHANPATIA



2.1c Chanpatia block of West Champaran

Table 2.1.c and 2.1.d provide the school count in respect of the remaining blocks of West Champaran and similar count in East Champaran, for comparison.

Table 2.1.c Details of West Champaran, blocks other than Chanpatia				
SN	**Name of school**	**No of teachers**	**Number of students**	**Land (acres)**
1	Domath	0	290	1.7
2	Bhitiharwa	1	202	9.94
3	Padaraun	0	274	5.67
4	Madhuwani	1	104	2.47*
5	Majharia	1	198	7.82
6	Manpur Mathiya	0	110	4.87
7	Bhelahi	1	212	6.18
8	Bhagerwa Ratnamala	2	245	1.37
9	Harnatad	1	1754	6.76
10	Patilar	2	400	3.37
11	Telhua	3	797	5
12	Mahana Mirzapur	2	281	8.93
13	BaluaYogapatti	4	467	5
14	Piparasi (Shastrinagar)	2	235	1.30
15	Bettiah	4	204	0.95
* 12 acres are situated on the other side of the river Gandak				

Table 2.1.d Details of NaiTalim Schools of East Champaran				
SN	**School's name**	**Nr. of teacher**	**Nr. of students**	**Land(acres)**
1	Bhawanipur	3	806	0.3
2	Krithpur Mathiya	2	428	4.5
3	Goithaha	2	336	3.11
4	Balua (Harsidhi)	2	276	8
5	Sisawaniya	3	400	6
6	Bhawanari	3	553	5
7	Bhelawa circle	2	921	5.3
8	Madhuwani Kalasala	3	608	3
9	Piparakothi	8	822	5
10	Madhopur Gobind	5	424	5.5

2.2 Extent of Incorporation of Vocational Activities

In the schools that fell under the 'intensive zone' training colleges as well as in the post-basic schools the "learning to do" aspect was incorporated in the school activities. The skills aimed at were both formal and non-formal.

These schools started with prayer and cleaning work by the academic community. After this the students were given practical training in activities like:

1) agriculture related operation
2) gardening
3) spinning and weaving
4) carpentry.

After the lunch interval co-curricular activities were there in other subjects. The school interacted with its feeder villages. For this purpose the hinterland was divided into zones and teachers were assigned to each zone. Each teacher was expected to interact with the zone under his responsibility after the formal teaching hours in the school.

Each school had a Youth-Parliament (Bal Sansad). Its duties included :

- caring for the garden, flower-beds and other plants
- cleanliness of campus
- cultural programme on each Saturday
- hand written tabloid.

Every year the school brought out its annual report and also participated in the inter-school competition.

2.3 Preparation of Teachers

The sudden expansion of schools in Bihar needed about 5000 teachers with special training in values and vocational skills along with creative learning processes that could help link education with social reconstruction. For the training to be successfully organized experienced teachers were needed in the Teacher Training Institutes. But at a time when the concept was just taking roots and the guiding angel, namely Gandhiji had disappeared from the scene, this was a herculean task. The government opened the flood gate to everybody to become the teacher of the Nai-Talim schools. In fact anyone having the school leaving certificate, after a short training, started being called 'teacher' in a Nai-Talim school – whereas in Gujarat where the Nai Talim experiment became a great success the teachers had grounding in Buniyadi and Uttar Buniyadi schools besides a rigourous B Ed in Nai Talim teaching in the Lok Bharti – Sanosara.

The lack of concern for the quality of teachers became the starting point of the decline of NaiTalim in Bihar.

3. STAGNATION AND DECLINE OF NAI TALIM IN BIHAR

3.1 Decline of Nai-Talim

With Nai-Talim not gaining its due place in the national educational agenda the educational administration of the state started paying less attention to the Nai-Talim mission which already was not in sound health due to lack of infrastructure on one hand and due to the ill-prepared state of teachers.

After 1990 the government stopped appointment of teachers to the Nai-Talim schools. The situation became worse in the next two decades as indicated in the NCRI – sponsored survey presented in 3.3

It should be noted that a number of committees were constituted to study these schools. For example :

- During 1991 the then Minister of Education Shri. Ramachandra Purve made a plan for developing Basic Educational Programme. But it was not implemented.
- During 1999 the then Director of Bihar Educational Projects Shri. Vyas headed a 11- member committee for the growth and expansion of NaiTalim education. But nothing came out
- During 2001 a committee was set up under the leadership of the Retired IAS officer Shri I.C. Kumar. The findings of this committee was also not implemented.
- Starting from 16-7-2004 there was a 3 day workshop in Patna on the subject and was attended, among others, the Minister of State for Education of Government of India. But nothing resulted by way of implementation.
- During May 2009 there was a workshop in Dr.Madan Mohan Jha Memorial Building, Patna. The report was compiled, but resulted in no action.

3.2 Status of Nai-Talim as on Jan 2012: An NCRI Sponsored Study

During 1-2 Dec 2011 the NCRI Hyderabad organized a National Level Workshop on Nai-Talim. This was conducted in collaboration with the renowned AN Sinha Institute of Social Studies – Patna with its Director Prof. D.M. Diwakar serving as the local co-ordinator.

The Chief Minister of Bihar, Mr.Nitish Kumar, while inaugurating the conference, announced a 3-member committee of Secretaries to come up with plans for revival of the 391 Nai-Talim schools in Bihar within a period of one year. He also announced that the NCRI will be expected to guide in the process of shaping the Nai-Talim institutes into model schools.

Dr. T. Karunakaran, Honorary Vice Chairman of NCRI, *suo -moto* initiated a field study, with modest financial support of the NCRI, to initiate the process of the transformation of the Nai-Talim schools into model schools. The survey was carried out in all the Nai-Talim schools of Champaran, Sitamarhi and Shivhar districts.

The following team spent 13 days 1-13 Jan 2012 to visit the schools.

1. Dr. T. Karunakaran, Former V. C of Gandhigram/ Chitrakoot Rural Universities and Ex-Director Mahatma Gandhi Institute of Rural Industrialisation - Wardha.
2. Dr.Awdesh Kumar, A.P., A N Sinha Institute of Social Studies, Patna.
3. Mr.Vinod Kumar Singh, Rajkiya BuniyadiVidyalaya – Mahuava, West Champaran.
4. Mr.Jagadanand Choudhari, Rajkiya BuniyadiVidyalaya – Jokaha, West Champaran.

On the basis of the findings Dr.T. Karunakaran made a special plan for Chanpatia Block and submitted the same to NCRI. The updated data of the schools along with notes of other findings were submitted to A. N. Sinha Institute. In the following the gist of the finding are presented:

a) Whether the schools are functioning as Nai-Talim schools

- The schools where the activity based (vocation based) learning was taking place during 1939-1960 have stopped those activities.
- The agricultural activities and mechanical activities have also stopped. The spinning and weaving related activities are also not going on.

b) Land and campus resources

- Each school had sufficient extent of good farmland. But as of today in many schools the land has been given away for the establishment of normal schools under various projects. There are also instances of encroachment. The farms are leased out and the rent is a significant income to the government.
- The campuses have two types of buildings : the old buildings that have become non-functional and the new buildings that have been created under new government schemes / projects including Sarva Shiksha Abhiyaan.
- There has been a recent attempt to create a "Workshop Hall" in many schools. But this hall is a small one and at the most would serve as a small computer lab.
- No Nai-Talim school has residential buildings for staff.

c) Sad situation regarding teacher's strength

- Most of the schools have one teacher or two teachers. The team came across a school in the SC dominated village Domat which makes one very sad. In this poor region there is no other school and this school is subscribed by a large number of students. Unfortunately there is not a single teacher.
- It is seen that while in schools like Domat (where there is an acute need for a school) no teacher is willing to remain in the school while NT schools of urban areas have more teachers. It shows that there is no administrative will to find a way of sending teachers to the needed places.
- While in the other category of schools there are new cadres like Shiksha Mitra who are posted to tackle the problems created due to the absence of teachers there is no such effort for the NaiTalim Schools. Thus the situation of extreme staff shortage is allowed

to continue and the condition becomes worse day by day since many teachers are also retiring.

- During the time when Nai-Talim was in its peak persons with agricultural diploma were engaged to teach agriculture and similarly artisans were engaged to teach craft. Now neither these vocational teachers exist nor such flexibilities to engage artisans etc. exist.
- There are a few places where teachers have been filled up through deputation.
- In summary only a fraction of the teaching positions are filled and most of the teachers who are working have had no formal training in NaiTalim.

d) Private initiatives :

The historical Brindavan school in Chanpatia block had to part with most of its lands for the construction of a Navodaya School. It has only two teachers. But when the survey team visited they found the class 6 alone had about 200 students (since the students of the Kasturba Kanyashala had to be part of the school). Fortunately the Gandhi Smriti, Delhi floated a small project through which some teachers were paid at the rate of Rs 4000/- per month and thus the school was putting up a brave face as if it was a Nai-Talim School - through a few vocational activities like garment making, carpentry work etc. It has no land to enable any meaningful farm work. With some effort the school could be made to get back to its previous Nai-Talim look by combining the boys school campus, girls school campus and the Kasturba Kanyashala all into one entity along with some more land possibly by tying up with the KVIC related institution contiguous to the school campus.

There are a number of other instances of private initiatives. For example:

- The school at Sirsiya Adda is maintained by the efforts of Mr. K. K. Roy who is a Supreme Court lawyer. He has engaged 7 teachers to manage the school for the benefit of the local villages.
- In the school at Harnatand10 to 12 young teachers are engaged through funds collected by people and honorarium is paid to the teachers @ Rs 500/- per month. Here the student strength is more than 1500.
- Three schools were found within the 3 districts where the headmasters had engaged a few additional staff by investing their own income.

e) Who comes to these schools

It was found that in most places very poor students from SC etc. communities or from poor Muslim families were attending the school. The noon meal often appeared to be their only major gain.

Part B:

REVIVING NAI TALIM AS A LEAD MODEL: BIHAR'S BOLD INITIATIVES

4.THE BIHAR VISION AND MISSION

4.1 Circumstances that led to the setting up of a 3 - member Committee of Secretaries

As indicated in 3.2 the Chief Minister of Bihar, Shri. Nitish Kumar, on 1. 12. 2011 in Patna, while inaugurating the NCRI – sponsored National Level Seminar on Nai- Talim held in the AN Sinha Institute of Social Studies Patna during 1-2 Dec 2011, announced that the 391 Nai-Talim schools of Bihar will be revived. For this he created a 3 member committee consisting of:

1. Shri.Anjani Kumar Singh, Principal Secretary to the Chief Minister
2. Shri.Vyasji, Principal Secretary, Health and
3. ShriAmarjit Sinha, Principal Secretary, Education

to come up (before December 2012) with a plan of action for reviving and strengthening Buniyadi Schools.

The report was completed in May 2013 and a 2-day workshop was organised in AN Sinha Institute of Social Studies during 28-29 May 2013 for finalisation after discussions with front line activists.

The brief summary of the report in English submitted by the committee is presented in Annexure1 while the more detailed report in Hindi is presented in the original form in Annexure2.

4.2 Aspects of the report devoid of controversies and aspects needing correction:

The objectives projected by the report related to:

- make NT schools better than normal ones
- make their syllabus branded /superior so that the same could be transferred to others later
- tie up with the creation of 122 block level modern central schools (for leveraging funds)
- creating high quality teacher resources, better paid
- creating flexibility in engaging skilled teachers
- vocational directions on the basis of local needs (decided by micro level plans & and compatible with the relevant agro-climatic zone' conditions)
- make it co-terminus with the Model School Scheme of the Central Govt. to solve the problems of resources and also to tackle the recognition problems (assuming that the proposed model schools will truly be created on the principles of Nai Talim)
- make the Buniyadi School Revival in phases

- involve the Bihar State Educational Infrastructure Development Board to find funds for the 391 minus 122 schools
- to have Gandhians in the State Level Governing Councils and for Boards of Studies
- to extend the experience of comprehensive & inclusive NT pattern to the normal schools and with this intention of transferring best practices of NT to the 'main-stream' involving BSEB (Bihar State Educational Board) and SCERT

The report concludes with the following significant vision statement:

"The Buniyadi Schools will, in no sense, be a centre of inferior education. The resources / infrastructure will be better than the existing conventional schools and these schools will be well-evolved and well-endowed. The curriculum will be a model, in future, for all the other schools of the state to be asked to emulate. There will have to be flexibility in the choice of teachers since many of the good agriculturists and artisans do not possess the normal qualificative degrees; Since harnessing of such persons is necessary the recruitment process should be keeping with this need."

The two points of the report which created controversies were:

- the Buniyadi school to be a residential centre for elementary school drop outs
- Buniyadi school will not have a separate Board since mainstreaming of children will be difficult and therefore to involve the BSEB in the evaluation process.

After prolonged discussions it was agreed that for the laudable objective of caring for the dropouts the present project will not be used. Further it was decided that:

- A cell will be formed which will function under the BSEB as well as SCERT. This cell will consist mainly of the Gandhian / activists/ organizers who have successful track record in respect of NaiTalim. The 'eqvivalance' aspects will be taken care of by members in the cell representing BSEB / SCERT. Thus the recognition problem will be handled assuring the vertical mobility of the students as well as their acceptability in the job market. However the above will be only a temporary solution. As a long range solution the Bihar Vidyapith will be revived and the Nai Talim schools attached to it.

4.3 A road map for revival and strengthening of Nai Talim schools of Bihar

4.3.1 The problems to be addressed

(i) clarity on the nature and structure of NaiTalim
(ii) clarity on course curriculum on the basis of (i) above
(iii) problems arising due to encroachment of the lands belonging to the NaiTalim schools
(iv) the dilapidated conditions of the NaiTalim School buildings
(v) lack of proper procedures in teacher's recruitment leading to the selection of substandard teachers; absence of recruitment during the entire past decade
(vi) mechanical type of teaching in the NaiTalim schools as in the normal schools
(vii) absence of a separate budget for the buniyadi schools

On the basis of deliberations on the three member committee (vide Annexure 1&2) the following roadmap could emerge:

1. The NaiTalim approach to education should have the goal of imbibing ethical values in the students and orienting them to have better engagement with the society. The implementation process should save itself from dogmatic traps and instead steer the program in such a way that the students coming out of the NaiTalim program can face the science and technology environment of development in the 21st century with ease and effectiveness.
2. The course content should be designed keeping the objective of creating ethical values in the students.
3. A scenario of 'learning' (rather than teaching) should be created making use of the audio visual learning resources of the day and taking care that the logical faculty is well developed in the youth.
4. Practice-based learning should be emphasized in the school with focus on the dignity of labour. The course content should be in keeping with the local needs. In these activity based training and education eminent artisans from the region should be associated.
5. For 2,3,4 above the curriculum and course content should be prepared through the involvement of SCERT and the same should be in sympathy with NCF-2005 and BCF-2007. Emphasis should be on self-directed learning and collaborative learning.
6. The basic education school should be developed in such a way that it does not become a symbol of backwardness. It should have focus on skill development and values – but should be related to the normal educational stream so that students coming out of NaiTalim could also compete for the opportunities just like the students from the normal educational stream.

   Note: Although the 3 member committee's recommendation was to dedicate the program to the re-education of the dropout students, the matter was reconsidered in view of the total opposition from the experts and activists.
7. For the total development of the students the NaiTalim schools should be made totally residential. Instead of addressing Std1-Std8 the school should cater to standards 6-12.
8. Since the educational system in the NaiTalim schools is distinctively different the teachers should also have a very distinctively different type of in-service training. Keeping various dimensions of the proposed NaiTalim system a comprehensive training policy needs to be created and in keeping with this policy the teachers should be trained from time to time.
9. The teaching assistants and head masters for the NaiTalim schools are presently drawn from the Sub-Educational Services and Lower Sub-Educational Services. Such recruitments suffer in two ways:
    a. Teachers are not appointed according to the approved strength
    b. Even the teachers who are appointed have doubtful credentials as regards the values that are characteristic of the NaiTalim system. Therefore the teachers have to be of higher levels. Further it is necessary to plan for checking not only their expertise but also their attitude towards ethical values and physical labour. It is thus very essential to have appropriate Recruitment Rules (RR) framed

10. The planning for the teachers should take place at the district level and should be managed through a district level committee. In this committee, in addition to the District Education Officer, there should be members who are teachers with national or state level recognition/awards besides members who are exponents of Gandhian ideology.
11. The work schedule for the students should be such that at least 3 days in a week are devoted to skill development oriented activities.
12. The NaiTalim schools are not in dearth of land. But in most schools there is encroachment. Therefore the district level officers should be requested to carry out a special campaign to have the encroachments removed.
13. The buildings of almost all the buniyadi schools are in degenerate condition. In this connection the establishment of a 'rules of evaluation of the status of buildings' will be necessary so that the same could be applied uniformly for the schools across the state. Further the buildings of this category of schools could have different colour so that the NaiTalim schools could be distinguished.
14. All the buniyadi schools should be enabled to have benches desks and other essential items.
15. There should be a state level governing body for the running of the NaiTalim programs consisting of eminent educationalists and exponents of Gandhian Ideology. They will carry out the monitoring work and submit their report along with recommendations to the Director of Primary Education on quarterly basis*(* which is now transfered to Secondory Education).
16. Instead of establishing a separate board for buniyadi schools a Cell (consisting of competent members) for Buniyadi Schools may be created as a part of the BSEB.
17. A set of 10-15 Buniyadi Vidyalaya be identified for the implementation of the above on an experimental basis during the current financial year.
18. The infrastructure that is with the Bihar Vidyapith should be evaluated and the potential use of this organization for nurturing the NaiTalim program should be addressed.
19. Operating a separate budget sub head for implementing the above recommendations be also considered.

PART-C:

CHALLENGES THAT NEED INNOVATIVE SOLUTIONS

5. THE CHALLENGE OF GENERATING ACTIVITIES

5.1 'Activity Bank': The Fundamental 'Capital' of Nai Talim

According to the author the most important reason for the failure of the Nai-Talim type of schools aiming to teach in an activity type of environment is the lack of ideas about the activities that:

-could sustain the creative involvement of students and teachers and

-could be sustainable from the point of view of

- desirability
- implementability- from the point of view of supervisory skills,raw materials, market for the finished goods etc.
- facilities
- availability of work station
- availability of time for the involvement of students
- assessment of skill levels attained by the students etc.

Gandhiji (-a good manager or self- proclaimed 'baniya') had a clear idea of the complexities involved. That is why he suggested 'takli' as the tool for students to carry on spinning.

Suppose, on the other hand, we wanted to be 'professional' and wanted to introduce the student to the real work situation. Then each student has to have a spinning machine – an ambar-charkha at a cost of Rs.25000. Then for about 100 million students the nation has to invest about 2.5 Lakhs Crores of rupees. This is for one activity and that too for the machine aspect alone. Raw materials, space, instructor etc have not been considered.

Let us consider farming : suppose we intend to give per student a small space of 10 meter by 10 meter. For 100 million students it will need one million hectares (costing Half million crore rupees – assuming a modest cost of Rs Half crore for every 2.5 acres).

Thus it is clear that activity-based teaching for all the students in all the school years is a demanding task. The reason for Gandhiji going for takli was that its cost at that time was only about quarter of an anna and could be fabricated by the carpentry section of the Nai- Talim school. Gandhiji also had an idea of the difficulty of 'disposing off' the products of the Nai-Talim schools. That is why he said that he expected the government to act as the buyer of all the products of the students! Think of the genius of expecting a foreign ruler who was doing all the tricks to crush the native craft talents to get into such a gigantic enabling task! But again our baniya Bapu took a calculated risk in making this strange statement perhaps as a political strategy.

Any one who is familiar with the efforts that the British government was making at the beginning of 19th century to give an impression that it intended to improve the educational system of India –in fact by closely reacting to the criticisms and models of Gandhiji through its

own committees, will be able to guess what could have worked in the political mind of a nationalist who wanted to pack off the alien ruler. Well, if the then government ignored his statement never mind it. On the other hand if the government took it seriously and started marketing the Gandhi stuff (namely yarn, mota-khadi etc.!) then millions of people would have been thrown out of employment and the people would have risen in revolt and throw away the British!

Though the paragraph as above has been written in a lighter vein it is serious in communicating one point that writers on Nai Talim have perhaps not ventured to point out.While the Nai Talim strategy of bringing out student's product to the market would have synergised with the Swadeshi movement (- for example it helped Gandhiji in subsidising khadi through the free yarn input from the student sector) it would not have worked well with the rural industries sector where the artisans were already semi-starved due to unemployment. Even today we can't take the risk of allowing the huge population of the students to compete with the rural landless labourers and artisans. But it is a different matter when it comes to seasonal peak loads like the one occurring during the harvesting time.In fact there is much wisdom in the state and federal laws of the US that permit the use of the students with age less than 18 (some states have permitted even 10!) to work as farm help if parents permit. For more details vide [7].

Let us get back.

Does it mean that the ramblings above tend indirectly to convince the reader that the Nai Talim is not realisable?

No. What is intended is that we have to look for the strategy that would work, and work without fail.

What is that strategy?

The Mantra is:

"SYNERGISING THE EDUCATIONAL PROCESS WITH THE PROCESS OF LIFE**"**

Is it possible? Yes indeed. It would be far easier in the village surroundings while it would be more difficult in the urban schools which are relatively more deprived in terms of basic resources like land and an un-manipulated environment of nature, society (with its associated problems) and culture.

Thus it would appear that the large scale urbanisation and the disproportionate (but wrong type of) investment in urban schools will be the major challenge to the emergence of a true Nai Talim as the main stream educational model. A pragmatic (though sub-optimal) solution will have to be worked out for the urban context.

5.2 From 'Vocation' To 'Activity'

At the outset it should be clearly understood that Nai-Talim is not 'vocational education' – but 'education through (the medium of) vocation'. As Gandhiji has repeatedly clarified only that vocation should be considered which has the potential of serving as the medium to understand

the subjects that the student encounters. It cannot be gainsaid that the vocation should be able to also give the confidence in respect of the livelihood problem that needs to be faced at the end of studies.

Here we should understand that the child need not be made to worry about livelihood from the first standard itself. The habit of associating spinning with Nai-Talim prevents the visualisation of many issues. In fact Gandhiji himself realised within two decades of his experience with khadi that it was not an answer for livelihood. In fact Gujarat which is the only state to have made NaiTalim into a grand success adopted agriculture and animal husbandary, not khadi, as its prime vocational directions.

Since NaiTalim is 'education for life and education through life' we should be prepared **to adopt a set of 'life-contexts' as the medium for communicating concepts to the child.** That such items exist in abundance will become clear from the sections that follow. What needs to be emphasised is that the contexts should have action content so that the student 'learns also through the hands'.

5.3 Activity as a threshold to 'perfection' and production as a culmination:

5.3.1 Linking activity to 'perfect - learning':

The insistence that the learning should be linked to activity and should culminate in production or acquisition of problem-solving skill has a definite effect on the quality of learning. That a learner is able to create something using the knowledge is a sure indication that the learning is perfect and is usable. The well-known statement, due to Francis Bacon :

'Reading maketh a full man
Conference a ready man and
Writing a perfect man'

essentially is saying what we are saying- since writing is, after all, a creative activity. In fact we can add the following as the fourth line:
'Realization a complete man' – realization standing for 'construction' or 'materialization' or 'creating a physical or organisational assembly which could function in lieu of the words/concepts.

5.3.2 The idea behind insistence on mother tongue is also perfection:

The perfection theory also clarifies the meaning behind another feature of NaiTalim namely use of mother tongue as a medium of instruction. Needless to say the mother tongue removes all vagueness in the association of objects and concepts via the language-code and leads one to perfection in understanding or communication.The reader might enjoy reading the box item (Box 5.3.2) which clearly warns against education that is not based on action.

The ramifications of this issue will be revisited in section 9

Box 5.3.2

WORDS WHEN NOT LINKED TO REALITY.....

Dr. Anil Sadgopal [8] in his famous book 'Shiksha men parivartan ka savaal' (2000) describes an experience during his science education experiment in Hoshangabad:

The word 'sisa' (meaning lead) in their instruction book gets modified into 'sheesha' by the teacher thinking that it must be a misprint. Subsequently it gets to be written as 'kaanch' (meaning glass) and the students end up learning this 'by heart' and thinking that one can get Oxygen etc. simply by heating the plain glass vessel!

If the students 'learn through doing' such an accident could be averted. The students may correct the language of his text book even if it is misprinted. Thus action based learning helps the students work with an 'objective language' namely the real or concrete objects and concepts.

5 .4 Activity Typology Evolved By National Committee Under The NCERT:

After the National Curriculum 2005 was created an important publication by the NCERT is: Position Paper 3.7: National Focus Group on 'Work and Education.' This publication is relevant to us because the whole report is based on the principle of NaiTalim. It has enumerated a very large number of activities packing them into 10 categories as follows:

A. Integral to Daily Living

A.1 Sweeping and Scavenging; Making of Brooms, Mops and Scoops.
A.2 Health, Hygiene and Sanitation
A.3 Cooking, Nutrition and Serving
A.4 Processing of Foods, Spices, and Other Food Ingredients
A.5 Laundry and Preparation of Soaps and Detergents
A.6 Tailoring, Stitching, Embroidery and Knitting
A.7 Care During Pregnancy and Early Childhood Care
A.8 Interacting with the Disabled, Infirm and the Sick
A.9 Old Age Care
A.10 Repair and Maintenance of Household Gadgets
A.11 Preparation of Cosmetics, Aromatics and Herbal Medicines
A.12 Saving of Water, Electricity and Fuel Consumption
A.13 Sharing of Household Responsibilities

A.14 Domestic Budgeting and Planning

B. Habitat and Shelter

B.1 Nursery and Gardening (including composting)
B.2 Landscaping and Aesthetics
B.3 Making of Bricks, Cement Blocks, Tiles, Pipes , etc.
B.4 Clay work
B.5 Carpentry, Furniture and Designing
B.6 Metal Work
B.7 Working with Plastics
B.8 Working with Glass
B.9 Housing (Designing and Construction)
B.10 Electrical Fittings
B.11 Plumbing and Sanitation
B.12 White-washing and Painting
B.13 Potable Water
B.14 Ground Water and Rainwater Harvesting
B.15 Drainage and Sewage
B.16 Bio-degradable and Non-biodegradable Waste Management
B.17 Environment: Biodiversity, Conservation and Maintenance
B.18 Renewable Sources of Energy (e.g., solar and wind energy)
B.19 Safety: Fire, Earthquake, Cyclones, Floods and Pollution.
B.20 Making of Toys, Science Kits and Teaching Aids
B.21 Field Studies of Flora and Fauna; Developing a Herbarium
B.22 Animal Care

C. Transport

C.1 Bullock Cart: Designing, Construction and Innovation
C.2 Bicycle: Assembling, Maintenance and Repairing
C.3 Boats, Canoes and Ships: Repair, Designing and Construction
C.4 Automobile (2-wheel, 4-wheel): Repair and Maintenance
C.5 Tractors, Cranes and other Hydraulic Machines: Operation, Repair and Maintenance
C.6 Packaging and Forwarding
C.7 Mapping and designing of roads, bridges, rope -ways etc.

D. Agriculture, Agricultural Processing and Forestry

D.1 Farming (including organic and dryland farming)
D.2 Horticulture
D.3 Animal Husbandry (including breeding)
D.4 Fisheries and Aquaculture
D.5 Poultry
D.6 Sericulture

D.7 Dairying
D.8 Seed collection, storage and biodiversity
D.9 Fodder, Pastures and Grasslands
D.10 Plantations (Tea, Coffee, Spices etc.) and Processing of Products
D.11 Irrigation and Drought Management
D.12 Forest Nursery and Tree Plantation
D.13 Forest Conservation, Wild Life (including mapping) and Human Settlements
D.14 Timber, Other Forest Produce and Regeneration of Forests
D.15 Cultivation of Aromatic and Medicinal Plants and Processing
D.16 Food Processing, Preservation, Conversion and Packaging
D.17 Agricultural Tools and Machinery
D.18 Agricultural Engineering
D.19 Bakery
D.20 Storage, Marketing and Finance
D.21 Quarantine and Patents

E. Textiles, Leather and other Fibre-based Materials

E.1 Soft Toys
E.2 Cotton, Wool and Synthetic Fibre: Spinning, Weaving, Knitting, Processing, Dyeing and Apparel Making
E.3 Leather: Curing, Processing, Dyeing and Products
E.4 Jute, Coir, Cane etc.: Curing, Processin, Dyeing and Products.
E.5 Designing and Marketing

F. Tools and Machines

F.1 Hand Tools
F.2 Hydraulic Tools
F.3 Electrical Gadgets and Tools
F.4 Electric Motors
F.5 Internal Combustion Engines
F.6 Levers, Gears, Brakes, Cams and other Basic Components of Machines
F.7 Casting, Welding , Turning, Fitting etc.
F.8 Electricity: Production, Supply and Distribution
F.9 Radio and Public Address Systems
F.10 Domestic and Industrial Safety Equipment
F.11 Electronics, Computerisation and Control Systems
F.12 Robotics

G. Services

G.1 Printing on Various Materials
G.2 Budgeting, Accounting and Evaluation of Assets
G.3 Maps, Surveys and Project Planning

G.4 House Safety and Maintenance
G.5 Testing of Water, Air and Soil
G.6 Pathological Testing and other Para-medical Services.
G.7 Transcription and Documentation
G.8 Translation and Interpretation:
(a) From one Indian Language to another;
(b) From English to an Indian Language and *vice versa*; and
(c) From Braille/Sign Language to an Indian Language/English or *vice versa*.
G.9 Preservation and Maintenance of Old Records and Museum Specimens.
G.10 Computers: Software and Hardware
G.11 Information and Communication Technology
G.12 Banking, Insurance and Finance
G.13 Creating and Maintaining Libraries, Documentation Centres, and Reading Rooms.

H. Art, Music, Theatre

H.1 Making of Musical Instruments
H.2 Making of Heritage Crafts (including puppets)
H.3 Pottery, Murals, Sculpturing and Graphics
H.4 Stagecraft
H.5 Jewellery Making, Stone Polishing
H.6 Event Management

I. Health, Sports and Physical Education

I.1 Public Health Services (including epidemic control)
I.2 Midwifery
I.3 Knowing your Body, Sexuality and FertilityAwareness
I.4 Occupational Hazards and Health Problems
I.5 Designing and Making of Health and Sports Equipment
I.6 First Aid and Nursing
I.7 Medical Technology

J. Community Work and Social Action

J.1 Local History Studies

J.2 Field Study of Under-nutrition/Malnutritionand its Causes.

J.3 Local Studies of (a) Occupations; (b) Technologies and Skills; (c) Work Force;
(d) Natural Resources; (e) Habitats; (f) Modes of transport; (g) Sources of water and energy;
(h) Bio-diversity; Creating Biodiversity Register; (i) Markets; and
(j) Official Development Agencies and their programmes.

J.4 Interaction and Study of Panchayats, Primary Health Centres,
Block/District Development Office, Police Stations, Post Offices,
Cooperatives, Banks, Courts, *Mandis*, District Magistrate's and Revenue Offices

(or Municipal Offices) and digital data collection at Block and District levels.

J.5 Field Studies of (a) Social Stratification and Power Structures; (b) Gender Inequity and Violence Against Women; (c) Gender Differences Relating to Work; (d) Adult Perceptions of Childhood; (e) Child'srelationship with work; (f) Status of Child Rights;
(g) Status of the Disabled; and
(h) Diversity of Languages, Religions, Castes and Socio-Cultural Backgrounds.

J.6 Field Studies of local Balwadis/ICDS Centres, educational programmes and schemes, educational status, types of school managements and fee structures; social and gender disparities in and through education, teaching-learning processes, quality of community participation in schools, implementation of laws relating to child rights and educational rights, contribution of education to social development and the changing trends in the education system.

J.7 Proactive involvement in (a) Vaccination Campaigns; (b) Health Check-ups;
(c) Epidemic Control; (d) Maintenance of Land Records; (e) Right to Information Campaign; (f) Issues relating to Women's and other Socio-Cultural Rights; (g) Legal Literacy and Aid Programmes; (h) Child Rights and Right to Education Programmes;
(i) Local elections; (j) Development Programmes
(including Employment Guarantee Scheme); and (k) Decennial Census.

J.8 Organising (a) science and technology-based services for the community and/or the locality ; (b) Support for the Balwadis/ICDS;
(c) Interventions for Universalization of Elementary Education;
(d) Support for the disabled, including learning Braille/sign language; (e) Support for the old persons and the sick; and (f) Any other similar social action programmes.

J.9 Compilation of local folk songs, folk tales, riddles and toys.

J.10 Studying disasters, riots, incidents of violence (particularly against women, children and *dalits*), accidents and other disturbances and providing relief therein.

The exhaustive list created by the committee headed by the educational activist and expert Dr.Anil Sadgopal gives us the hope that there are indeed a large number of activity contexts that could be fruitfully utilised to bring in a creative learning experience.

It is also clear that the activities cannot be related indiscriminately to students of any age group. To illustrate this we present a table in section 5.5.

5.5 Activities to be related to the development of the child:

5.5.1 Theories of child development:

Child development theorists clearly support the point of view that a series of appropriately designed activities can help the child to attain its potentials to the maximum.What are the appropriate stages? To this also the theory of Piaget provides the answer. According to him the child, like a scientist, creates a schema based on the observations. When new or more data or segments of experiences arise it modifies or expands the schema.
Thus the unfolding of the experience should be in keeping with this processso that the picture of the world and life unfolds in a learnable sequence with complexity well programmed taking into account the capacities of the child – both physical and mental.(vide Box 5.5.1

Age	Age	Characteristics	Developmental Changes
Sensorimotor Stage 	Birth to 2 Years	The infant knows the world through their movements and sensations.	Infants learn that things continue to exist even though they cannot be seen (object permanence). They are separate beings from the people and objects around them. They realize that their actions can cause things to happen in the world around them. Learning occurs through assimilation and accommodation.
Preoperational Stage 	2 to 7 Years	Children begin to think symbolically and learn to use words and pictures to represent objects. They also tend to be very egocentric, and see things only from their point of view.	Children at this stage tend to be egocentric and struggle to see things from the perspective of others. While they are getting better with language and thinking, they still tend to think about things in very conrete terms.
Concrete Operational Stage 	7 to 11 Years	During this stage, children begin to thinking logically about concrete events.	They begin to understand the concept of conservation; the the amount of liquid in a short, wide cup is equal to that in a tall, skinny glass. Thinking becomes more logical and organized, but still very concrete. Begin using inductive logic, or reasoning from specific information to a general principle.
Formal Operational Stage 	12 and Up	At this stage, the adolescent or young adult begins to think abstractly and reason about hypothetical problems.	Abstract thought emerges. Teens begin to think more about moral, philosophical, ethical, social, and political issues that require theoretical and abstract reasoning. Begin to use deductive logic, or reasoning from a general principle to specific information.

Box 5.5.1 Child development stages Piaget's theory [acknowledgement: about.com psychology]

5.5.2 An illustration of 'activity programming'

The engagement of the student has to be with nature, with society, and with self. The question obviously is how does one program it within the period available for the individual to learn. We have the following proposal (which appeared in [11]), based on an intuitive understanding of the theories alluded to in 5.5.1.

Sr No	Educational level	Approach to Practical activities	Illustration
1	Pre-primary (3-5 years)	Togetherness/ sharing	- Playing together sharing toys - Eating together - Singing together - Dancing together - Wandering together in discovering nature and doing small activities like picking up flower, fallen fruits etc.
2	Primary 1st to 5th class (6-10 years)	Elementary environment care	- Planting trees - Watering trees - Elementary agricultural operations like picking fruits, weeding etc. - Cleaning one's habitat and one's school environment; getting rid of plastics etc. - Hygienic practices
3	Middle and high school 6th to 10th class (11-15 years)	Elementary social engagement	- Abolition of illiteracy - Campaign against alcohol - Campaign against untouchability/ caste
4		Elementary economic engagement	- Herbal / floriculture - Afforestation - Elementary post harvest operations - Elementary service activities
	Higher secondary (11th, 12th class) (Age 16,17)	Socio economic reconstruction programs	- Activities akin to 3, but at a higher level for example social engagement could go to the level of campaign against corruption - Economic engagements could go to the level of expertise based minor productions / services including IT enabled services
4	College level (18 and above)	- Inputs to development planning and administration - Directions of social entrepreneurship or economic entrepreneurship	<u>Social</u> Organizing self help groups Organizing co-operatives Organizing panchayati raj related works Human rights movements Social watch movements <u>Economic</u> Planning enterprises based on local resources Harnessing of Ethnic Resources for economic benefits

A perusal of the above table indicates that with this age group based approach the demand for organizing production activities will be significantly reduced. While for rural schools the task of finding

activities will be very easy, with a bit of innovation it should be also possible to find activities for the urban schools .

6. PACKAGING ACTIVITIES THROUGH SCHEMES

6.1 An example of a structured framework for activity-based man-making education: LAYA

With a view to provide some meaning and structure to the activity- based education the author recently introduced a framework called LAYA with 4 prominent dimensions:

L : Life-skills and life-styles : a combination of productive / self-help /self-care training

A : Action for social reconstruction : all sorts of social campaigns / advocacies / field action etc.

Y : Yoga : Yoga, physical education, and similar body-mind synergizing

A : Art for articulation. : All the communicative skills including art forms

Now imagine this quadrangular agenda

L1	A1
a1(arts)	Y1

L2	A2
a2	Y2

Each of this quadrangle could be drawn for Std-1, Std-2 etc. as hinted by the subscripts inside the table. The school can, in its effort to schedule can fill up such tables in the order of increasing complexity, Now if you consider the twelve quadrangle sheets sitting one over the other, that really is the 'programming'. Obviously there could be a lot of variations. The entries could be drawn from (or inspired) by the master list provided by the NCERT document. But we certainly get a dramatic picture of the act of 4-dimensional activities supplementing the academics.

This in some sense is the plan for 'extra curricular activities' - as they were called in earlier times. But with the present day perception that they are as important as the curricular components they are now starting to be 'valued'. In fact we are also going to talk about a way of incorporating these through a valuation process [see section 13]. It is common knowledge that the present day 'companies' that evaluate the graduates for jobs give a lot of importance to the dimensions of LAYA because the employers are bothered about the potential of performance that would be exhibited in the form of innovations, shop floor outputs, organisational skills etc.and where the so called soft-skills, social-skills and above all the ability to concentrate and delve deeply into and resolve a problem situation are all very important.

6.2 A STRUCTURED SOCIAL RECONSTRUCTION ENGAGEMENT:

In 2006 the author came up with a 4-stage 'reconstruction agenda' that every youth could create for himself / herself (see the booklet 'New Reconstruction Program for the Youth', released through the hands of Dr.A.P.J.Abdul Kalam during the Golden Jubilee celebration of Gandhigram Rural University; the salient details are presented in Annexure-3). The approach is that the youth be guided to follow the items below sequentially:

- reconstruction in self
- reconstruction work relevant to the neighbourhood of one's home, school, hamlet or panchayat
- reconstruction work that are of priority to the province and
    - reconstruction work that are of priority to the nation .

A student may choose one item at a time in the 'self' category and involve in one of the topic listed in the hierarchy from panchayat / province / country at his/ her own pace. This way a youth has an agenda for ascendance in social action.

6.3 MDG: A School Action Agenda Urgently Needed by The Nation:

The Millennium Development Goals (**MDGs**) are eight international development goals that were officially established following the Millennium Summit of the United Nations in 2000, as a sequel to the adoption of the United Nations Millennium Declaration. In this 189 member states of the United Nations and about 23 international organizations agreed to achieve these goals by the year 2015. The goals are:

1. Eradicating extreme poverty and hunger,
2. Achieving universal primary education,
3. Promoting gender equality and empowering women,
4. Reducing child mortality rates,
5. Improving maternal health,
6. Combating HIV/AIDS, malaria, and other diseases,
7. Ensuring environmental sustainability, and
8. Developing a global partnership for development.

The Declaration asserts that every individual has the right to dignity, freedom, equality, a basic standard of living that includes freedom from hunger and violence, and encourages tolerance and solidarity.

Success of this gigantic world agenda with 8 goals, 18 targets and about 40 indicators is very much in the hand of India since in respect of important goals like goal-4 and goal-5 India acts as the 'drag'. Nearly one third of the infant mortality of the world takes place in India and similarly in respect of maternal mortality and literacy. Only four out of the 15 most populous states of India have shown satisfactory progress in such vital dimensions. As far as the populous state like Bihar is concerned the statistics are very unfavourable in almost all the dimensions. One way of attacking will be to increase the field extension machinery- for

example: for trying to tackle the IMR the government of India employed 1,75,000 health workers- trying to reach out every hamlet; this led to some tangible results, though limited.

Here a vital question arises.

- Are we first creating millions without the proper education related to life and trying to carry the information in bits and pieces through messengers having dubious qualifications and carrying out extension tasks in an ineffective way? Should not normal education itself contain such information / skills essential for life?
- Why not involve a whole generation of students and teachers using the 'education for life , education through life' philosophy? Thus we not only get an informed citizen but also generate millions of potential activists.

A question about the existence of such an educational system would naturally arise. As a partial illustration we present an analysis carried out by the author in respect of a rural institute (namely Gandhigram Rural Institute) to which he was associated over a quarter of a century. Why consider a University while we are concerned with schools? Unfortunately, Tamilnadu became a state hostile to Nai Talim due to an accident in history. Thus there is no example of schools in Tamilnadu where NaiTalim was officially implemented after an abortive effort by an ambitious Chief Minister like Shri. Rajagopalachari (1954-55). Gandhigram Rural Institute (Dindigul District, Tamilnadu, under the Ministry of HRD) became a campus where such ideas were tried and its efforts had impacts on the MDG related contexts- for example IMR, birth rate etc. in the whole region. Dr. Soundram Ramachandran (daughter of TVS) was the innovator and she became the Minister of Health in Nehru's Ministry.

In the diagram that follows we show how the MDG items are linked with the various programmes / centres in the Rural Institute.

When one sees the 'rural content' and rural bias in the curriculum and the style of associating the students in the process of solving the village problems it becomes perhaps more convincing. The programmes in a few schools (in Gandhigram, Gandhiniketan-Kallupatti, KanyaVidyalaya-Vedaranyam….) also had similar impacts: since they were all in the network of the Gandhigram community of Gandhian Institutes of Tamilnadu.

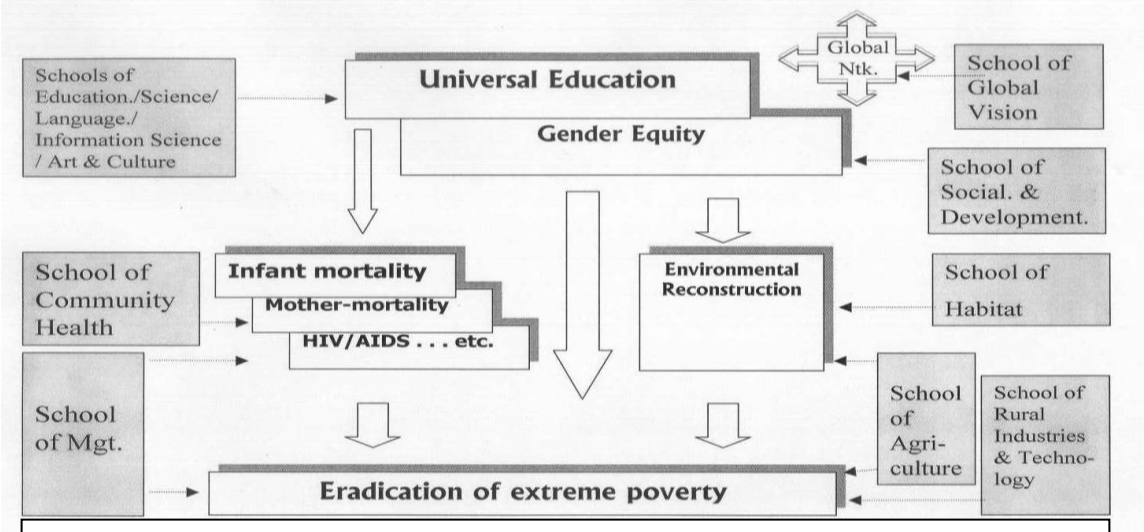


Fig: 6.3 The dimensions related to MDG in operation under the various schools of the Rural Institute

The national focus group report 3.7 which was referred to in section 5 has quite a few examples where the student - involvement in productive work as well as social actions are possible. The case studies in the report 3.7 are also very convincing. A dozen examples are included in the book 'Liberating Education'[7].

It is suggested that instead of the whole nation plunging into such experiment and risking failure it would be advisable to implement in states like Bihar where there is a crying need for social reconstruction and expediting MDG related remedial actions. Thus it is possible to invest adequate resources for this exercise and also keep a vigil on the programme through experts with proven background.

Let us take, by way of illustration, the vexing problem of literacy.

It was proven in the Rural Universities of Chitrakoot (1997-2003) and Gandhigram (2005-07) that with properly prepared tools it is extremely easy to achieve success in this. For example, the innovative book 'Writing Tamil in 7 days' was used by the nearly 4000 students of the Gandhigram Rural Institute during the 'University in the Village Doorsteps' program when the entire university spent 10 days in the villages for rural study and reconstruction. If each student manages to teach 2 or 3 adults during this camp the campaign reaches 10000 people within 10 days. Similarly a newly introduced philosophy when cast into a book: 'Literacy in Hindi within 10 days - using a culture approach' enabled the students of the Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya in creating literacy in 10 days in the Chitrakoot region.This happened during 1997-2003 and was then carried to Gandhigram (2005-07). Impressed by this message Mr.Arjun Singh, the then HRD Minister, arranged for a whole day demonstration of this method in front of all the Collectors of Bihar, in the presence of the Governor of the state. Of course since it was part of the exercise of the Literacy Mission, the already overburdened machinery could not instantly get into any such innovation.

Let us consider the question of use of toilets in every house. If and when it is introduced as an agenda of the school and when it is mildly assessed it certainly gets solved- particularly when students, in teams are taught the process of creating latrines.

The problems of reaching government schemes to all the eligible citizens without distortion or corrupt interventions by vested interests has never been possible through the government machinery. But such problems, when handled by student volunteers under NSS or similar schemes will become utterly simple and devoid of corruption. Whether it is the question of 'delivery' of 'Aadhar' or adult pension, the student involvement can make it do-able. While the implementation of the scheme gets a fillip through the involvement of the students the students get educated immensely through the process. In fact the possibility of educating a whole generation is a thing that could help the society in its quantum jump in quality.

An interesting initiative in Madhya Pradesh: An ambitious leadership development program targeting 75,000 youth over five years has been launched in Madhya Pradesh during 2015 with 15,000 students already on the rolls. This program called CMCDLP (Chief Minister's Community Development Leadership Program) attempts to have the students linked to the problems of the villages through a huge network of 'mentors' so that they not only understand the problem but attempt to alleviate through innovative interventions and imaginative scheme convergence. The present author is involved in creating the curricular contents and field extension strategy. Certainly the CMCDLP is an attempt to partially achieve the rural reconstruction that could have been achieved through a Nai Talim education.

Important Note :

Although we used the MDG framework in the above the world has decided to adopt a slightly more explicit set of 17 development dimensions called Sustainable Development Goals. This recently (Sept 2015) adopted global development framework is constituted by three major themes :

- Economic Sustainability ensuring elimination of Poverty
- Social Equity and
- Environmental Sustainability

constituted by the following 17 goals :

1. **Poverty** - End poverty in all its forms everywhere
2. **Food** - End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. **Health** - Ensure healthy lives and promote well-being for all at all ages
4. **Education** - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. **Women** - Achieve gender equality and empower all women and girls
6. **Water** - Ensure availability and sustainable management of water and sanitation for all
7. **Energy** - Ensure access to affordable, reliable, sustainable and modern energy for all
8. **Economy** - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. **Infrastructure** - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. **Inequality** - Reduce inequality within and among countries
11. **Habitation** - Make cities and human settlements inclusive, safe, resilient and sustainable
12. **Consumption** - Ensure sustainable consumption and production patterns
13. **Climate** - Take urgent action to combat climate change and its impacts
14. **Marinosystems** - Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. **Ecosystems** - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. **Institutions** - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. **Sustainability** - Strengthen the means of implementation and revitalize the global partnership for sustainable development

There are 169 proposed targets for these goals and 304 proposed indicators to show compliance.

- 7. ‘SELF-RELIANCE’: NEEDS A NEW FRAMEWORK

7.1 Self – reliance is a relevant concept even today:

(a) If one examines the series of “schools” or “Faculties” in the ancient Nalanda University of Bihar, it is clear that:

- the Guru and the students together maintained farms and goshalas and thus ensured their basic sustenance.

- the kings arranged endowment-namely the income from a set of villages to provide inputs for the upkeep of the university, its library, its international guests, researchers and so on.

(b) when Gandhiji thought of creating lakhs of schools, India was under an administration against which he had waged a war. Thus the only way out was to demand that the teacher’s salary should come out of the production activities. Of course the teachers were not expected to demand the salaries of the like of today, but were expected to be contended with a ‘livelihood wage’.

7.2 A Glimpse into the economy of HRD

In today’s context the finance of school management is full of contradictions. While the teachers receiving fat salaries on the 6th Pay scales refuse to even attend the schools regularly, the private schools (for example, the matriculation schools) pay a fraction of the salaries of the government schools, but show better results. In addition to these formal schools there is also a parallel “coaching school industry” that fleeces the parents. The young ones are in the jaws of a cruel school system which robs their youth, converts them into cramming machines, declares a few as winners and the rest as “failures”. Nearly 85% have already become ‘drop outs’ (or push outs) and even among the ones who have been declared as successful about 90% again become ‘thrown outs’ since they are not able to find jobs suiting their qualification. There is also the allegation that the students when they exit the schools/ colleges are ‘not employable’.

India is now in a position to see that its manpower has the widest skill- spread. It also has demand from the entire globe. A careful look into the true economics of HRD would inspire a different type of management strategy and investment on HRD. Imagine, in the context of Bihar, that through NaiTalim type of work-based education we are able to bring back 2 million (out of the 2.1 million drop-out) youth to be retrained for better use to the economy. Then the value added to the economy is of the order of 0.2 Lakh crores rupees per year assuming that each youth employed earns a salary of Rs 1 Lakh per year which in some way measures their

contribution to the economy. By way of expenditure, let us say we have to spend rupees 5 Lakhs per head in the process of education. But this investment is recovered or paid back in 5 years. Thus if the individual works for 35 years then during the remaining 30 active years the nation gets 6 Lakhs Crores rupees. worth of benefits from 2 Million youth.

The economy of NaiTalim has also to be worked out in a similar way. But we claim that it is far more subtler as shown in the following:

Let us consider a 'project' involving 2 million youth who will be trained over 5 years and the cash flows over 5o years of their life will be calculated.

Let the investment per student on capital side be Rs 5 Lakhs over a period of 5 years.

Thus investment over 2 M youth = 1 Lakh crore rupees. Let us see the benefits:

(a)Additional economic benefits over 30 productive years of the 2 M youth= 6 Lakhs Cr Rs

(b)Let us say, as a result of the special HRD effort, there is per capita crime-care cost reduction by 10%. The cost saved (over 50 years) @ Rs10000 per person per year = 0.5 Lakh Cr Rs

(c) Let us assume that 10% people have some life style change and as a result there is overall saving of health service cost @ Rs 10000 per person per year thus leading to a saving =0.5 Lakhs Cr Rs over 50 yrs.

Adding all the three items we get total =6.1 Lakh Cr Rs

Thus we see that through an additional investment of 1 lakh Cr Rs a saving of 6.1 Lakhs Cr Rs could be achieved

In the above we have ignored a large number of tangible and intangible factors-

For example,

(d) Improved environment caring sensitivity among the population

(e) Improved care over national assets.

The following table provides an idea of the existence of such a large number of factors.

Let us represent the above analysis visually taking the LAYA model of "add ons" to the usual academic contents.

Input	**Attribute Changes**	**Impact/ Consequenses**
L: Life-style / Life-skill	Better life-style	Reduction of diseases ⇨ Less health expenses per capita
	Better hand-skill	Better productivity

	Better harmony	Better law & order and reduced expences in maintaining law &order
	Better leadership	Overall strength of the nation
A:Action for social reconstruction	Solving of the existing social problems	Greater levels of social harmony and enhanced quality of life
Y:Yoga	Improved health and peace	Greater harmony and higher productivity
A: Art for articulation	Better inter-communication	Greater social cohesiveness and reduction of conflicts.

Thus we see that though our estimate was too conservative, mainly because of our omitting very important factors, still the gain to the society due to investment in education becomes clear. Of course one might argue that education makes the humans handicapped since they are no more useful for physical work- and thus the nation looses heavily. But this criticism is effectively answered by Nai Talim. True Nai Talim makes the citizens learn through hand and thus the productivity of land becomes very high.

7.3 Self reliance to be visualised in a holistic sense:

In the current era when the citizens have been assured of their right to education (RTE) it makes more sense to talk about a more effective way of delivering their entitlements. In this context a better yardstick to measure this effectiveness will be 'cost- effectiveness'. Thus we have to see the costs incurred and the benefits achieved. The benefits may be tangible or intangible, may be direct or indirect, may be immediate or distributed over decades or generations.

If the output / outcome far exceeds even when we take into account a few of the many attributes (which are also measurable) then we have a right to conclude that the project is feasible or sustainable.

7.4 Emergence of student as self-reliant individual

Due to the Nai-Talim type of education the student is expected to develop into a self-confident and self-steered individual in the following sense:

- The life oriented educational pattern enables the individual to fix the goals of life besides taking critical decisions in career and other aspects of life. Such persons are less vulnerable to deception and misguidance and more likely to lead a successful life.

- The life-skills acquired by the student helps him to go ahead fast without waiting for petty assistance from others, Some of the skills have implications to the livelihood of the individual and the economy of the individual/region.
- Life-styles and soft skills provide the individual with a lot of options in solving problems. Through the enhanced capability to manage the resources one is able to manage life more successfully.
- The self-confident and self-reliant persons are able to play leadership roles better and emerge as solution providers rather than problem-creators.

One can generate a truly long list of self-help entities. The NCERT report on Work and Education has done a more exhaustive enumeration. See sub section 5.4 items A&B. In fact G and I also provide some hints; also D, E, F.

7.5 Community - level self-helps

Humans are associated with many community level organisations- for example:

- Hamlets, panchayats
- Self-Help Groups
- Artisan's Guilds
- Farmer's Federations etc.

When majority or an influential minority has had the Nai- Talim type of education a new type of 'self- help dynamics' is expected to become visible. Many things that are not possible at individual level become possible provided that certain norms of co-operative group actions are followed. Now what are these things? The list is long and is the same as the type of co-operative institutions that emerged in this country.

We indicate through the model list in Table 7.4 what sort of possibilities emerge even in informal communities when it has the background of Nai- Talim education as indicated above. As in the table we leave it brief and indicative since the NCERT has provided sufficient hints (see the exhaustive list under section J of 5.4)

Table 7.4:Community-level self -help capabilities

• participatory planning
• joint agricultural operations
• industrial collectives with CFC (Common Facility Centers)
• managing schools, mid-day meal preparation through SHGs
• grameen banks

8. THE CHALLENGE OF CREATION OF TRAINED TEACHERS

8.1 Shortage of trained teachers:

We note once again that a predominant reason for the Bihar's Nai – Talim experiment not evolving as a genuine system was the lack of suitable training for teachers.

Nai – Talim teachers have to be special in the following sense:

- The teacher should be not only good in theory but also in applying in life and evolving innovative solutions to problems of life and thus creating confidence in the students that they could relate themselves to the villages.
- The teachers should imbibe dignity of labour in the minds of the students and create confidence that they can lead a self reliant life.
- The teacher should be able to create an ambience of equality between teacher and students and should be able to work with the students and through the students in a "discovery approach to education" – the discovery could be not only scientific but also societal. This should induce 'humility' 'sadbhavana' 'empathising' and 'mutual-nurturance' and such other traits in students to emerge as 'good humans and good citizens' and fit into a 'scenario of co-existence and co-operation' rather than 'competition and conflict'.

It is clear that a teacher who has been brought up through traditional bookish learning needs very extensive training (with components of unlearning) to become a 'human – resource' suitable for our ambitious project of creating young 'social entrepreneurs' and 'entrepreneurs'.

Thus, the question is not only "how to do" but also to do it in a limited time - frame when numbers of the order of 10000 will be needed in a very short time.

8.2 Innovative ways of meeting the demand of teachers:

(i) Infusing technical skills into the teaching system:

It is normally an impossible to transform a teacher with social sciences background into a vocational teacher. On the other hand many young engineering graduates are fond of pursuing teaching jobs and they could be easily trained to become vocational teachers in the Nai Talim system. Such a process has already started in Tamilnadu but to meet the shortages of teachers in general. In the Bihar contexts a large number of youth have gone to enginnering colleges around the country and it should be possible to attract a sizeable population into the school system.

In the same way other professionals like agricultural graduates, law and social work cadres and professionals of arts ,fashion , IT etc should be also inducted in a calculated way.

In the initial stages retired cadres from it is, Krishi Vignan Kendras etc could also help .

(ii) Ensuring the Nai Talim culture in the schools:

As noted earlier Gujarat had the good fortunate to have Nai Talim teachers who had 12 years of growth through Nai Talim education who also underwent teacher's training in front line Rural Institutes like Lok Bharati- Sanosara. Since Gujarat established more than 1400 institutions of the Nai Talin type it would be possible to hire retired cadres from there. This will ensure that the traditions of Nai Talim are not watered down. Similar efforts could be made to get retired cadres from the nearly hundred innovation schools in the country.

8.3 Plea for a major teachers' training plan for Nai-Talim

Bihar has presently only 24 teachers's training institutions out of which 19 were earlier associated with Nai- Talim.

This is far smaller in comparison with141 in Tamilnadu and 206 in Maharashtra.

It would be proper to plan 25 more Teacher's Training institutions of the Nai-Talim type (which works out roughly one per 2 districts). By the time the new institutions come into operation the existing 24 (and possibly one more in Bihar Vidyapith campus) would be devoted to NaiTalim for the first 3 years after improvisation in terms of suitable staff. In fact, after 3 years when 50 colleges will be in position, the 50 could be dedicated to the Nai- Talim teacher's training so that the major burden is taken care of. By permitting public participation it is possible to multiply the training institutions. The report recommends a continuous training process. Thus, aspects not covered in the initial training could be supplemented in the subsequent traning courses. In fact continuous updating in subjects as well as pedagogy is easier with this approach.

(iii)Collaborative approaches:

Gujarat has 36 Teacher's Training colleges for Nai- Talim. Since the state has had a 100-year history of NaiTalim and since there is no heavy load on them, a majority of them could be requested to dedicate themselves to meet the demands of Bihar. Even if 10 such campuses are ready to collaborate, this could provide the needed relief. It should be noted that by the very nature of the concept of NaiTalim a lot of local experience is mandatory and thus only certain aspects could be expected from Gujarat. Thus a program in which the trainees will be spending time in Bihar and Gujarat (and also Wardha for reasons already mentioned) will have to be framed.

(iv)Technology Assisted Teaching and the concept of service providers:

Although less desrablein the context of Nai Talim optimum results could be achieved if we could create 'IT-assisted teachers'. In this case the first level of training to the teacher would be to use the software tools that ar abundantly available and would be further established to fill the skill gap of the teacher. With smart-phone having made inroads into the tribal heartlands, this is an absolutely do-able task. There are only two simple steps to be taken:

(i) Crating the custum-tilored APPS that suit the Nai- Talim curricula of the region
(ii) Enabling connectivity through proper tie- up with the IT companies.

In fact in this approach the entrepreneurial approach of 'service providers ' will prove most successful at least in the beginning. In such a case the teacher, in the initial period will become the manager of the service providers and user of the technology tools. Problems like students not coming to the school will be solved since contents will be visually rich and entertaining.

(v)Multi- stage training of the teachers using multi- institutional resources:

Yet another way of lightening the load will be to collaborate with IGNOU which is already working out a course for NaiTalim type of teacher's training. The training of the teachers could be made into a multi-stage process where various modules will be accessed from various providers. For example the theoretical portions could be provided by the IGNOU program of Nai Talim Teacher's Training- possibly assisted by certain Smart phone APPS.

While the core training could be of one year residential type the remaining segments could be provided over the summer breaks.

9. A NEW PERCEPTION ON LANGUAGES

9.1 Language as a prickly theme in Nai Talim

When Gandhiji was posed with the question: how to find time for the vocational training in the already crowded school schedule he gave the formula:

"NaiTalim = Matriculation – English +work practice".

The above gave the inspiration for the Gandhian educationists to drop English as a medium of instruction.

But Gandhiji recommended that English should be taught not only as a language but as a world language of commerce. All that he said was that English should not be taught in the first 3 years of the schooling.

With the fascination in India for English medium education there is a thorough mix up between:

- NaiTalim approach to treating English merely as a language that links to science and commerce and as a world level communicative tool vis-a-vis
- English medium based education.

There is a misunderstanding between what the parents want (even by way of a false sense of 'status') and the solutions that we have provided to satisfy them. **What the parents want is that the child should be able to talk fluently in English and not that they should be put to the torture of learning everything through English medium.** But unfortunately India has a sad teaching environment which Chakravarthi Rajagopalachari once jocularly mentioned as:

'elsewhere the subject is learnt through English whereas in India we learn English through the subjects'.

Suppose we put the following options in front of the parents:

Option A: The child will be anchored in mother tongue but the school will ensure that its fluency in English will be as good as an English speaking child.

Option B: The child will learn everything in English right from standard 1. There is no assurance of its fluency in mother tongue or its capacity to communicate with the local population.

Any right thinking parent when confronted with the above options will choose option A, but will certainly be suspicious of the promise- because English teaching has been a failure in India. This was highlighted by Prof .Muthukumaran, twice Vice Chancellor of Bharatidasan University through a provocative article which posed the question:

> 'while everywhere in the world a foreign language like English is effectively taught in 550 hours and the student acquires the core linguistic skills including speaking, in

India a student spends as much as 10,000 hours during his/her school life but does not develop the confidence of uttering a single word in English.'

The solution to most of the problems with English in India lies in our discovering 'the correct method of teaching English within about 550 hours'. This will liberate the student from most of the current woes. Section 9.5 outlines a methodology for achieving this.

9.2 THE LANGUAGE ISSUE VIEWED THROUGH THREE ANGLES

9.2.1 Language as a medium that relates the learner to the physical world and the society

Language, as a code, has to serve as a substitute for the reality. Thus the starting point is the objective reality: the objects, their qualities and the relations between the above. Any imperfection at this point of coding process will lead to understandings that would be imperfect. In fact with 'rote' learning, the child ends up only with the 'code 'which are mere words without the linkage to the things they stand for.Such accidents are more likely to happen when an alien tongue is used as a medium of instruction as compared to the situation when mother tongue is used for learning. A real life story from Hoshangabad (Madhya Pradesh) was included in 5.3 to illustrate this. Thus it is clear that if the child starts understanding the physical world and society through the mother tongue it is bound to be on a solid (and not slippery) ground.

On the other hand if the child learns everything through the medium of an alien tongue there is a process of alienation. This is clear from the fact that the child loses the chance to communicate with the people around. The alienation is also from the culture. This is because every language is taught through the 'idioms and literature of the language on which it stands'and the content of the learning is normally drenched in its civilization. For example if Sanskrit is taught it cannot be insulated from the natural subjects like the Vedas, the epics like Ramayana, the yoga shastra etc. which indeed are the creations of Sanskrit. If, on the other hand, English becomes the medium of instruction the learner is certainly exposed to its history, literature and culture. It is clear, therefore, that if a child gets its education through an alien language it loses much of the chances of immersing itself in the local culture. This indeed could be the beginning of the process of alienation. Thus the mother tongue is a non-failing link not only to the physical world but also to the cultural milieu in which it is born.

Note: The above analysis also serves as a caution against any blind application of the 'mother tongue' concept. For example, if a certain child has a habitat situated in such a way that it hears nothing but English all through the day and all the physical objects and social contexts are introduced and interpreted in English (or any other foreign tongue) then that tongue indeed is to be understood as the 'mother tongue'.

9.2.2 Acharya Kripalani's revolutionary perception:

At the historic review meeting in Turki (Bihar) in 1957, when the language issue was prominently being discussed Acharya Kripalani indicated that 'work' should be considered as 'the language of NaiTalim'. By 'work' one means 'direct experience'.Thus when learns through direct 'activity – experience' there is less danger of the medium posing much problem in the process of 'perfect learning'.

However, it would appear that the theory of the Acharya does not explain the inevitability or otherwise of the local tongue when the student has to interact with the society. Here again if the interactive learning is more action-oriented (and thus language independent) then the action could be (by and large) the medium of learning. Note that we had to impose the assumption that the interactions are language - independent. Thus the theory of Kripalaniji is only true to this extent. However it helps defocusing from certain emotive issues related to languages.

9.2.3 The concept of the 'mother tongue of the subject':

There is an issue which has been ignored by the activists. The present author would like to underline that there is something called 'the mother-tongue of the subject'. The following illustrations are hoped to make the proposition clear:

(a) If one attempts to teach computer programming etc. totally through a vernacular the possibility of a scholar getting practical success in ending up with a computer code by only using the vernacular script and words is very low.

(b) If one sees any book on Yoga in any world language the occurrence of many dozen Sanskrit words throughout the book becomes unavoidable.

c) In the study of botany, physiology (and their applied areas like medicine) one has to live with a very large number of Latin words.

(d)True and satisfactory study of religious scriptures are possible only when one gets to the original languages (Sanskrit,Hebrew, Pali etc.)

9.2.4 Practical solution of the language issue in schools:

The above discussions help us conclude:

- The mother tongue is the best to help initiate the process of 'coding link' with the physical world and the social milieu.
- The vocation, as a medium, has to firmly link to the world of processes, the world of work and creation.
- The languages of 'knowledge domains 'have to be used for depth and reliability.

Note: A workable proposition closely satisfying the above demands (for the student whose mother tongue is Hindi) is adopted by the Kendriya Vidyalayas.In the KVs

mathematics and science are taught in English whereas social sciences are taught in Hindi.

9.2.5 Problems posed by dialects/vernacular vs Rashtrabhasha and compelling situations where English has to be the medium

If one considers very large populations in huge tracts like Gadchiroli, Bastar etc. one finds that people have dialects like Gond as their mother tongue. They are not at ease with state languages like Marathi and Hindi. In boarder area schools also such problems arise.

In such circumstances how to do justice to the hundreds of dialects with rich treasures of knowledge is not clear.

The recent initiative by the SCERT Bihar becomes a pioneering effort. This organization has bought out a teacher's guide informing them about the equivalent words in the local dialects like Maithili, Bhojpuri etc. so that the use of words from the dialect does not lead to the penalization of the students – just because the teachers are ignorant about the local dialects. This indeed is the spirit of NaiTalim link to the native society.

At the same time the advice to the teacher to affectionately tell the students about the 'standard' word in Hindi is also important for the child's successful learning ventures in future.

We have to do a balancing act between the creation of the love and sensitivity to the local tongue (and culture) on the one hand and preparing the child to face the world of learning and the world of work on the other.

As far as the fate of dialects is concerned it is encouraging to see the potential of the emerging information technologies to preserve them. At the same time there is a significant decline of the number of dialects year by year. Currently (Aug 2013) the country has only 800 languages whereas about 5 years back there were 1100 languages counted as in 'use'.

In the context of exclusive use of the mother / state language or English the following strategy is suggested.

9.3 The concept of Co-Lingual Communication (CLC)

Suppose the mother tongue of the child is Tamil, but he/she has to study in English medium. The CLC approach demands that the child also develops the skill of communicating the core content of every subject learned in the mother tongue namely Tamil. On the other hand if the mother tongue becomes the medium of instruction the child will have the concurrent CLC process all through. For example in the physics examination if there are 6 questions covering the syllabus there will be a seventh segment which will examine the skill of the child to communicate the subject in the other language namely English (through translation, comprehension, capacity to write concept notes etc.) such a process when carried through all the years in all the non-language subjects the child develops a 'co-lingual communication skills'.

The above practical suggestion is implementable. By and large such a practice exists in the agricultural universities / colleges. There is a native language department to provide such a skill. Thus it is found that the scientists coming out of the agricultural institutes are excellent communicators in the mother tongue/ local language though the medium of instruction is English. There might be mild problems in the case of students whose parents are likely to be transferred very frequently. In fact in such cases the Kendriya Vidyala formula can come to some rescue and the Hindi / English mix could work.

> Note: In the context of the Agricultural Universities it is pertinent to mention here that their model is inspired by the Nai-Talim based Rural University model that came out of the report of Dr.Radhakrishnan committee (1949). The nearly 50 agricultural universities that were established around 1960s were based on the Rural University model which gave importance to the communication to the local society.

We can re-write the original Gandhian NaiTalim formula related to languageas: Nai-Talim = Normal Syllabi + Vocational content with the additional assumption that we are able to use more effective English teaching processes which are hinted by Prof. Muthukkumaran. Indeed such fast learning process for English has been developed by the present auther and field-tested. This method is also called Nai-Talim method of English teaching since it is based on the principle: Education for life and education through life. Recently (in April 2013) this method was tried in a class of 47 students in the Anand Niketan School at Wardha which originally was started by Gandhiji himself. The students picked up from class 6 and 7 had very little English exposure but surprisingly could demonstrate their skill in communication in it in front of parents and public after a brief ‘ immersion type’ English course of about 90 hours stretching over 8 days.

10. THE CHALLENGE OF CURRICULUM: A THREE TIER APPROACH

10.1 Nai Talim Curriculum vs Traditional Curriculum

The traditional education basically handles knowledge and since knowledge is considered to be universal the curriculum, syllabus etc. are also universal.
NaiTalim, on the other hand aims at "education for life and education through life". Since life context differs much from one region to another and from one person to another the activity-based education cannot be the same in all regions. In fact the 'activities' are dependent on the environment: natural and social.

There is however a need for some sort of 'equivalence' across the regions. It is equivalence rather than equality.

The practical difficulties of implementation, added with mundane realities of commercial viability of production of quality text books, conducting examinations and so on, dictate their terms too.

However there is a pleasant solution to the practical problems as posed above in the midst of the subtle demands of 'education for life'. The approach is indicated in the following.

10.2 The 3-Tier approach to curriculum content

We have the following three levels of institutions:

- National level: NCERT
- State level: SCERT
- District Level –DIET or its equivalent. (In Bihar, for example, DIET has been discontinued).

With such a structure it is easy to spell out the NaiTalim type of 'environmentally linked curriculum framework. In the following we use the symbols:

N- NCERT (National level)

S- SCERT (State level)

D – DIET or equivalent (District level)

Since the philosophy of Nai- Talim insists on linking the learner to the grass roots reality through discovery and direct experience process it is very clear that the youngest learner has to interact with his close neighbourhood – namely his/her school campus, home, hamlet, village.

When the child becomes more grown up it has the capacity of interacting with a wider region and in subjects that have a wider spectrum and this process continues across the school stages namely pre-primary, primary, middle, high and higher secondary levels.

As far as spatial mobility is concerned the movement is from the village to the small region to the state region and to the country and world level. This ascendence and the agency which is suitable for creating the curriculum and content are depicted below:

Table 10.2: Relation between content and the agency- hierarchy that could create.

Content	Model/ design	Knowledge domains											Physical			Work experience + field exposure			
levels		1st language mother tng	2nd language English	3rd language National / Int	Maths	Chemistry	Physics	Biology	Environment	Geography	History	Civics	Play sports	yoga	Arts	Cognition	Experiment + reason	Intervention &invention	Creation / production
Pre-Primary		D							D				D		D	D			
Primary		S,D	N	N	N	<-	N	->	D	D	D+S	D	D	D	D	D			
Middle		S	N	N	N	<-	N	->	S	S	S	S	S	S	S	D	D		
HS		S	N	N	N	<-	N	->	N	N	N	N	N	N	N	D	D		
HSS		S	N	N	N	<-	N	->	N	N	N	N	N	N	N	N	N	N	
N= NCERT,(national level) S= SCERT (state level) D= DIET(district level) or equivalent.																			

The organization of the table is obvious. From the entries it is clear that:

- The role of DIET is more at the level of pre-primary and primary while the role of SCERT is at the middle school level. Towards the HS and HSS levels it is national for most of the subjects – except the vocational dimension.
- It is obvious that the mother tongue /vernacular is a local and regional concept. English is a national / international concept.
- Environment is a subject which builds up locally and emerges into the state and national and global levels.
- Art has a local connotation, but evolves into regional, national and global levels too.
- The study of geography is akin to environment.
- Physics, chemistry and biology have a relation even lower than 'local'. For example a lot of it could be related to one's body, food, nutrition, flora and fauna and natural phenomena (for which the explanations come out of the science subjects namely biology, physics and chemistry, can pick up the examples from local but provide the explanations which are global). Thus a synergy between the environment subject and the science subjects can tackle the local-global relation. Clearly, the local contexts provide phenomenon which the child can observe and also seek to understand intervention through the knowledge of the sciences – for example abating environmental pollution, tackling health problems etc.
- Mathematics could be taught through practice methods that are in everyday life. For example arithmetic could come out of the day to day experiences of transaction, marketing etc. A lot of arithmetic and geometry and measurement experiences could be obtained through construction practices – mock or real life. These could be initiated through:
    - Play way methods with local materials
    - Standard kits for arithmetic and geometry

- Practical construction, estimation, statistics, finance etc. related to life and society.

With the modern global life a lot of imagination and basic mathematics could get started with the concept of time, travel, nutrition needs of body, share market etc. For example in today's life when someone relates about an incident in, say Hong Kong, one immediately relates it to the local time etc. through an unconscious arithmetic working in a corner of one's mind.

- Computer science could be taught as a global language with exercises linked to mathematical domains, sciences etc. not only as a computational tool but also from the point of view of information handling in respect of geography, arts etc.

Thus it is clear that the content of many subjects have an intrinsic 3-tier structure while relating to the various levels of education. This is indicated in fig 10.2 with the obvious notations: T standing for tier. The simple directive principle is that the 'child should grow from local to regional to global since that is the way the learning process could be related to life experiences. There are two reasons that compel this approach:

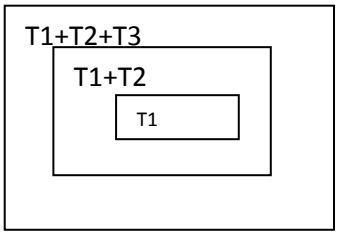


Fig 10.2 3-tier organization of a typical subject: Local, Regional and Global

- The mobility of the child grows from local to global.
- The concreteness of the 'local' provides a base for understanding the non-local: the regional which in turn becomes a base for generalization and understanding of global things that may not be in everyday experience. The word 'non-local' could again be interpreted in time and space. For example the solar eclipse might come once in a while; the pine tree may not be local to the child in the equatorial region and so on.

It is obvious that the three tiers, D, S and N metaphorically take care of this flexible approach of fitting in life's experience with the learning process. In fact the concrete 'touch and learn', 'do and learn' approaches will help the child to transcend these and get into an 'imagine and learn' situation which is also important for the learner to become endowed with creative capabilities. The evaluation responsibilities have also to be organized (necessarily) in a 'local to global' style in sympathy with the teaching process.

Note: The Rural University model of education was meant to implement such a hierarchical learning pattern. Since each Rural University was for an agro-climatic (and geo-cultural) region of about 10 districts and since a Rural Institute is there in each district, Uttar Buniyadi schools at Block or sub Block levels and the Buniyadi schools at village level such a movement from local to global becomes automatic, authentic and well guided.

10.3 Socio-technical environment of today.

During the last 25 years the world has experienced a faster pace of globalization. The communication revolution has unified the world and the process of knowledge sharing. A lot of

science is handled by the common man today in his day to day life. In fact everyone is handling a transmitter and receiver and is using such sophisticated tools like video camera, recorders, Bluetooth, laser devises, GPS, and so on. The corresponding revolution in the field of medicine also allows one to see a lot of science in action: from endoscopy to embryo transfer, from organ transplant to lab-grown organs. Thus high science has become a day to day experience. There are thousands of scrap items that could serve as teaching kits for the students in the schools. A carefully selected set of such experiences and experiments constructed on the basis of such scrap material and devices of day to day life can make the process of creative learning a possible reality once we make a beginning.

With the internet resources, YouTube and education oriented channels like National Geographic, Discovery, History Channel and many dedicated websites it is now easy to realize an enjoyable learning experience.

What is needed however is a philosophy of navigation from younger to mature stage, from local to global resources, from natural to manmade environment etc. This is a challenge so that the human brain is enabled to realize its potential.

11. THE PROBLEM OF THE URBAN SCHOOLS

11.1 The positive and negative aspects of urban schools

Educational pursuits in a rural school at the moment is like searching for the 'black cat in the dark room where there is no cat'. Yes, often there is no teacher, no taught -in fact there is no educational objectivity. The children going to the school around noon with a plate in hand for a morsel of noon-meal is the only concrete reality. Or else one sees the class room with the students of standard 1-5 huddled together and with a single teacher 'teaching' them! The other tragedy with the rural school is that even if there is a teacher recruited he/she may not prefer to go to school. The author, along with a group of 42 students of IIT Madras discovered in 1985 in a tribal zone Sitlingi of Dharmapuri district of Tamil Nadu that no teacher belonging to 32 schools of Sitlingi visited the schools over 8 months of the year though they received their normal salary; they were indulging themselves in other businesses around their homes which were situated in a town.

Compared to this the urban schools are often more business-like. But they are also poor in many ways. The situation becomes clear when one considers Delhi where a large number of schools are in tents, in crowded shifts and so on.

There is a huge difference among the schools in the urban areas. The super-rich schools with air conditioned class rooms and hostels and swimming pools on the one hand, and the poor matriculation schools run by the private entrepreneurs with ill-paid teachers and ill-equipped campuses on the other. This is the state of the Corporation Schools also, where the poorest students go and where the government teacher takes it easy since he /she is also sent on so many errands, misused and thus getting a justification to misbehave.

11.2 Approach to 'Education for Life' in the Urban Schools

Let us ask the question:

"What sort of life the urban children are preparing themselves for"?

Are they likely to go to the rural or tribal areas? May be a few. If the future life of the leaner has to be in an urban environment the education also has to prepare the person to face such a life. According to our philosophy the education has to be 'through life'.

Now let us ask the next question: "Is there agriculture in the city"? No.

"Is there anything close to agriculture?"

Yes: Flower gardening, avenue trees, vegetables, terrace cultivation, cut flowers, live fencing, green house cultivation, (may be in future: aeroponics, hygroponics), there are also concepts like algae/ spirulina, mushrooms, edible greens, herbs, honey, vermi-culture, composting, zero waste management etc. There are a hundred concepts that could not only link the biology in the book to the reality but also make the students understand many useful concepts, understand even rural realities and empathise and also feel she/ he could move towards self-reliance.

11.3 Combating the Constraints of Space

Imagine an urban school in a 4-storeyed building. In view of the skyrocketing price of land in the city there cannot even be an extensive playground suited to the physical education needs of the students whose number will be anything between 1000 to 4000 in any normal School. Under these circumstances the question of space for farming is ruled out. Gardening will be possible to some extent.

We have to 'expand' the available space through innovative strategies:

- The school space itself will have to be expanded- towards the available garden space, school terraces, avenue spaces in the neighbourhood.
- The space at home may have to be roped in: for kitchen garden, terrace garden, and for farming experiences whereever possible,
- The roads, parks, bus stands, etc. near the school to be adopted for maintenance on behalf of the school, in particular the street nearest to the school could be maintained through cleaning and beautification process through flower beds, plants and herbs.

In the urban region there are ample opportunities for choosing activities for social education and a host of other learning experience. Some are illustrated in the following:

- Visits to adult homes
- Visits to orphanages
- Visits to sanatoriums , hospital wards
- Visit to bus stands, railway station
- Visit to various administrative offices, municipal administration
- Visit to municipal services:
    - Water
    - PDS
    - Health system
    - Sewage system and treatment
    - Solid waste management system
    - Energy stations
    - Telecom stations
- Visit to jails
- Visit to market places
- Visit to museums

A large number of examples could be listed on the basis of the list in the NCERT report, for example the section J in 5.4.

11.4 Orientation of Activity Link in Academics

In the urban context the Nai-Talim slogan of 'vocational approach to education' will have to be watered down to 'creative –activity approach to education'. The activities are designed to motivate concepts, clarify concepts, build up problem solving confidence and self-reliance. Meaningful work will have to be largely related to items that will not need marketing, or items or work / service which will be seasonally on demand.

Illustration: Personal need:

- Cooking practice: cooking day
- Presentation of health records generated through mutual help (HSS students checking HS, the HS checking the middle school children etc).
- Knitting one's own warm cloth, stitching one's own kerchief, repairing own clothes etc.
- Health related: preventive health care through life-style etc.
- Repair services related to self
- Helping one's own typing, packing etc.
- Personal hygiene and home care: toilet maintenance, cleaning, washing one's own clothes,
- Painting, white washing, plumbing, electrical fittings, repairing

Mutual help/ community tasks

- Environmental upkeep of the community
- First aid and dressing
- Elder care
- Fire fighting knowledge
- Disaster mitigation knowledge related to one's region

The list could be very large but could be easily created with the help of NCERT's illustrative list mentioned earlier.

12. EXPANDING THE RANGE OF NAI TALIM

12.1 Gandhian Perception

As indicated earlier Gandhi formulated the basic aspects of his concept of education in 1937. After coming out of the jail in 1944 he gave his expanded vision of education which included:

- Pre-buniyadi (basically LKG, UKG stage)
- Buniyadi, uttarbuniyadi, uttam-buniyadi (primary, secondary and tertiary education)
- Adult education
- Life-long education

Thus according to him the whole life has to be a process of education.

12.2 Stages not covered so far- the case of pre-KG

Buniyadi and uttar-buniyadi education have been implemented in many parts of the country, While inequality is arising in the country due to unequal educational opportunities provided by the society, it is a very evident in the case of 'pre-basic education'. While the rural children are taught with one teacher for five classes, that too under a tree the urban and well to do children have sophisticated Kinder Garten, Montessori etc. For the rural poor/urban poor the inaccessibility is due to

- non-availability
- high cost including transport
- inferior standards

In fact there is a difference of opinion among experts whether there should be the KG concept at all. But by and large the sector has its presence all over the country except the rural and tribal areas where normal school itself is a rarity. The governments have taken the 'Anganwadi'as a partial substitute for pre-school it is by and large a centre for noon meal only.

Even when pre-school system works there is no standardization (-in fact there are many systems). There is no accredited training centre for the pre-school teachers. Thus it is in a state of confusion, but being effective in distorting the 'equality' aspect of educational delivery.

12.3 Possible approach to pre-Buniyadi

From the point of view of educational psychology the age around 4 is most favourable for the development of the cognitive skill. This falls within the KG period. Further it is during this period that the child could pick up many other qualities like socialization besides the usual loco-motor skills, cognitive skills etc. Among the four pillars of education named by the UNESCO the 'to do' components besides certain other personality traits could have the foundations laid during this period. Therefore this subject is important for the following two reasons:

- loco-motor skill development from the point of view of education for life

- equality in educational delivery system since this stage of education is already adopted by the richer segment of the society whereas the poor do not have access to an equivalent level.

In the Bihar's NaiTalim context this issue needs to be addressed since the proponent of NaiTalim namely Gandhiji gave much importance to this stage and gave the name poorva-buniyadi to this stage.

At the moment the closest that one has for this age group of children is the ICDS program which has been created by the Government of India for the children of the underprivileged families. The avowed objectives of the program are 'to create proper mental, physical and social development of the child' and to serve almost as a substitute for the KG level education which the privileged children manage to get. The ICDS centres (about 1.24 million in number) manage to serve about 39.35 million children in the age group of 1- 6. It will be necessary to enrich this program from the point of view of NaiTalim. This is an unchartered territory.

Since the right to education act (RTE) covers age up to 14 all children under the age group 1-6 also need to be provided appropriate education and developmental coverage. This is an area for which appropriate plan has to be laid out preceded by appropriate enabling laws. As and when such a process starts the NaiTalim approach has to be kept in mind so that the educational philosophy is truly and fully on the NaiTalim pattern.

12.4 The case of the drop-out child.

The statistics about drop-out indicates how ineffective our educational system is. As per 2009-10 figures at the country level 42.4% student's drop out during class I to VIII. The corresponding figure for Bihar (2011-12) is 83%. In Bihar if we consider Class I to X the drop out ratio is 84.7%. Thus while there are more than 40 crore youth who are drop outs in India, Bihar has to worry about an annual drop out of 21 lakhs.

The youth who drop out from the schools are normally a problem to the society. In fact they become a threat to the peace and stability of the country itself. Unfortunately there is no workable solution to the problem either.

According to Prof. Anil Sadgpal it is a case of 'push out' rather than 'drop out' [10]. The reasons are normally

1) the non-availability of schools for further studies
2) the social hostility to the girl child, dalit etc.
3) the incapability of the child to cope up with the standard
4) the incapability of the child to put up with the rigmarole of the school
5) the cut-throat competition in which the child's talents do not get recognized in a system which only measures the academic achievements.
6) The disconnect with livelihood .

From the point of view of 4, 5 and 6 NaiTalim could be an ideal solution. A possible model is presented in the following section.

12.5 Search for a model school frame work for the drop-out

In the following we provide an example model.

Example 1: The *kaam-i-aab* model

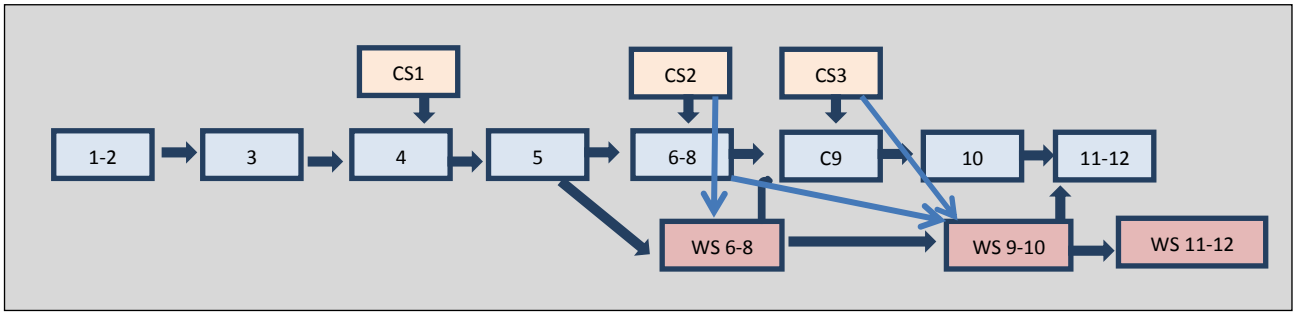
The above model was initially proposed by the author [11] in the context of Vidarbha (Maharashtra) where large numbers of farmers committed suicide. The possibility of the next generation taking up agriculture appears remote and sustaining the agricultural tradition of the country itself appears to be a challenge- as if it is the case of suicide by agriculture itself.

The Kaam-i-aab model aims to create a band of techno-scientific farmers who will be proud of being farmers and who will also develop capabilities to become a positive success in the farm enterprise. For the above the student has to be prepared in the following broad areas:

a) deep training in precision cultivation based on scientific methods with the aim of increasing productivity and making agriculture into a sustainable development activity
b) formation of skills related to value addition to agricultural produce and further exposure and experience in value addition based industrial processes and business skills.

The kaam-i-aab school was designed to pick up children from the families of suicide farmers. Thus the students will be mix of drop outs and otherwise. The ones who fall into the drop out category will have certain booster modules so that they could qualify for standard entry points like 3rd, 6th or 9th standard. Thus the school will have infrastructure for such extra coaching and re-orientation activity. Otherwise the school will have infrastructure comparable to the Navodaya schools.

fig 12.5 Organogram showing the three layer structure of the Kaam-i-aab school.



depending upon the attained capacity, as indicated in the diagram. On the other hand if the drop out happened after the 8th standard then the coaching will be through CS3 or CS2 followed by CS3.

As indicated in the diagram there is also an option for the child to get into the work schools either in the end of standard 4 or 8 or at 9.

The work school has three segments:

- Standards 6-8 in the work school format (ws6-8)
- Standards 9-10 in the work school format (ws9-10)
- Standards 11-12 in the work school format (ws11-12). This is also equivalent to the vocationalization stage in the main stream and is also created so that some of the mainstream students also could use the facilities for the vocational component of their study.

The work school will also be flexible in the sense that one could enter into it either from CS1/CS2/CS3 or from the mainstream exit points as indicated in the diagram. One could also exit from it as indicated into the mainstream or even into the CS2 or CS3 (not shown in the diagram).

The above multi-entry multi-exit residential school with a high level of infrastructure indeed permits formation of life skills, both in the drop out students as well as normal students.

The value addition type courses will be addressing the agri-produces of Vidarbha: cotton, soya, lentils, turmeric and also the dairy processing industries so that the students coming out will be totally confident of establishing one of the value addition based industries.

The scientific cultivation besides enabling the young farmer to face his agricultural enterprise with a scientific understanding will be able to manage agriculture as a sustainable activity and at the same time achieve a high level of profit as a result of higher productivity.

It is expected that this new breed of scientific farmers could change the dynamics of Vidarbha and the region should be able to bid farewell to its past history of suicide.

Example 2: The example 1 when interpreted in the context of Bihar will be able to provide relief to the millions of youth who either didn't have a proper education or had to drop out for various reasons. The figure 12.5 will be repeated in the present case without the normal classes 1-3. This is because the dropouts being the exclusive student community will start from the coaching school segment CS1/CS2/CS3.

To visualize the schematic one can go back to the diagram in example 1, ignoring the boxes representing the mainstream classes std1,std2, std3.

Example 3: The Kaam-i-aab model described in example 1 could be fitted into 'an artisan work education school'. Instead of agriculture here the artisanal activities will be substituted.

13. AN INNOVATIVE EVALUATION SYSTEM SUITED TO NAI TALIM

13.1 Practical problems associated to a separate board for Nai Talim

One of the problems that remains unsolvable is: "how to handle evaluation in the Nai-Talim schools".

It is natural to think that since NaiTalim is a revolutionary new system it should have a separate examination board so that its distinctive nature could be preserved. But the matter is more complicated. Since the existing 'mainstream' is not adopting work based learning a student who comes out with a different certification (for example from the NaiTalim Board) meets one of the two possibilities:

- The user sector values the certificate for its distinctive character thus putting the student in an advantageous position.
- The market does not take cognizance and the certificate holder remains unemployed or underemployed.

Since the time period between the entry and exit of an educational system is of the order of 12 years at parent one is not in a position to guess what will be the reputation of the new system a decade later. Therefore the parents settle on the well-entrenched system. Since the history of NaiTalim in India has had its ups and downs, in spite of bearing the Gandhi banner, and since it has not been in currency for nearly six decades (-although in Gujarat there has been a significant number of NaiTalim Schools) there is a definite credibility gap attached to the NaiTalim system. Though in reality there have been many genuine historic reasons for the above these cannot be of concern to the parents who would not like to take any risk in the career of their wards.

The experiment in respect of 14 Rural Institutes, which are based on the principle of NaiTalim, also ended up with many problems to the student sector: in terms of recognition, upward mobility etc. Therefore it is necessary to be sensitive to the demands of the parents in respect of recognition problems.

It is but natural that the question of evaluation being handled by the bodies like BSEB (Bihar State Examination Board) was violently criticized by many NaiTalim enthusiasts. Their apprehension was that the distinctiveness of NaiTalim will be either lost or remain unrecognizable if the evaluation body which is habituated to a less sophisticated classical method handles it without knowing the nuances of the new system namely NaiTalim.

A via-media solution emerged during the deliberations. According to this the entire process of evaluation will be handled by an autonomous cell which will be part of the known evaluation board namely BSEB. Through such a system there is a possibility of maintaining the distinctiveness of NaiTalim while at the same time avoiding the risk of any recognition problems.

13.2 An Innovative System Suitable For The Nai Talim

Normally the NaiTalim enthusiasts decry the concept of examination itself. This sentiment is certainly welcome since our aim is to prepare humans for cooperative coexistence rather than for an educational race or a career race. At the same time evaluation is necessary for accountability either in self progress or in the process of attaining HRD competency. Assuming that the system of assessment is totally in sympathy with creativity and offers higher respect to the capacity of problem solving we can indeed use the concept of evaluation beneficially. Gandhiji has linked the evaluation to be a process of performance evaluation of the teachers- whether they were effective in the complex man- making process namely Nai-Talim.

There is another violence associated with the usual evaluation process. The talents that we want to see in the learner is multi-dimensional whereas the measurement system we normally adopt is one dimensional –namely a single number which is arrived at by aggregating the values related to many dimensions.

We propose a 'vector grading system' which does away with all the above problems and opens up a new era that permits the blossoming of manifold talents among the youth.

Let us take for example a school which values, in addition to academic attainment the following attributes also:

- Physical skills
- Social behaviour and leadership
- Creative problem solving skills

These aspects are called with names like soft-skills, physical skills etc. Interestingly NaiTalim by its very nature is intended to develop such skills which are necessary for a successful life. The process of evaluation proceeds as follows.

The vector grading system will be finally awarding, instead of a single number as a final mark, a vector grade like M=$\begin{pmatrix} K \\ P \\ W \\ S \end{pmatrix}$where K =subject knowledge, P=Physical skill, W= Work skill, and S= Soft skill/ social action skill.

In case K,P,W,S are to be in the form of grades a typical five point scale could have values 1, 2, 3, 4, 5 with the following meanings:

5 = excellent
4= very good
3= good
2= unsatisfactory
1= insignificant

Normally the evaluation work will be carried on using numbers and a conversion will be effected to arrive at the grades. But for abstract entities like soft-skill, work skill etc. these

symbols could be directly given values based on the ‘impressions’ in the minds of the teacher. The technical details could be found elsewhere.

Further even in the knowledge domain the desire to have evaluation with sensitivity to knowledge, creativity, problem solving skills could be implemented by designing the weightages for the above dimensions for different subjects. For example for the subject of mathematics at HSS level the weightages for various skills could be as follows:

Knowledge: 20%
Analysis: 60%
Creative application: 20%

whereas for history the weightages could be:

Knowledge: 60%
Analysis: 30%
Creative application: 10%

Now who will do the valuation? Our vector grading system can permit the participation of many agencies in the evaluation of an individual. For example the BSEB could be in charge of valuing ‘K’ whereas other dimensions could be evaluated by other agencies. We thus could provide participation of user groups, the panchayats etc. also to play roles not only in creation of content or the instructional process but also in the task of evaluation.

The vector valuation system thus has to be a necessary companion of Nai-Talim. Otherwise the Nai-Talim will soon convert itself into the routine system.

14. SCHOOL AS A 'TECHNOLOGY-RESOURCE' FOR THE VILLAGE ECONOMY:

14.1 Need of a techno-ambience for the school

The vocational approach to education needs a supportive tehno-economic environment. To make this understood let us imagine a school surrounded by an industrial estate. (Say of the medium type, with linkages to the multinational companies). Now imagine the possibility of the school children interacting with the enterprises of this industrial estate or being sent for an internship. Obviously this is not possible. Thus the presence of an industrial environment in this context means only a lot of buildings, chimneys, smoke, effluence and noise and no learning interaction. In fact the planners would normally place such industries in a 'peri-urban industrial zone' far away from the 'institutional zone' where perhaps the academic institutions will function.

On the other hand imagine a school situated close to an emerging craft cluster, say specializing in turn-wood crafts. This involves tiny turning lathes normally installed in the homes of the artisans. The following could be the sequence of action in the creation of the craft cluster project:

(i) Creation of a turn-wood workshop in the school as part of the vocational practice to the students. (say of standard 9-12)
(ii) The villagers given a training slot: say from 4pm-8pm. Further imagine that the villagers in the neighbourhood get 200 artisans trained in this way.
(iii) The cluster is given a project support under the SFURTI (Scheme Fund for The Rejuvenation of Traditional Industries- a successful scheme of high potential operated under KVIC, Ministry of MSME).
(iv) Supporting services like design centres lacquer supply centre, wood cutting centre facilities, storage centres, packing and forwarding centres, commercial centres are established either as common facilities or through separate entrepreneurs.

A little reflection will convince that the above is not only possible but in fact can co-exist with the hierarchy of buniyadi schools.

How can the school and other forward / backward linkages synergize with the proposed economic activity?

- The school can act as a trainer (as already explained). In fact the school can train its students first and through them train the parents / artisans – thus making the students as 'technology carriers'.
- The school can, to start with, provide repair facilities for the machines
- The school labs can serve as the testing centre for quality parameters – for example the quality of pigments received (-are they toxic?) and the uniformity of application.
- The school, through its senior students, could create a solar energy supply support for the micro motors used in the wood turning lathes and also help in the maintenance.

- The students and staff can help evolve many innovative designs (-it could even be teaching kits)
- The students can provide 'production support' to tide over occasional heavy orders for exports etc.
- The schools can become suppliers of trained hands for the emerging industry
- The school also can serve as information support center by providing addresses of marketing sources, price trends etc. (the above list is only illustrative)

Let us take one more example: **A cluster for jute fabric products**.

As in the previous example the school's workshop could be the starting point for training jute fabric, central facility for batch cutting, embellishments to arrive at fancy products like home use items etc. Village Work Centres could be established as Common Facility Centres and work could be carried out at homes and work centres – using machinery of the appropriate level.

- The school can have the cutting machines and even the design software. And the school children can serve as the errand runners between the school's production centre and the homes.
- The students can help in educating the adults (literacy, numeracy, designs etc.)
- The school can have a product design centre and the different village groups could be facilitated to engage in different products.
- The students could participate in the production processes also. For example certain embellishments, carried out through hand and or through tools/machines could be easily carried out by students.

A few hours spent per day could enable the students to partly/fully meet their financial needs.

14.2 Visualising an enabling-ecology for a vocation focussed Nai-Talim

The two examples in the previous section could be multiplied into hundreds to prove that

- The schools can serve as a knowledge support centre and a human resource support centre for the rural economy and that
- A decentralized type of economic activity pattern related to the agricultural produce of the region or the ethnic skills of the region can serve as an ambient for a vocation based educational process.

In the following we attempt to prove that schools can involve in agriculture, industry, business and services.

Category	Specific activity	How NaiTalim can support industry	How the industry can support NaiTalim
Modern Agriculture	Herbal products	- Breeding (tissue culture) - Campus cultivation of rare herbs - Agronomic advice - Grading help - Testing /quality control	Opportunity to students to participate in production
	Floriculture	Breeding / knowledge support	-green house based production -packing / export (students as internees)
Modern diary industry	- nutraceutical products - Soya milk blend	School labs: testing quality School workshops: sophisticated processes	Production through internee students. Also for distribution
Fibre industry	-garments (cotton, silk) -jute products	As in 15.1	As in 15.1
Electronics	-Electronic toys -solar electronics -utility electronics	- Institution labs to make jigs and fixtures - Design support	- Students as subsystem producers -students for marketing
Business	-food daily needs -cosmetics -textile retails	-marketing research -delivery support	-students as internees -part time assistants
IT services	-GIS products	Carrying out ground data support	Outsourcing
Media	-Reporting to media (stringers) -web info	Students as info providers	Incorporating student space

From the above discussions it is clear that there are certain types of industries that cannot be easily related to the school - certainly not the atomic power stations, steel rolling mills, paper mills, cement and fertilizer plants. But there are certain industrial activities which are amenable to decentralization and normally occupying the special spectrum:

- House Level Activity (HLA)
- Village Work Centres, normally called Common Facility Centres (CFC)
- Advanced Facility Centre (AFC)

The details are heavily illustrated in the following publications of the author.

T. Karunakaran: Rural Growth Networks (1986) STEP publications

T Karunakaran: Rural Economic Zones (REZ) (2008) MGIRI publications

(Available in www.sarvo.org)

To visualize the nexus between the school system and the decentralized industries we present a diagram fig 14.2 below.

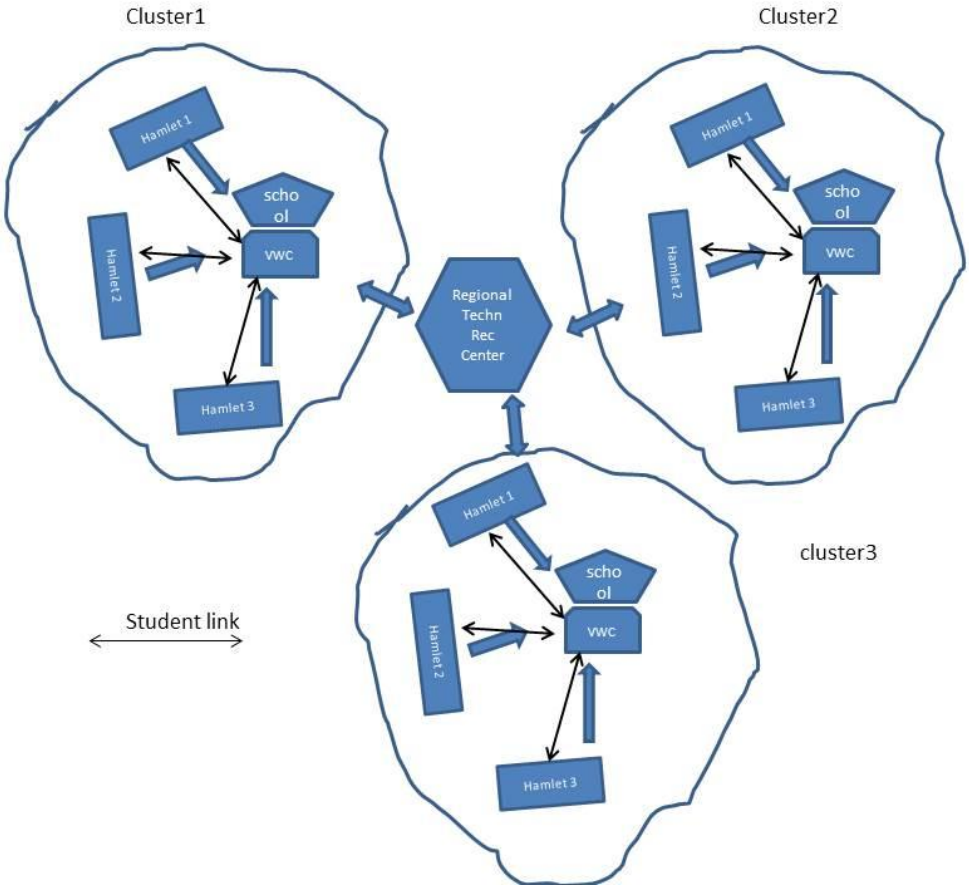


Fig 14.2: A network of three activity clusters having a common Technology Resource Centre(TRC).

It is noted that the home and hamlet based industrial activities normally falling within the ambit of KVIC can be of great help in the vocational training of students. In the following we describe one more possible structure.

14.3 Schools associated with a micro industrial complex

As indicated in fig14.3 (a) a set of schools could be linked to a Micro Industrial Complex (MIC). What does an MIC consist of?

a) An MIC will be situated on a small area like 2-5 acres (see Fig 14.3 (b). It could be having about 20 micro industries or even 40 if multi storeyed sheds are used. While most of the units will be micro industries there could be one or two at the SSI level, normally the assembling type of industries. The idea is to minimize the marketing effort by the SSI 'taking in the outputs of the micro industries'

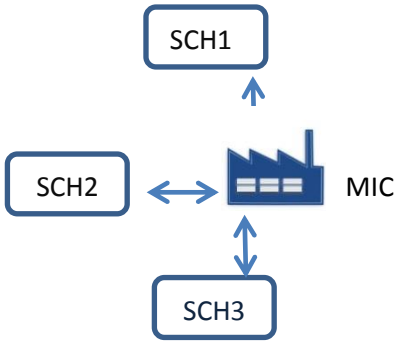


Fig 14.3(a) A micro industrial cluster (MIC) linked to a few schools

The contribution of the student internees in their 'training through production' could add to the viability of the unit themselves.

b) There could be many types of MICs, one prominent category is 'raw material centred MIC'. By way of illustration we can take the raw material to be turmeric and the industries of: cosmetic type, spices, pharmaceutical or natural dyes. There could be CFCs for pulverising , packing, quality testing etc.
c) Another type is one where the advanced facility is the central item around which micro / small industries are combined. For example flavour preserving packaging

Fig 14.3. (b) A Micro Industrial Complex (MIC) with its Common Facility Centre (CFC) and Advanced Facility Centre (AFC)

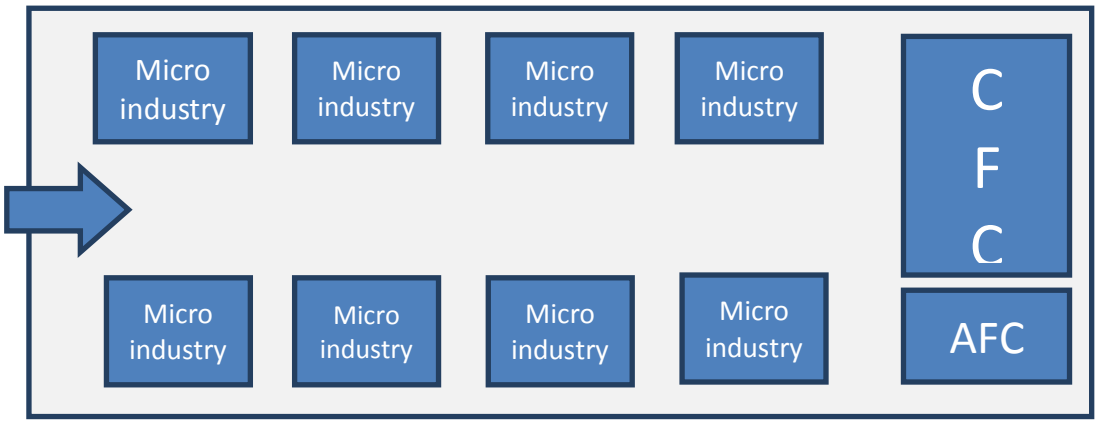


Fig 14.3b: Structure of micro industrial complex (MIC) with its common facility centres (CFC) and advanced facility centre (AFC)

14.4 Knowledge Connectivity for Rural Industrialization of Bihar: The Steps Suggested

The linkage of the school to the work structure could be considered as a temporary step. Right now there is no vibrant technological research support to the rural sector. Even the stereotyped polytechnics and ITIs which abound in certain other states are awfully lacking in Bihar. Right now it is a chicken and egg problem since there are no rural industries there are no polytechnics and vice versa. There has to be some kick start and this is very unlikely to come out of private effort. In a land locked state like Bihar the FDI phenomenon is likely to take more time.

Therefore there has to be planned rural industrial clusters basically to cater to the internal demand of the state. This could prime the next stage: namely

Table 14.4 Approved SEZs in India

SN	State	SEZs
1	Andhra Pradesh	109
2	Bihar	0
3	Chandigarh	4
4	Dadra.	2
5	Delhi	3
6	Goa	7
7	Gujarat	43
8	Haryana	46
9	Jharkhand	1
10	Karnataka	61
11	Kerala	29
12	Madhya Pradesh	19
13	Maharashtra	102
14	Manipur	1
15	Nagaland	2
16	Odisha	10
17	Puduchery	1
18	Punjab	8
19	Rajasthan	10
20	Tamilnadu	67
21	Uttarkhand	2
22	West Bengal	18
23	Uttar Pradesh	31
	Total	576
(of these 173 are operational)		

private investment in industries and education.

On the SEZ front Table 14.4 indicates that Bihar's score is nil with regard to the number of SEZs . But the potential of the state for industrialization is perhaps the highest in view of the rich mineral, agricultural and ethnic resources.

The other possibility is the decentralized models like the Rural Economic Zones (REZ).

Fig 14.4: the 3 Agroclimatic zones of Bihar

With this approach the state is to be first visualized in terms of its agro climatic zones. In Bihar there are 3 agro climatic zones (while in Tamil Nadu there are 7). Table 14.4(b) shows the zones and the districts that falls into each zone.

Table 14.4 (b) AGRO CLIMATIC ZONES OF BIHAR

ACZ	DISTRICS	CROPS	SOIL TYPE
Zone -I North West Alluvial Plains (1234.7 mm rain)	Bettiah, Motihari, Gopalganj, Siwan, Vaishali, Seohar, Muzaffarpur, Samastipur, Sitamarhi, Madhubani, Darbhanga, West and East Champaran	Rice, Wheat, Maize, Arhar Hort. Crops Litchi, Mango, Makhana, Water Chestnut	Medium acidic, heavy textured, sandy loam to clayed, flood prone. (Large area remains under water called Chaur, Maun & Tal lands)
Zone - II North East Alluvial Plains (1382.2 mm rains)	Purnea, Katihar, Saharsa, Madhepura, Araria, Kishanganj, Supaul, Khagaria, Begusarai	Maize, Mustard, Jute, Sugarcane Hort. Crops Mango, Bel, Banana, Papaya, Cucurbit, Chilly, Turmeric, Potato	Light to medium textured, slightly acidic, sandy to silty loam (large area comprise of Tal and Diara lands)
Zone - III South Bihar Alluvial Plains (1102.1 mm rains)	Patna, Gaya, Buxar, Jehanabad, Nawada, Nalanda, Rohtas, Bhojpur, Aurangabad, Kaimur, Banka, Munger, Jamui, Lakhisarai, Shekhpura, Bhagalpur	Rice, Gram, Wheat Hort. Crops Mango, Guava, Banana, Bael, Jackfruit, Onion, Potato, Chillies, Marigold	Old alluvium to sandy loam

14.5 RURAL ECONOMIC ZONES

Each REZ is a small cluster of about 5 to 15 panchayats with about 50,000 to one lakh population in such a way that each REZ is a compact zone of not more than about 15 km diameter. The ideas is to think of an economically viable zone which has resources easily accessible without much expenditure on transportation. Each of these compact zones (normally a block or a block divided into two or three sub regions) could be treated as a cluster if it has a prominent agricultural or artisanal activity. Now the effort will be to bring in the right type of technology mix for the various levels of decentralization so that economic output is maximized while at the same time the disruption in the habitat and even pollution is minimized.The decentralisation, normally consists of House Level Activities (HLAs), Village Work Centres (VWC) and Advanced Facility Centres (AFCs).More details about this are to be found in the book (Rural Economic Zones: T. Karunakaran, MGIRI publications)[13], also available in the web (www.sarvo.org).

15. ADMINISTRATIVE ORGANIZATION RELATED TO NAI TALIM WITH AN EYE ON ECONOMIC DEVELOPMENT

15.1 An Approach to the Organizational Problem.

Since the vision of the state is to develop education to pave the way for a modern knowledge economy we need to organize the educational administration and economic development on a compatible style. The following steps could be adopted for this conjunctive operation to take place smoothly:

a) Divide the state into agro-climatic zones. As indicated earlier they are three in number.
b) Create Regional Development Universities (RDU) for Bihar with a campus in each of the agro-climatic zones. In turn each of these campuses will be a Regional Development Institute (RDI).
c) Taking the existing distribution of teachers training institutes and plan for the distribution of the NaiTalim schools in future plan a number of teachers training school campuses falling within each of the RDIs.
d) Organize the teachers training institution and technology resource centres in the same campus. This is necessary for the new educational pattern envisaged if education has to back up the future industrialization strategy of Bihar.
e) Design the school clusters in sympathy with the above techno-structures.
f) Design the DIET(or equivalent district level networks) as an attachment to the SCERT so that these are also located in campuses as above
g) Design the evaluation board, curriculum development council etc. with maximum synergy to the above structures.

15.2 Organization of Regional Development Universities (RDU)

The three agro climatic zones- north zone, east zone and south zone could be taken as the starting point leaving the geo cultural aspects to be considered at the time of deciding the techno-resource centres and teachers education campuses. Choose the campuses in such a way that they have a potential to accommodate a structure akin to a normal rural institute.

For example the Kumar Bagh campus in the north zone, and Rani Patara (Purnea district) in the east zone could be considered. The south zone could be considered as two sub-zones (vide figure 14.4): III-A & III-B. The districts Patna and Jamui will be the headquarter districts respectively for them. The Bihar Vidyapith in Patna will have the dual function of serving as a platform for the zone III-A and as a headquarter (RDU) for all the 4 campuses.

Ideally the Bihar Vidyapith will be most suitable to develop the Gandhian educational system. However in case of any delay in preparing this institute (which is under a privately managed trust) the campus in Kumar Bagh could serve as a starting point of the work. The alternative of using the services of AN Sinha Institute of Social Studies till the Bihar Vidyapith is made workable is also another approach to solving this problem.

15.3 Designing the Teachers Training Institutes

The following two points could goveren the locational considerations for the teacher's training institutions.

- Their apex centre should be the Regional Development Institutes in each of the agro-climatic zone and should be eventually controlled by the Bihar Vidhyapith which will serve as the controlling body of the Nai Talim curriculum, pedagogy and evaluation.
- The regional apex should have sub regional clusters with teachers training institute located roughly one per every two contiguous districts.
- The technology reasource centres and the teachers training institutes should share the same campus since education and vocational related technologies have to work together.
- The ITIs and polytechniques of the modern brand suitable for the future economic blossoming of Bihar should be accessible to each other and should be in the vicinity.

But presently the number of polytechniques and ITIs under the Government is rather small and needs to be enhanced to meet the demands of the vocational component of the Nai-Talim system. Also the ITIs and the polytechniques need to be designed to meet the modern day industrial and service sector needs and should be contrololled in such way that the interaction between the two departments is easy.

The entire Bihar could be covered with about 600 REZs. Further they will need – technology resource centres most of which will be coexisting with the educational resource centre campuses.

15.4 Institutional Super Structure Needed for Taking the Naitalim Movement Forward

15.4.1 Role of Bihar Vidyapith

Bihar Vidyapith, which was one of the five Universities created by Gandhiji for his campaign on national education will have to necessarily play a role in reviving NaiTalim in Bihar (and in the country)

Since Bihar has three agro climatic zones, each with more than 10 districts it is important to have an institution in each of this zones:

- To create micro-level planning for the development of the rural economic zones of each region.
- To identify the sustainable technologies and create plans for decentralized industrialization.
- To create human resources for rural industrialization and provide further knowledge support for the various dimensions of Gram Swaraj (as in the Panchayati Raj Act)
- To establish requisite number of NaiTalim teacher training campuses and supervise their coordinated action with technology resource support centres

- To become responsible for the running of the Nai-Talim educational system in the said agro-climatic zone from curriculum making to evaluation

The Bihar Vidyapith could be bought back to guide the destiny of NaiTalim in Bihar. Since, in the words of Gandjiji 'NaiTalim and rural industrialization are the two sides of the same coin' and since the decentralized economic structures have to be erected in sympathy with the Gram Swaraj system the Bihar Vidyapith will be automatically concerned with the four topics:

- NaiTalim
- Sustainable technology and industrialization
- Gram Swaraj
- Creation of social entrepreneurs for all the above

15.4.2 Linkages to the agro-climatic region

Bihar Vidyapith (BV) in effect will be functioning as a Regional Development University (RDU) and the other three as Regional Development Institutes (RDI).

At a later stage the RDU role could be passed down and the scope of BV could become much larger.

In the following schematic
TTI stands for Teachers Training Institute
MS (NT) stands for Model Schools of NaiTalim
VSC stands for Vocational Support Centers (for every cluster of schools)
MIC stands for Micro Industrial Complex
The details have already been described in 15.1 to 15.4

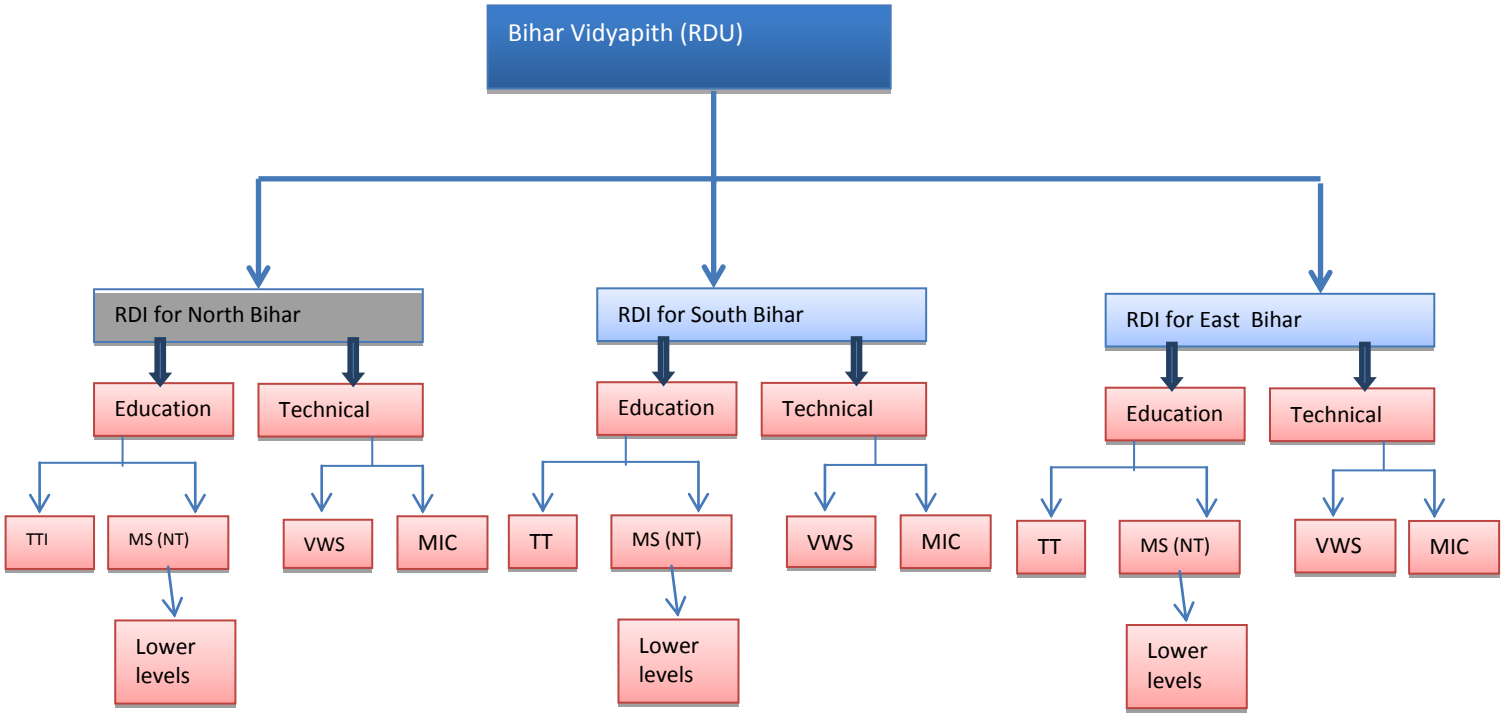


Fig 15.5: Academic administrative structure suitable for a development oriented Nai-Talim

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Annexure 1: Revival Restructuring and Strenghthening of Basic Schools in Bihar

Background

Education through handicraft is the basic principle of basic education, because it helps in developing values like respect for manual labour, sense of co-operation, feeling of being mutually helpful, and development of friendship feeling, economical self-rellance, team spirit and sincerity. In basic education system it is recommended to impart education through mother tongue as it helps inculcating values like love towards mother tongue and swadeshi (native). As per Gandhiji, craft, art, health and education should all be integrated into one scheme. Nai Talim is a beautiful blend of all the four and covers the whole education of the individual from the time of conception to the moment of death. Instead of regarding craft & industry as different from education; he regarded the former as the medium for the latter. Basic educatuon leads to the development of the mind body and soul. Gandhiji had said in the context of self–reliance: "I would prefer to start a child's education after teaching him some useful manual handicraft and enabling him for some innovative creation. Every school can be self- rellant ''. Education should offer a child such strength that he can be free form tension about his future (i.e. what to do?) at the end of education. That is why Gandhiji had advocated education through handicraft, so that the individual can be self-reliant and self- dependent. Gandhiji regarded his scheme of education as spearheading the silent social revolution and expected it to provide a healthy relationship between city and village, which would go a long way in eradicating the poisoned relationship between different classes. Gandhi laid foundation of a scheme of national education that was suited to our needs, requirements, genius and aspirations for the future.

The Buniyadi/Basic schools were established in 1938 in Bihar. There are in total 391 Buniyadi schools in the state.

Objective of the 2 day Seminar

The Buniyadi schools of the state are dysfuncational and lack basic infrastructure, resources and the curriculum is not followed. The recommondations of national level seminar on **Nai talim** led to the constitution of a 3 - member committee at the state level to develop a plan for revival, restructuring and strenghthening the 391 Buniyadi schools of the state. The committee

members are: Shri Anjani Kumar Singh, Principal Secretary to Chif Minister, Shri Vyasji, Principal Secretary- Health and Shri Amarjeet Sinha, Principal Secretary - Education.

In this two- day seminar the recommendation of the committee will be shared and future plan of action for reviving and strengthening Buniyadi schools will be finalised.

Recommendations of the 3 – member Committee

The committee studied the history, philosophy and present condition of the Buniyadi schools and made the following recommendations –

1. The Buniyadi schools to be a residential centre for elementary schools drop- outs.
2. Apart from language and literacy, opportunity for vocational skill training to be provided to children which needs to be contextual.
3. These can be residential schools for chilldren who drop-out either after grade 5 or for those who drop out after grade 8. The school will provide vocational training to these children and also ensure they complete the formal education till grade 10.
4. An elementary school to be established in the premise of Buniyadi School and drop-out children residing in the feeder area of the elementary school will be admitted in the Buniyadi School.
5. The curriculum for Buniyadi schools needs to be revised as per **Gandhiji's Nai Talim**. Sarva Shiksha Abhiyan also focuses on life skill and production but very little has been done in this area. As Buniyadi schools get established best practices of these schools can be mainstreamed into formal schools in future to ensure inclusive and comprehensive education.
6. The committee strongly disagrees with the formation of Buniyadi school Board as mainstreaming of childeren will be difficult. The committee recommends that Bihar school Examination Board and SCERT should be made responsible for the development of curriculum for these schools so that mainstream schools also beneflt from it.
7. A committee to be constituted at the state level for governance of Buniyadi schools. Presently 122 Buniyadi schools are being developed as model schools under **RMSA**. The state level Governing Councill for Buniyadi schools should have represenatative who has internalised Gandhian Philosophy.
8. As shared by education department 122 Buniyadi schools have received Rs. 3 crore each under the model school scheme. Bihar State Educational Infrastructure Development Corporation to develop a plan for rest of Buniyadi schools.
9. The vacancy in elementary school running in the premises of Buniyadi schools needs to be filled immediately.

10. Separate cadre of teachers for Buniyadi schools needs to be established and new recruitment and service policy for these teachers to be developed. Different streams like agriculture, industry, etc. to be intergral part of the teacher faculty.
11. The Chief Minister to be the Chairperson of the state level governing body for Buniyadi schools.
12. Development of Revival plan for Buniyadi schools should be in phases.

Annexure 2: 'Revival, Restructuring and Strengthening of Basic Schools in Bihar: Recommendations of the 3-Member Committee Announced by the C M of Bihar on 1-12-2011'

राज्य के बुनियादी विद्यालयों के सुदृढ़ीकरण पुनर्जीविकरण एंव विकसित करने हेतु गठित त्रिसदस्यीय उच्चस्तरीय समिति का प्रतिवेदन

शिक्षा विभाग, बिहार सरकार के ज्ञापांक 2568 दिनांक 26 दिसम्बर, 2011 द्वारा राज्य के बुनियादी विद्यालयों के सुदृढ़ीकरण, पुनर्जीविकरण एवं विकसित करने हेतु एक त्रिस्तरीय उच्चस्तरीय समिति का गठन किया गया जिसके सदस्य निम्नवत हैं –

1. श्री अंजनी कुमार सिंह, प्रधान सचिव, कृषि विभाग।
2. श्री व्यास जी, प्रधान सचिव, स्वास्थ्य विभाग।
3. श्री अमरजीत सिन्हा, प्रधान सचिव, शिक्षा विभाग।

2. समिति को यह दायित्व सौंपा गया कि राज्य के 391 बुनियादी विद्यालयों में नयी तालीम शिक्षा पद्धति को विकसित करने के ध्येय से विस्तृत रूपरेखा, निरूपण एवं अनुश्रवण से संबंधित सभी पहलुओं के लिए एक समेकित एवं विस्तृत कार्य योजना तैयार कर दिसम्बर 2012 तक प्रस्तुत करें।

3. समिति की पहली बैठक दिनांक 18 जुलाई 2012 को 4.00 बजे श्री अंजनी कुमार सिंह, प्रधन सचिव कृषि विभाग के कार्यालय कक्ष में आयोजित की गयी। बैठक की तैयारी के क्रम में सभी सदस्यों को निम्न संदर्भ साहित्य वितरित किया गया–

- श्री अनुग्रह नारायण सिन्हा (समाज अध्ययन संस्थान) द्वारा दिनांक 1–2 दिसम्बर, 2011 को सम्पन्न नयी तालिम की द्वितीय राष्ट्रीय सम्मेलन का प्रतिवेदन
- माननीय उच्च न्यायालय में सी.डब्ल्यू.जे.सी. सं.– 6759/2012 का सार
- श्री रामशरण उपाध्याय द्वारा लिखित तथा बिहार सरकार द्वारा प्रकाषित पुस्तक **बेसिक एजुकेशन**

उक्त बैठक में श्री अमरजीत सिन्हा ने भाग लिया। श्री व्यास जी व्यस्तता के कारण उक्त बैठक में भाग नहीं ले पाये। दिनांक 19 जुलाई को श्री व्यास जी, प्रधान सचिव, स्वास्थ्य विभाग से अनुरोध किया गया कि अपने विचार से शीघ्र अवगत कराने की कृपा करें ताकि त्रिसदस्यीय समिति द्वारा एक टिप्पणी तैयार की जा सके। प्रथम बैठक में समिति के अध्यक्ष श्री अंजनी कुमार सिंह का परामर्ष था कि समिति के प्रतिवेदन का एक प्रारूप तैयार कर लिया जाए तथा अगली बैठक में उस प्रारूप पर चर्चा की जाए। तदनुसार एक प्रतिवेदन तैयार किया गया है। समिति गठन में स्पष्ट रूप से कार्य योजना तैयार करने का भी उल्लेख है।

4. श्री रामशरण उपाध्याय द्वारा राज्य सरकार के लिए लिखी गयी पुस्तक Basic Education in Bihar से स्पष्ट होता है कि बुनियादी विद्यालयों की शुरूआत बिहार में जून, 1938 में हुई थी। पटना माध्यमिक एवं उच्च प्राथमिक शिक्षक प्रशिक्षण विद्यालय के दो अधिकारियों को प्रशिक्षण हेतु वर्धा भेजा गया था। इस प्रषिक्षण का आयोजन हिन्दुस्तानी तालिमी संघ द्वारा महात्मा गांधी की देखरेख में किया गया था। अधिकारियों के प्रशिक्षण से लौटने के बाद पटना माध्यमिक प्रशिक्षण विद्यालय को बुनियादी प्रशिक्षण विद्यालय के रूप में परिवर्तित किया गया था। दिसम्बर 1938 में बुनियादी शिक्षा बोर्ड का गठन किया गया और उस समय बेतिया अनुमंडल के वृन्दावन गांव में ग्रामीण पुनर्निमाण के कार्यों को जोड़कर इसे विकसित करने का उद्देष्य था। अप्रैल 1939 में 35 बुनियादी विद्यालय प्रारंभ किये गये तथा 15 और स्थापित करने का विचार था। मई, 1939 में हिन्दुस्तानी तालिमी संघ का महात्मा गांधी, देशरत्न राजेन्द्र प्रसाद, काका कालेलकर, श्री कृष्णा दास जाजू एवं अन्य गणमान्य लोग वृन्दावन आये तथा शिक्षकों के लिए तीन सप्ताह का प्रशिक्षण प्रारंभ किया गया।
5. ज़ाकिर हुसैन समिति के मार्गदर्शन में बुनियादी विद्यालयों में सात वर्षों की शिक्षा की व्यवस्था की गयी और यह शिक्षा सात से चौदह वर्ष के बच्चों के लिए निर्धारित की गयी।
6. बुनियादी विद्यालयों के पाठ्यक्रम में जीवन की शिक्षा को प्राथमिकता दी गयी थी और महात्मा गांधी द्वारा विकसित इस सोच में स्वालम्बन तथा समवाय का विशेष महत्व था। महात्मा गांधी पर रूस के साहित्यकार लियों टाल्सटॉय का बहुत प्रभाव था और स्वालम्बन की नीति

इसलिए विकसित की गयी क्योंकि उस समय यह सोच थी कि कोई भी सरकार शिक्षा को कभी आगे नहीं बढ़ने देगी क्योंकि शिक्षा से सशक्तीकरण होता है तथा गैर लोकतांत्रिक सरकार आम जन के सशक्तीकरण का काम नहीं करना चाहेंगी इसी कारण से बुनियादी विद्यालयों में स्वालम्बन तथा विद्यालय परिसर की खेती तथा विद्यालय में बच्चों द्वारा निर्मित सामग्रियों की बिक्री कर साधन जुटाने पर इतना बल दिया गया। दूसरी विशेषता जो समवाय से संबंधित है यह बच्चों के भौतिक और मानसिक विकास को एक साथ लेकर आगे बढ़ने की थी। गांधी जी, ज़ाकिर हुसैन के सोच में यह स्पष्ट था कि बच्चे काम करके ही और अपने हाथों का उपयोग कर अच्छी शिक्षा हासिल कर सकेंगे जो जीवन उपयोगी भी होगा। गांधी जी की यह भी सोच थी कि बच्चों से काम कराकर शिक्षण ग्रहण कराने से बच्चों की सीखने की गति भी बढ़ेगी तथा वे श्रम का प्रतिकार नही करेंगे बल्कि उनमें श्रम के प्रति श्रद्धा भी उत्पन्न होगी। समवाय के ही मूल अवधारणा के आधार पर बुनियादी विद्यालयों का पाठ्यक्रम विकसित किया गया जिसमें टमाटर की खेती से लेकर चरखा चलाने, सामग्री का निर्माण करना आदि शामिल हैं। बुनियादी विद्यालयों का पाठ्यक्रम इसी मूल सिद्धांत से सदा प्रभावित रहा ।

7. सन् 1944 में केन्द्रीय शिक्षा परामर्शदात्री समिति की योजना सार्जेंट योजना जो अनिवार्य एवं निःशुल्क शिक्षा से संबंधित थी को आगे बढ़ाने की प्रकिया में बुनियादी विद्यालय के पाठ्यक्रम के कई सिद्धांत कमजोर पड़ गये। इसी प्रकार साठ के दषक में कोठारी आयोग के प्रतिवेदन के आने से भी बुनियादी विद्यालयों की जो अलग सोच थी उनको मुख्य धारा में जोड़ने की कोशिष की गयी। बुनियादी पाठ्यक्रम केवल सात से चौदह वर्ष का होने के कारण भी यह स्पष्ट नहीं हो पा रहा था कि 14 वर्ष के बाद बच्चों के आगे का शिक्षण और शिक्षा का प्रमाणीकरण किस प्रकार से होगा। यही कारण था कि बुनियादी विद्यालयों के समवाय के सिद्धांत को लेकर विद्यालयों का विकास सीमित रहा। समवाय का सिद्धांत जीवनोपयोगी शिक्षा, श्रम का सम्मान, कृषि आधारित शिक्षा, कौशल विकास पर बल, ये सभी शिक्षा के लिए महत्वपूर्ण होने के बावजूद बुनियादी शिक्षा को मुख्य धारा में ही सन्निहित माने जाने के कारण इस व्यवस्था से ध्यान हट गया ।

8. बिहार राज्यान्तर्गत कुल 391 बुनियादी विद्यालय स्थापित किये गये। इन सभी विद्यालयों के पास दानस्वरूप जमीन है और इसका संचालन गांधीवादी शिक्षण प्रणाली के आधार पर होता रहा था। गांधीवादी शिक्षा का मुख्य धारा से अलग रहने के कारण तथा बुनियादी शिक्षा के आगे बढ़ाने की प्रयासों के अभाव में यह परिपाटी कमजोर होती गयी एवं इन 391 बुनियादी विद्यालयों की स्थिति कमज़ोर हुई। वर्तमान में इन बुनियादी विद्यालयों में प्राथमिक, उच्च प्राथमिक कक्षाओं का संचालन होता है जो मुख्य धारा के पाठ्यक्रम के आधार पर है। आधारभूत सुविधाओं की स्थिति कई जगहों पर जर्जर है, शिक्षकों का भी अभाव है। प्राथमिक, उच्च प्राथमिक विद्यालयों के संचालन के लिए सर्व शिक्षा अभियान से तीन–तीन कमरों का निर्माण कराया गया परंतु शिक्षकों का अभाव बना रहा चूंकि बुनियादी विद्यालयों में यह सोच थी कि इसके शिक्षकों की नियुक्ति अलग प्रकिया से हो। वस्तुस्थिति यह है कि इन कई विद्यालयों में शिक्षकों का घोर अभाव है और क्षेत्रीय शिक्षा उप निदेशक के अधीन होने के कारण निकटवर्ती सरकारी प्रारम्भिक विद्यालय के शिक्षकों को प्रतिनियुक्ति कर वहां भेज दिया जाता है।

9. सी. डब्ल्यू.जे.सी. संख्या –6759 /2012 में आधारभूत की कमी का उल्लेख किया गया है और अवनीश कुमार बनाम बिहार सरकार मुकदमा अभी भी चल रहा है। इसमें यह बात सामने आयी कि इन विद्यालयों की आधारभूत जर्जर है तथा शिक्षकों का घोर अभाव है। बुनियादी विद्यालयों के प्राचार्य के रूप में निम्न अवर शिक्षा सेवा के अधिकारियों का पदस्थापना है । स्पष्ट रूप से निम्न अवर शिक्षा सेवा के अधिकारियों का पदस्थापन है। स्पष्ट रूप से इन विद्यालयों पर नये सोच से काम करने की आवश्यकता है। इसी संदर्भ में नयी तालिम के द्वितीय राष्ट्रीय सम्मेलन दिनांक 1–2 दिसम्बर 2011 के प्रतिवेदन में इसके पुनर्जीवन हेतु कई सुझाव प्राप्त हुये इनमें से चंद प्रमुख सुझाव निम्नवत हैं।

1. यथाशीघ्र बिहार के 391 बुनियादी विद्यालयों को पुनर्जीवन एवं सुदृढ़ किया जाए।
2. बुनियादी विद्यालयों के समुचित विकास के लिए जिला एवं राज्य स्तर पर कमेटी का गठन हो।
3. प्रत्येक जिला के एक बुनियादी विद्यालय को सर्वप्रथम एक मॉडल विद्यालय के रूप में विकसित किया जाए।
4. बुनियादी विद्यालय के शिक्षकों का मानदेय अन्य सरकारी विद्यालयों के शिक्षकों के समतुल्य हो।
5. बुनियादी षिक्षा का विस्तार उच्च शिक्षा तक होना चाहिए।
6. प्रत्येक बुनियादी विद्यालय में गांधी विचारधारा विषय के कम से कम एक शिक्षक की नियुक्ति अनिवार्य की जाए।
7. बिहार विद्यापीठ को विश्वविद्यालय के रूप में विकसित किया जाए और बुनियादी विद्यालय के शिक्षकों के प्रशिक्षण का भार बिहार विद्यापीठ को दिया जाए।
8. शिक्षकों के चयन में ईमानदारी बरती जाए।
9. बुनियादी विद्यालय के डिग्री को सरकारी मान्यता मिलनी चाहिए।
10. बुनियादी विद्यालयों को विकसित करने के पूर्व सभी 391 बुनियादी विद्यालयों का सर्वेक्षण करना आवश्यक होगा।
11. भू–दान में मिली जमीन को एक प्रयोगशाला के रूप में सभी जिलों में विकसित किया जाए।
12. बुनियादी शिक्षा के लिए वातावरण का निर्माण एवं प्रचार–प्रसार की जरूरत है।
13. बुनियादी विद्यालयों के शिक्षक स्थानीय लोग भी हों जो स्थानीय विकासात्मक कार्य में दक्ष हो।
14. बुनियादी विद्यालयों को स्थानीय आवश्यकताओं को ध्यान में रख कर विकसित किया जाए।
15. बुनियादी विद्यालय में स्थानीय संसाधनों का उपयोग हो और कृषि, पशुपालन आदि के लिए प्रशिक्षण की व्यवस्था हो।
16. बुनियादी विद्यालय का पाठ्यक्रम सांस्कृतिक एवं स्थानीय विशेषताओं पर आधारित होना चाहिए।
17. बुनियादी विद्यालय आवासीय बने।
18. बुनियादी विद्यालय के लिए सतत् मूल्यांकन एवं अनुश्रवण की व्यवस्था की जाए।
19. खादी ग्रामोद्योग से बुनियादी विद्यालयों को जोड़ने के लिए गहन विचार विमर्श की जरूरत है।

20. राज्य सरकार बुनियादी विद्यालय का सहयोग करें किंतु उनके कार्यों में हस्तक्षेप न करें।

21. बुनियादी विद्यालयों के उत्थान में राज्य सरकार एवं केन्द्र सरकार की कितनी और क्या भूमिका होगी इस पर गंभीरता से विचार करने की जरूरत है ।

22. बुनियादी विद्यालयों का पाठ्यक्रम स्थानीय एवं मातृभाषा में हो किंतु अंग्रेजी भाषा की भी पढ़ाई सबलतापूर्वक हो।

23. बुनियादी विद्यालय का विकास इस प्रकार होना चाहिए कि यह सभी वर्गों के सदस्यों को शिक्षा के लिए आकर्षित करें।

24. बुनियादी विद्यालय में आधा दिन पढ़ाई हो और आधा दिन बच्चे सामुदायिक कार्य करें।

25. बुनियादी विद्यालय में साफ–सफाई के लिए रोस्टर लागू होना चाहिए।

26. सभी बुनियादी विद्यालयों के लिए समान पाठ्यक्रम हो किंतु कुछ ऐच्छिक पाठ्यक्रम भी हो जो स्थानीय विशेषताओं पर आधारित हो।

27. बुनियादी शिक्षा बोर्ड का पुर्नगठन किया जाए।

28. बुनियादी विद्यालयों को भोजन, आवास, स्वास्थ्य, मनोरंजन आदि में स्वावलंबी होना चाहिए।

29. शिल्पी एवं कलाकार को भी बुनियादी विद्यालय का शिक्षक बनाया जाए।

30. ग्रामीण क्षेत्रों को विश्वविद्यालय के रूप में विकसित किया जाए और शिक्षा का लगाव प्रकृति के साथ हो।

31. बुनियादी विद्यालयों में कृषि आधारित उद्योगों पर विषेष बल दिया जाना चाहिए।

32. बुनियादी विद्यालय में नई तकनीकी शिक्षा प्रणाली की व्यवस्था हो।

33. बुनियादी विद्यालय की प्रगति की समीक्षा के लिए प्रत्येक दो माह पर एक बार कमेटी की बैठक हो।

34. बिहार बुनियादी तालीम संघ की स्थापना हो।

10. 391 बुनियादी विद्यालयों तथा उनकी अद्यतन स्थिति का ब्यौरा स्कूलवार उपलब्ध है जिसमें शिक्षकों की स्थिति, कमरों की संख्या, जमीन की उपलब्धता, उपस्कर आदि का उल्लेख है। सुलभ प्रसंग के लिए रामशरण उपाध्याय द्वारा लिखित **बेसिक एजुकेषन इन बिहार** उच्च न्यायालय के **सी.डब्ल्यू.जे.सी. सं. 6759/2012** का सारांष, श्री अनुग्रह नारायण सिन्हा, समाज अध्ययन संस्थान के 1–2 दिसम्बर 2011 के प्रतिवेदन की प्रति तथा बिहार राज्यान्तर्गत बुनियादी विद्यालयों की अद्यतन स्थिति का प्रतिवेदन इस कार्य योजना के साथ संलग्न है। बुनियादी विद्यालयों का इतिहास, इसके पीछे सोच तथा इसके पुनर्जीवन के लिए दिये गये सुझावों के आधार पर त्रिसदस्यीय समिति निम्नलिखित कार्य योजना सरकार के विचार हेतु समर्पित करना चाहेगा ।

1. इन 391 बुनियादी विद्यालयों का पुनर्जीवन और सुदृढ़ीकरण राज्यस्तरीय प्राथमिकता होनी चाहिए। ऐसा इसलिए आवश्यक है क्योंकि इन विद्यालयों की स्थापना के पीछे जो विचार थे वह शिक्षण के लिए उपयुक्त हैं। समवाय के सिद्धांत को शिक्षण पद्धति में पूरी तरह से समावेशित करना बच्चों के शिक्षण के लिए अत्यंत महत्वपूर्ण होगा तथा बिहार जैसे राज्य के लिए उपयोगी होगा। बिहार में आबादी का 40 प्रतिषत बच्चों एवं युवाओं का है। इस युवा पीढ़ी में समझ और कौशल विकास के सभी अवसर प्रदान करना महत्वपूर्ण है ताकि बढ़ती आबादी को निराश नहीं होना पड़े और इसे डेमोग्राफिक डिवीडेंट में परिवर्तित किया जाए। बिहार के युवा और नयी पीढ़ी की आवश्यकता केवल देश में ही नही विदेश में भी ऐसे कौशल के लिए होगी जिनके लिए उन राज्यों या देशों में पर्याप्त कुशल मानव संसाधन नहीं है। निश्चित रूप से इस प्रक्रिया में शिक्षण पद्धति को जीवनोपयोगी तथा नियोजन उपयोगी बनाना आवश्यक है। वर्तमान में बिहार राज्य में जहां 36 लाख बच्चे प्रथम कक्षा में नामांकित होते हैं तो वहीं छठी कक्षा तक 17 लाख और नौंवी कक्षा तक मात्र 10.60 लाख बच्चे विद्यालय में नामांकित होते हैं। स्पष्ट है कि कई सारे बच्चे या तो प्राथमिक के बाद अथवा उच्च प्राथमिक के बाद विद्यालय छोड़ जाते हैं और जीवन में अप्रशिक्षित मजदूर के अलावा उनके पास कोई विकल्प उपलब्ध नही रहता है। व्यवसायिक शिक्षा भी औपचारिक विद्यालयों में 10 वीं पास के बाद है तथा आई.टी.आई. पॉलिटेक्निक में भी 10 वीं पास बच्चों का ही नामांकन होता है। स्पष्ट रूप से 8 वीं के बाद छोड़नेवाले बच्चों के लिए कम्यूनिटी पॉलिटेक्निक के अलावा अन्य कोई भी विकल्प उपलब्ध नहीं है। बुनियादी विद्यालय ऐसे बच्चों जो 5 वीं अथवा 8 वीं पूरा करने के बाद पढ़ाई छोड़ देते हैं उनके लिए, विशेष रूप से विकसित करने की आवश्यकता है जहां बच्चों को नियमित शिक्षण के साथ–साथ कौशल विकास का पर्याप्त अवसर दिया जाए।

2. इस प्रकार के प्रयोग का एक उदाहरण अन्ना हजारे के गांव **रालेगण सिद्धि** में है जहां के आवासीय विद्यालय में नामांकन का शर्त यह है कि ऐसे बच्चे जो नियमित विद्यालय में अनुर्त्तीण रहे हैं अथवा जिनका छीजन हो गया हो वही उस विद्यालय में जा सकते हैं। इसी सोच को आगे बढ़ाते हुए यदि 391 बुनियादी विद्यालयों का स्वरूप उनके निकटवर्ती ग्रामों के ऐसे बच्चों पर आधारित हो जो विद्यालय छोड़ जाते हैं और जिन्हें कौशल विकास के साथ–साथ शिक्षण के माध्यम से आगे बढ़ाने की आवश्यकता हो उनके लिए ही ये विद्यालय काम करेंगे। निष्चित रूप से यदि यह फोकस बुनियादी विद्यालयों का होगा तब समाज के वंचित वर्गों से बहुत बड़ी संख्या में बच्चे बुनियादी विद्यालय के आवासीय शिक्षण के लिए आगे आयेंगे। समिति का यह सुझाव है कि 391 बुनियादी विद्यालयों में फोकस ड्राप आउट बच्चों पर हो जिन्हें आवासीय व्यवस्था के माध्यम से व्यवसायिक शिक्षा के साथ–साथ मुख्य धारा की शिक्षा भी दी जाए और तदनुसार उन्हें माध्यमिक और उच्च माध्यमिक शिक्षा प्राप्त करने का अवसर मिले। इस सोच के आधार पर बुनियादी विद्यालय 5 वीं कक्षा के बाद ड्राप आउट बच्चों के लिए संचालित हो जिसका अर्थ होगा कि इस विद्यालय में ग्यारह से अठारह वर्ष के बच्चे होंगे तथा यह विद्यालय केवल एक गांव के लिए नहीं बल्कि उसके फीडर क्षेत्र के लिए भी आवासीय विद्यालय के रूप में काम करेगा। यदि 8 वीं के बाद छीजन करनेवाले बच्चों को रखा जाए तब यह आवासीय विद्यालय

14 से 18 वर्ष के बच्चों के लिए होगा। ग्यारह से अठारह आयु वर्ग के लिए इसे रखने में शायद सुविधा होगी और गांधीवादी समवाय सिद्धांत को शिक्षण पद्धति में विकसित कर मुख्य धारा की परीक्षा की तैयारी करायी जा सकेगी।

3. जहां तक यह गांव बुनियादी विद्यालय अवस्थित है वहां के बच्चों का प्रश्नहै तो निश्चित ही उस गांव के लिए बुनियादी विद्यालय परिसर में प्राथमिक तथा उच्च प्राथमिक विद्यालय का संचालन आवश्यक होगा। इसलिए समिति का यह मत है कि गांव की आवश्यकता को देखते हुए उसी परिसर में उस गांव के बच्चों के लिए प्रारंम्भिक विद्यालय संचालित हो जिसमें मुख्य धारा की शिक्षण व्यवस्था से छीजन किये गये बच्चें ही लिये जाए।

4. बुनियादी विद्यालयों के पाठ्यक्रम को भी आगे बढ़ाने की आवश्यकता है। एक ओर इन बुनियादी विद्यालयों की शिक्षण पद्धति में समवाय के सिद्धांत को आगे बढ़ाने के लिए कृषि उद्योग, उद्योग, अन्य कौषल विकास के कार्यों को पाठयक्रम में शामिल किया जाए तो वही दूसरी ओर मुख्य धारा के विद्यालयों में भी शिक्षण पद्धति में कृषि, उद्योग, कौशल विकास को सन्निहित किया जाए ताकि उच्च प्राथमिक स्तर पर ही मुख्य धारा के विद्यालयों में भी जीवन की शिक्षा तथा प्रकृति एवं श्रम पर आधारित कार्यों को बच्चों के बीच बढ़ाया जाए। मुख्य धारा के विद्यालयों में भी जीवन की शिक्षा की आवश्यकता है तथा सर्व शिक्षा अभियान के लक्ष्यों में जीवनपयोगी शिक्षा भी रखी गयी थी परंतु उस पर अब तक उतनी गहराई से काम नही हुआ है। इसका अर्थ है कि एक ओर जहां 391 बुनियादी विद्यालय जीवनशाला के रूप में विकसित हों जहां जीवन से जुड़ी शिक्षा दी जाए वहीं वहां की शिक्षण पद्धति के सफल प्रयोगों का समावेश मुख्य धारा के विद्यालयों में भी अवश्य हो। कालान्तर में सोच ऐसी हो कि मुख्य धारा के सभी विद्यालयों में समवाय के सिद्धांत को पूरी तरह से समावेश कर लिया जाए जिससे कि शिक्षा का स्वरूप जीवनोपयोगी हो सके। भविष्य में सभी विद्यालय जीवन शाला में परिवर्तित हों तथा बुनियादी शिक्षा के समवाय के सिद्धांत का पालन करें।

5. जहां तक अलग से बुनियादी शिक्षा बोर्ड के गठन का प्रश्न है वर्तमान समय में अलग बोर्ड बनाना उपयोगी नहीं होगा क्योंकि ऐसा करने में मुख्य धारा से बच्चों को जोड़ने में कइिनाई होगी। प्रयास तो यह होना चाहिए कि **बिहार विद्यालय परीक्षा समिति** अपने पाठ्यक्रम एवं परीक्षा में समवाय के सिद्धांत का समावेष करें ओर उसी बोर्ड के माध्यम से बुनियादी विद्यालयों के लिए पाठ्यक्रम का भी विस्तार हो। इसके लिए **बिहार विद्यालय परीक्षा समिति** व **एस.सी.आर.टी. शोध एवं प्रशिक्षण निदेशालय** मिलकर इन 391 जीवनशालाओं के लिए पाठ्यक्रम विकसित करें। जब मुख्य धारा की संस्थाओं द्वारा इस कार्य को किया जायेगा तो निष्चित ही मुख्य धारा के विद्यालयों को भी इस प्रयोग का लाभ मिलेगा।

6. प्रश्न उठता है कि इन विद्यालयों का संचालन कैसे हों। अवश्य ही इसके संचालन के लिए एक व्यवस्था स्थापित करनी पड़ेगी। राज्य सरकार स्तर पर यह निर्णय लिया गया है कि अन्य विभागों के संचालित छात्रावास आवासीय विद्यालय एवं छात्रवृत्ति कार्यक्रम के लिए शिक्षा विभाग द्वारा एक समिति गठित कर सभी योजनाओं को शिक्षा विभाग को हस्तांतरित कर दिया जाए। इसी आधार पर 391 बुनियादी विद्यालयों को जीवनशाला के रूप में विकसित करने के लिए शिक्षा समिति का गठन राज्य स्तर पर करने की आवश्यकता होगी। वैसे वर्तमान में केन्द्र सरकार के मॉडल स्कूल योजना के अंतर्गत भी शैक्षिक रूप से पिछड़े प्रखंड में मॉडल विद्यालय स्थापित करने का काम चल रहा है। शिक्षा विभाग द्वारा यह सूचना दी गयी है कि मॉडल स्कूल की योजना में 122 बुनियादी विद्यालयों में भी निर्माण कार्य प्रारंभ किया जा रहा है। इन मॉडल स्कूल के प्रबंधन के लिए एक व्यवस्था स्थापित करने की आवश्यकता है। सुझाव होगा कि मॉडल स्कूल और बुनियादी विद्यालयों को एक ही पैमान पर जीवनशाला के रूप में विकसित किया जाए। समिति का यह सुझाव होगा कि मॉडल स्कूल एवं 391 जीवनशाला के संचालन हेतु एक परियोजना निदेशक तथा सहयोगी टीम की स्थापना हो और इसे एक पंजीकृत समिति के रूप में स्थापित किया जाए। इस समिति के राज्यस्तरीय गवर्निंग काउसिंल में गांधीवादी विचार वाले शिक्षाविद् अवश्य है।

7. जहां तक आधारभूत विकास का प्रश्न है जैसा कि ऊपर वर्णित है 122 बुनियादी विद्यालयों में मॉडल स्कूल के भवन निर्माण के मानकों के आधार पर लगभग तीन करोड़ प्रति विद्यालय की दर से निर्माण का कार्य शीघ्र प्रारंभ हो जायेगा। शिक्षकों की कमी को देखते हुए विभाग स्तर पर यह निर्णय लिया गया कि प्राथमिक और उच्च प्राथमिक विद्यालय जो बुनियादी विद्यालय परिसर में संचालित हैं उनके लिए आवश्यकतानुसार शिक्षक नियोजित शिक्षकों के बीच से दिया जाए जब तक बुनियादी विद्यालयों के शिक्षकों की नियुक्ति अलग से नहीं हो जाए। मॉडल स्कूल और जीवनशालाओं के संचालन के लिए शिक्षकों के एक अलग समवर्ग के निर्माण की आवश्यकता होगी और राज्यस्तरीय पंजीकृत समिति द्वारा ही इसका मापदंड निर्धारित किया जायेगा। जीवनशालाओं में शिक्षकों में कृषि स्नातक, शिक्षक उद्योग एवं कौशल रखलेवाले विशेषज्ञों को जो फेकल्टी के रूप में रखने की आवश्यकता होगी। फैकल्टी में गांधीवादी अध्ययन स्नातक भी अवष्य रखे जायें। राज्यस्तरीय पंजीकृत समिति जो मॉडल स्कूल और जीवनशालाओं के लिए तैयार की जाए उसके गवर्निंग कौंसिल में गांधीवादी शिक्षा की समझ रखनेवाले विशेषज्ञों को भी रखा जाए ताकि इस समिति का कार्य उनके मार्गदर्शन में हो सकें। चूंकि इन जीवनशालाओं के सफल संचालन में अन्य विभागों के सहयोग की भी आवश्यकता होगी इसलिए इस गवर्निंग कौंसिल की अध्यक्षता माननीय मुख्यमंत्री जी करें। बुनियादी विद्यालय स्तर की समिति में भी संबंधित विभाग के प्रतिनिधि हों ।

8. इन 122 के अतिरिक्त बुनियादी विद्यालयों (जीवनशालाओं) को विकसित करने हेतु बिहार राज्य शैक्षिक आधारभूत विकास निगम को, जमीन की उपलब्धता को देखते हुए, योजना तैयार करने का निर्देश दिया जा सकता है और अगले पांच वर्षों में कालबद्ध तरीके से इस प्रकिया को स्थापित किया जा सकता है। जैसा कि बुनियादी विद्यालयों के उपलब्ध आंकड़ों से स्पष्ट होता है कि इसमें अलग–अलग स्कूल में काफी भिन्नता है। कुछेक विद्यालयों में दस एकड़ तक भूमि है तो वही कुछ अन्य विद्यालयों में सीमित जमीन है। जमीन की घेराबंदी, अतिक्रमण को हटाना, आधारभूत विकास निगम का प्रारम्भिक कार्य होगा और जमीन की उपलब्धता के आधार पर ही हरेक विद्यालय हेतु आवश्यकतानुसार आधारभूत विकास कार्य योजना तैयार करना होगा।

9. इन जीवनशालाओं तथा मॉडल स्कूलों में शिक्षकों को बेहतर वेतन देने की आवश्यकता होगी चूंकि ये आवासीय विद्यालय होंगे तथा इनमें शिक्षकों की जिम्मेवारी केवल कक्षा तक ही नही होगी बल्कि एक जीवनशाला में नेतरहाट स्कूल की तरह बच्चों के साथ रहकर काम करने की भी होगी। इन जीवनशालाओं में आवासीय व्यवस्था के साथ–साथ कौशल विकास के कार्यों में अल्पकालीन प्रशिक्षण की व्यवस्था की व्यवस्था भी की जाती है ताकि निकटवर्ती ग्राम के बच्चे आवश्यकतानुसार कौशल विकास कर सकें। यहां के पाठ्यक्रम में लचीलेपन की आवश्यकता होगी। गांधीवादी अध्ययन विषय के स्नातक भी प्रत्येक बुनियादी विद्यालय में अवश्य रखे जायें।

10. बुनियादी विद्यालय किसी भी प्रकार से निम्नस्तरीय शिक्षा का केन्द्र नहीं होंगे। इसके साधन औपचारिक विद्यालयों से बेहतर होंगे तथा यह एक सुसज्जित और विकसित विद्यालय होगा। इसके पाठ्यक्रम के आधार पर ही आगे राज्य के सभी विद्यालयों को भी इसके अनुश्रवण
करने की आवश्यकता होगी। बुनियादी विद्यालयों के शिक्षकों के चयन के क्रम में योग्यता का आधार भी लचीला रखने की आवश्यकता होगी। क्योंकि बहुत से अच्छे किसान, कारीगर आदि के पास औपचारिक आवश्यक डिग्री नही होगी। शिक्षकों के चयन में ऐसी व्यवस्था रखनी होगी ताकि ऐसे व्यक्ति भी शिक्षक के रूप में आ सकें।

अंजनी कुमार सिंह	व्यास जी	अमरजीत सिन्हा
मुख्यमंत्री के प्रधान सचिव	प्रधान सचिव, स्वा.विभाग	प्रधान सचिव, शिक्षा विभाग

Annexure – 3

A New Constructive Programme Suitable For Nai-Talim Schools

1 Introduction:

Bapu's dream of Independence was not a mere liberation from the British rule.It was a dream to liberate the masses from those factors that made them loose control over their own affairs.

The dream of independence was indeed a dream of healthy interdependence. Gandhi proposed an agenda consisting of 14 items (see Box-1) which represented the maladies of the day needing intervention. A perusal of the list will indicate that it covers items pertaining to social dimensions, economic dimensions, political dimensions and value dimension.

It was also understood that more items will be added when the programme moves forward. In fact Vinobaji added five more items (shown towards the end of the list in Box 1).

BOX – 1

Communal unity
Removal of untouchability
Prohibition
Khadi
Village Industries
Village Sanitation
Nai Talim or Basic Education
Adult Education
Uplift of women
Education in health and hygiene
Provincial languages
National language
Promotion of economic equality

Kisans	Cow protection
Labour	Nature Cure
Adivasis	Bhoodan
Lepers	Gramdan
Students	Shanti Sena

2. Why a Constructive Programme Today

The constructive programme of Gandhi was launched In 1941.

The vision of that day was Gram Swaraj.

The process was cleansing the nation of its dirt and enable it to stand up and march

- March together towards a dreamland of Sarvodaya. Today the nation has a vision – (call it vision 2020!) It aspires to be a developed nation with self –suffciency in

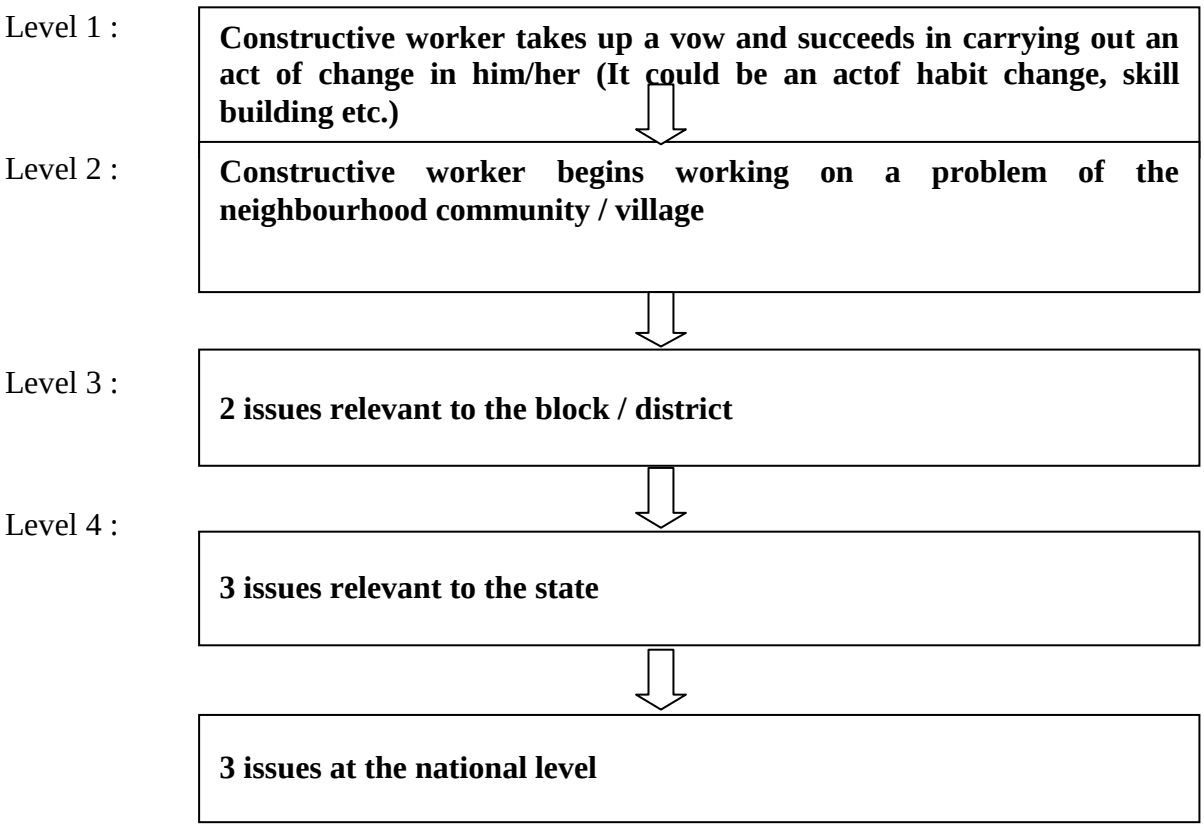
- Agriculture and food processing
- Education and health care
- Infrastructure for energy/transport
- Information and communication
- Self – reliance in strategic sectors. But ……

As a starting point it has to ensure habitat, food, health care, education and employment to its citizens.At least to the minimum level defined by the Millennium Development Goals of the UN in 2000 (See6.3 fo main book for the eight goals)

3. A Flexible Framework of Constructive Programme

A common framework capable of accommodating the diverse needs of individuals and regions and steering the nation towards its short/medium/long range objectives is possible.

The framework with five tiers is shown below :



Level 5 :

In the above the national issues will be common to all. These are to be identified through national consensus.

For example :

I) Suppose at the national level, the 3 topics are chosen using three criterions :

- One on the basis of a felt national crisis which the Ministry of Youth also endorses : entrepreneurship (say)
- The second on the basis of Human Development : Literacy (say)
- The third on the basis of consensus among youth federations : corruption.

II) At the Tamilnadu state level, let us say the three topics selected are :

- Watershed (since water problem is perceived a the most fundamental problem)
- Menace due to plastics
- Eradication of parthenium

III) Suppose a team in the district Dindigul plans for itself :

- Noise pollution due to the use of cone speakers
- Propagation of Jatropha
- Abolition of female infanticide

IV) At the individual level it is left to one's option.

Thus a youth in a remote village of Dindigul has 10 topics that the could slowly navigate.

When national /state/district priorities are coinciding the list maybe shorter. Similarly an individual may be sticking to even one problem for the whole life.