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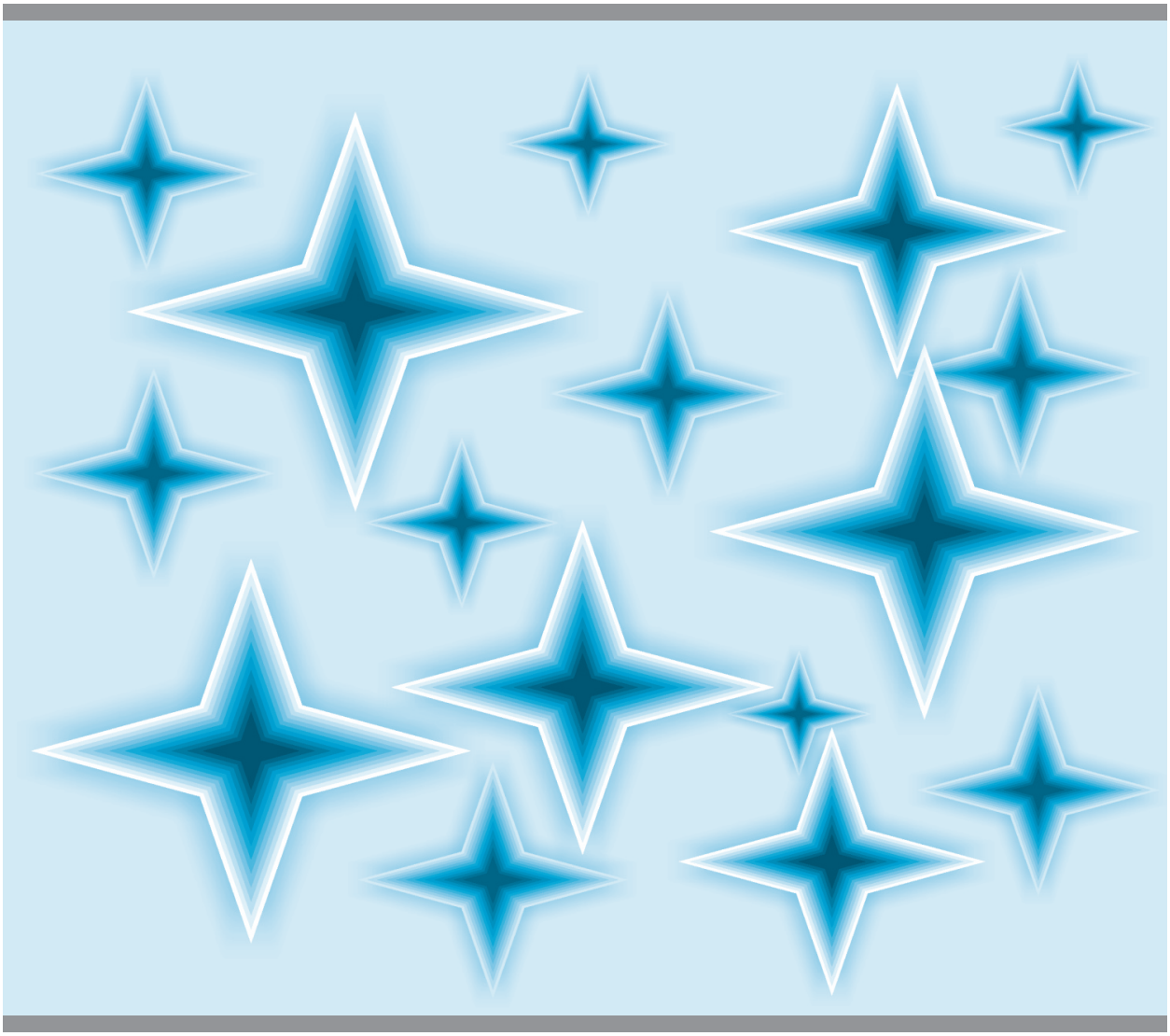

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CONTENTS

Participatory rural appraisal (PRA) in rural

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Abstract: Promising potentials include farmers' own farming systems research, alternatives to questionnaire surveys, monitoring, evaluation and lateral spread by local people, empowerment of the poorer and weaker, and policy review. Changes in personal behavior and attitudes, and in organizational cultures, are implied. PRA parallels and resonates with paradigm shifts in the social and natural sciences, business management, and development thinking, supporting decentralization, local diversity, and personal responsibility.Much of the spread of participatory rural appraisal (PRA) as an emerging family of approaches and methods has been lateral, South-South, through experiential learning and changes in behavior, with different local applications. Rapid spread has made quality assurance a concern, with dangers from "instant fashion", rushing, formalism and ruts. Promising potentials include farmers' own farming systems research, alternatives to questionnaire surveys, monitoring, evaluation and lateral spread by local people, empowerment of the poorer and weaker, and policy review.
[Mehran Bozorgmanesh and Mojtaba Sadighi. **Participatory rural appraisal (PRA) in rural.** Academia Arena, 2011;3(6):1-5] (ISSN 1553-992X). http://www.sciencepub.net.

Keywords: Participatory Rural Appraisal (PRA)

Introduction:

The different ways of data collection and interpretation can be seen under two perspectives(IUCN, 2001): qualitative versus quantitative, and participatory versus top down. While the quantitative methods generate information that can be captured numerically, the qualitative methods generally do not generate specific numbers. Qualitative methods are concerned with exploring meanings, processes, reasons, and explanations(lnglis, 1992).

RRA was criticized for being extractive and highly dependent on expert interpretation. It was thus found useful to replace it with PRA which involves a process of learning from, with and by rural people about rural conditions. PRA shares much with its parent, RRA, but is distinguished from it in practice by correcting two common errors: roles of investigation are reversed; and rushing is replaced by relaxation and rapport. At the heart of all these developments was Robert Chambers, although Paulo Friere has also had strong influence especially in similar developments in education circles (Provention Concertium).

PRA has evolved and spread from beginnings in Ethiopia, India, Kenya, Sudan and elsewhere, and in early 1994 is known to be being quite widely practiced in parts of Bangladesh, Botswana, Ethiopia, francophone West Africa, India, Indonesia, Kenya, Nepal, Nigeria, Pakistan, the Philippines, Sri Lanka, Sudan, Uganda, Vietnam, and Zimbabwe, while starts have been made in at least a score of other countries in Latin America, Africa and Asia. Hundreds of nongovernment organizations (NGOs) have adopted PRA and developed applications, as have a number of government departments. The use of PRA methods is being increasingly explored by students and faculty in universities for research, and by training institutes for fieldwork. Spread appears to be accelerating.

There are six popular techniques/methods that are used to facilitate PRA exercise that enables the community to develop and compile a detailed profile of themselves and their situation.

• **Venn Diagram**

Venn Diagrams are drawn to help understand the current formal and informal institutions in the area under study and the nature of relationship between the communities and these existing institutions and structures. The community is led to identify their needs, analyze these needs and assess the **cause and effect** relationship. This process provides an opportunity for the community to arrive at the most pressing or priority need utilizing a logical format and this often culminates into a problems tree(Clayton, 1997).

• **Time line**

This technique describes chronologies of events, listing major remembered events in a village with approximate dates. The process involves elderly people in a village to narrate their life history, summarizing major events and changes that have taken place over a period of time. Major events and political regimes including their significance and influence to the change in the lives of the community over time are recorded. Time line shows a broad movement of different aspects in a village during the community's lifetime(Chambers, 1994).

• **Time trend**

This is a technique where people given an opportunity to account about their past and discuss how things close to them have changed. Issues such as ecological history, changes in land-use, cropping patterns, changes in customs, practices & trends in population, migration, education, health, prices, yields, etc. This technique is more precise in giving indication of change (increase or decrease) about a particular item/activity(KGVK, 1991).

• **Mapping**

This is where people use ground, floor or flip charts to map and draw the different aspects of their village e.g. social issues, demographic, resources, health, wealth, literacy, livestock, economic activities, water resources, trees, housing layout etc. This technique portrays the image dwellings in a village(Hollandand and Blackburn, 1998).

• **Transect Walk**

This is a systematical walk with the Community members through the village observing, discussing, identifying different forms, local techniques, introduced technologies, seeking their uses, problems, solutions and opportunities. It is done to ensure that the team fully explores the spatial differences in the community, assessing the infrastructure that exists and any possible activities that might be taking place within the village.

• **Matrix**

Matrix is a ranking & scoring technique that is used to discover local attitudes and perceptions about a particular resource. This may be about the land use, water conservation measures, seasons, weather conditions, rainfall pattern or rainfall distribution, intensity and efficiency. These are assessed to determine the extent they affect and influence the way of life within the community. This helps to provide a better understanding of constraints and opportunities for possible development interventions. A graph is usually drawn in a matrix format displaying these constraints and opportunities.

Since PRA seeks to assist local people to plan, implement, monitor and evaluate their own action plans, in theory PRA should be used only during the implementation of a project. Since PRA aims at people taking action themselves it is most suited for the community level.

PRA presents a major step forward from RRA. Local people do the analysis and plan for the future. Their own values, needs and priorities are the point of departure. They themselves develop criteria to classify aspects of their life. This not only leads to a better understanding of the situation (for both the in- and the outsiders) and therefore increases the chance for realistic plans, it also generates a much higher commitment of the people to the planned activities(Scrimshaw, 1992).

The many different perspectives on daily reality and the visualisation offer good opportunities to go beyond the most obvious and dominant points of view in the community. The only warning here should be that too much attention to group discussions/ -activities might enable some groups to dominate the discussion(Cornwall, 2008).

The methodology is open to modification; everybody can develop new tools and new ways of organising things. This makes PRA applicable in a very wide range of situations. Indeed, it has been used in both rural and urban areas, both in developing countries and industrial countries, in agriculture, in health care and in social programmes. PRA can also be used to collect data; local people are able to generate and/or collect reliable data which they themselves analyze and use for planning(Mukherjee, 1992).

Steps in participatory planning

PRA has steps of planning:

1. Defining the objective of PRA
2. Site selection and clearance form local administrative officials. Fro programmed implantation (or) problem solving purpose. For site selection, use-ranking methods with local people and outsiders; then select the sites for intervention(Ekins, 1992).
3. Preliminary visit
- Survey team visit
- Extended discussion with local leaders
- Agreement to do a PRA
- Sharing responsibilities with the people
4. Data collection
- Local people and survey team collect information
- The data includes:
- Spatial data
- Time related information
- Data on institutions and social structures
- Technical information
5. Data analysis
- PRA team spends days organizing information
- Make large charts and tables of trends, maps transects etc
- Compile a list of all the problems mentioned
- Summarized the problems
6. Ranking problems
- Present to the community data collected in a large meeting
- Include line department staff DA s etc
- Rank the problems by discussion and voting
7. Formulate and rank opportunities
- From discussion groups on the solutions of the problems
- Obtain advise from the technical officers on:
- Feasibility

- Sustainability
- Productivity
- Equity of the solutions
- Rank opportunities
- Set an action plans

8. Adoption of action plans
- Look for technical information to develop a comprehensive plan
- Specific expert join PRA team
- Line ministry departments take part in the implementation

9. Implementation
- All partners in development contributes to activities as:
- Manpower allocation
- Materials needed
- Time needed
- Funds required(Pretty, 1993)

PRA are good for:

• Providing basic information in situations where little in known
• Identifying and assessing problems
• Appraising, designing, implementing, monitoring, and evaluation programs and projects
• Getting a better picture of needs and organizations' ability to meet them
• Developing and transferring appropriate technologies
• Appraising emergencies
• Planning projects that are more relevant, restructuring administrations, assisting in decision-making and policy formation
• Generating hypotheses, ruling out inappropriate ones
• Providing guidelines for survey designs and assessing the applicability of their results to other places.
• Fleshing – out complementing, interpreting, or giving depth and context to information obtained through other methods.

7.5 PRA is not very useful for:

Working in situations in which the problem is not usefully addressed at the local or group level, for example, in situations where large-scale structural reorganization is necessary (but even then, local views may help to shape the change).

PREPARATIONS BEFORE THE PRA:

Proper preparations determine the success of PRA for it involves learning-by-doing and depends on team contributions. In addition to selecting the site where PRA is to be conducted and collecting secondary information regarding the specific sites and their neighborhoods, it is necessary to:

- Establish a PRA Team;
- Establish a Kushet PRA Committee;
- Conduct Preliminary Visits to the Community;
- Developing PRA Schedule.

1. The PRA Team:

The PRA Team consists five faculty members of the faculty of business and economics.

Note that other member(s) already involved in development activities in or near the specified areas shall be included if found necessary, for in PRA, the Team is expected to have the necessary technical know how in different areas (agriculture, health, education, infrastructure, credit, marketing, culture, etc.). It also needs to have a fair gender composition.

Although every team member should be familiar with all aspects of the PRA, each team member is also designated for specific tasks which are described as follows(NCAER, 1993):

a. PRA team leader: One of the PRA Team members will be designated as a leader in each of the four PRAs. That is one team leader will be assigned for each of the four villages. The team leader will be selected in such a way that four members will alternatively serve as team leaders for each of the four PRAs. The role of the team leader is to(Scoones, 1993):

- Play the leading role in the formation of the village PRA committee;
- Ensure that all preparatory work has been done;
- Make sure that the objectives of each session are achieved;
- Coordinate preparation of the PRA report;
- Resolve any problems which may arise;
- Assign facilitators and note-takers for each session;
- Organize the reports from the note-taker/s into a coherent whole;
- Work as the principal editor of that particular PRA report.

b. Facilitator: For each PRA session, one individual should be designated as the lead facilitator (note that the team leader may also serve as a facilitator in some of the sessions). As a key objective of the PRA is to promote active community participation, the role of the facilitator is very important and includes:

Before the Session:

- Knowing the contents of their session very well in order that they rarely have to look at the manual for guidance
- Ensuring that the site is well prepared – that there are enough places to sit, that there is not too much noise close by, that the area is well shaded, etc.

- Ensuring that the seating arrangement is good – and that participants can be seated in a circle so that they can see the facilitator, other participants, as well as any flipchart or blackboard which may be used. Important: if participants are not properly seated, have everyone get up and rearrange the meeting place. During the Session
- Ensuring that all participants understand and contribute to the discussions.
    1. If one participant is talking too much, thank him/her for his/her comments and ask another opinion;
    2. If some participants are not contributing at all, ask them directly what they think;
    3. Do not let only one person or a small group of participants dominate the discussions;
    4. Pay special attention to women and the poor who may not feel comfortable contributing.
- Ensuring that team members share their ideas only after the community members have provided their own, and that the team members avoid influencing the community's decisions.
- Managing the time available for the session to ensure that all objectives are achieved.
- At the end of the session, thank participants for their contributions and explain to them the next activity(Drummond, 1992).

c. Note taker: Because much information is generated throughout the PRA, the task of taking notes is very important to the program's success. One person shall be assigned as a note-taker for each session. The role of the note taker includes(Uphoff, 1992):

- Sitting among participants and take notes (it may preferably be done in such a way that the participants are not so aware that someone is taking notes);
- Noting all main discussion points, and paying special attention to the comments of participants concerns:
    1. What they feel are problems;
    2. What they believe are the causes of these problems;
    3. Possible solutions, and especially how the community has solved these problems in the past;
    4. Special beliefs, customs and religious practices.
- Asking participants to repeat comments if they are not well understood;
- Assisting the facilitator by reminding if some important things are left out or not properly taken care of;Copying information presented on big paper into a notebook;
- Reviewing the notes with the facilitator to make sure that they are complete and correct;
- Copy the notes to a laptop at the end of each day's work.

d. Technical Resource Persons: Specific team members should be designated to serve as resource persons for key technical areas. If appropriate technical persons are not available with the team, the support of government bureaus or NGOs will be sought(Swift, 1991).

These individuals may serve as facilitators for sessions related to their technical area, or may simply assist the PRA team, the PRA committee or other participants in identifying community problems, causes and possible solutions. Note that even though Technical Resource Persons may have much expertise, they should share their ideas only after community members have discussed their own, and avoid influencing the community's decisions. In addition to focus group discussions, technical persons could be used during transect walk(Appleyard, 1998).

2. Preliminary Visits to the Community:

After selecting the specific areas where PRA is to be conducted, the PRA Team (all members need preferably attend) needs to conduct a visit to meet members (local leaders), development workers in the area, government workers, health workers, teachers, and religious leaders with the following duties:

- Introducing the PRA approach to local administrators and community leaders and explaining the objectives of the PRA;
- Explaining the contents and schedule of the PRA program;
- Requesting that a Village PRA Committee be established;
- Deciding on the dates for the PRA;
- Making necessary logistical arrangements, including:
    1. Identifying sites to conduct large and small group meetings;
    2. Discussing lodging arrangements for the PRA Team (if the PRA team decides to stay in the area during the PRA work).

CONCLUSION:

The main objectives of the current PRA are:

1. empowerment of rural communities by assisting them to systematically utilize their local knowledge to identify problems and strengths, develop skills of

analysis, and design appropriate mechanisms for intervention by themselves and/or by development agents;

2. advancement of understanding by academicians/researchers of local knowledge and acknowledgement of the capacity of communities to gather data, conduct analysis, and identify as well as prioritize problems and solutions;

3. utilization of the research questions/problems identified during the PRAs for further investigation;

4. documenting and presenting the outcomes of the PRAs to development agents (governmental and non-governmental) and other stakeholders so that they could undertake interventions in line with the findings.

PRA consists of a series of participatory exercises which help community members better assess their history, resources, and overall situation as concerns agriculture, health, marketing, credit, coping mechanisms, education, and other important areas. During the conduct of the PRAs, rural communities in the selected villages will gather information on the resources they already possess; organize their knowledge; share experience among themselves; learn from each other; identify and prioritize local development needs; and develop action plans which respond to these needs.

The many different perspectives on daily reality and the visualisation offer good opportunities to go beyond the most obvious and dominant points of view in the community. The only warning here should be that too much attention to group discussions/ -activities might enable some groups to dominate the discussion. The methodology is open to modification; everybody can develop new tools and new ways of organising things. This makes PRA applicable in a very wide range of situations. Indeed, it has been used in both rural and urban areas, both in developing countries and industrial countries, in agriculture, in health care and in social programmes. PRA can also be used to collect data; local people are able to generate and/or collect reliable data which they themselves analyze and use for planning.

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Application of Online Classes and Traditional Classes in education

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Abstract: This article will focus on the disadvantage of taking Online Classes.Online education is not exactly a trend yet, but it is becoming increasingly popular.The reason for this is that it offers new opportunities where none existed before – Many people wouldn't have been able to acquire the necessary higher education without it.However, like all things in life, taking Online Classes has some drawbacks and disadvantages as compared to the traditional classrooms. That said, online classes are not perfect for everyone. To avoid getting caught in the hype and making the wrong decision, consider the pros and cons of online education. There are two types of programs offered by distance education schools: synchronous learning programs and asynchronous learning programs. With synchronous learning, distance education students must log on to the school's website at a set time. Often, they interact with their peers and professors via group chats, web seminars, video conferencing, and phone call-ins. With asynchronous learning, distance education students complete all coursework on their own time. They often learn via assignment sheets, message boards, email, pre-recorded video lectures, mp3s, and traditional mail correspondence.
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Keywords: Online Classes, Traditional Classes, distance education

Introduction:

Massive wave of data produced in today's world it nicknamed the "information age" has all day and through various means of communication in the world will move on its size are added. Other hand, as we're not the world witnessed the development of the role of information communication devices transporting feedback fast and absorb the information around the world, we forget Therefore, information and communication as the main lever or two important move in developing wings, we learn. Meanwhile, proper utilization of the capacities of these two valuable and effective indexes in the general development concept for any society and the principles of a critical need is considered. With a view to clarifying this issue can be paid in the best way to create a platform for developing data standards and access to a knowledge based society, what really can be. To achieve a clear and practical answer in this area before all the existing definitions and indicators mentioned placed.

Distance education is a method of education in which the learner is physically separated from the teacher and the institution sponsoring the instruction. It may be used on its own, or in conjunction with other forms of education, including face-to-face instruction. In any distance education process there must be a teacher, one or more students, and a course or curriculum that the teacher is capable of teaching and the student is trying to learn. The contract between teacher and learner, whether in a traditional classroom or distance education, requires that the student be taught, assessed, given guidance and, where appropriate, prepared for examinations that may or may not be conducted by the institution. This must be accomplished by two-way communication. Learning may be undertaken either individually or in groups; in either case, it is accomplished in the physical absence of the teacher in distance education. Where distance teaching materials are provided to learners, they are structured in ways that facilitate learning at a distance.

Distance learning is a hot subject today, but is it really for you?

It is best not to hurry when choosing a college or university, lest you find yourself a victim of hype.

Online courses are a new revolutionary way of providing education. Even traditional institutions are increasingly incorporating the Internet e-learning online interaction means and software tools into their programs.

Archived video footage and virtual real-time lectures, online assignments and presentations, electronic academic material, multimedia as part of classrooms – all these have been part of higher education for a while now.

However, Online Education means taking entire degree program online, via your laptop.

This means an entirely new experience, yet not everybody is ready for it.

Taking Online Classes via Online education program requires specific learning skills, which some people lack.

The Pros of Online Classes:

The key advantages of using an online class are –

1. Time flexibility

For some people there is nothing worse than getting up before 9 in the morning. Traditional higher education often requires just that. But with online education students have the possibility to adjust schedules to their life, rather than adjust their life to predetermined schedules.
Other people benefit greatly from it too: parents, full-time employees, and anyone else who for this or that reason is too busy to attend traditional classes.

2. Geographic flexibility

Online institutions make possible something unprecedented: it no longer matters where you live. You can live in one of the world and study daily at an institution based in another without ever leaving your native country, or even your room, for that matter.
Even in terms of local travel online education is a revolution: there are no more bus, train, or car trips, no traffic jams, no being late for the bus/train, no time and money spent on travel.

3. Class Notes

Not everybody knows how to write great class notes. Online courses provide electronic transcripts of every lecture. This is great for anyone who has short attention spans or does not like to write during lectures.

4. More educational means

Much more so that in traditional classrooms, online education incorporates online multimedia possibilities into instruction.

Possible cons of online classes include:

What are the Disadvantages of Online Courses? Here are some –

1. Credits:

Not all online course credits are transferable to traditional degree programs!

2. Require self-discipline

Excellent self-discipline and time management without the aid of strict schedules, attendance requirements, and personal communication.

3. Lack of interpersonal interaction

No interpersonal relationships with ether teachers or students; only via email, message boards, and other online means of communication.

Disadvantages of Online Classes: Disadvantages to Consider

This article will focus on the disadvantage of taking Online Classes.

Online education is not exactly a trend yet, but it is becoming increasingly popular.

The reason for this is that it offers new opportunities where none existed before – Many people wouldn't have been able to acquire the necessary higher education without it.

However, like all things in life, taking Online Classes has some drawbacks and disadvantages as compared to the traditional classrooms.

That said, online classes are not perfect for everyone. To avoid getting caught in the hype and making the wrong decision, consider the pros and cons of online education.

Taking Online Classes – Disadvantages

Let us review the weaknesses –

1. Lack of Socializing

Taking courses through the net completely erases the concept of socializing. Although there are online class discussions in online education, it is still not always an easy way to interact. This method completely eliminates the possibility to meet classmates face to face in and outside the classroom.

2. Lack of Close Personal Contact with Teachers

Besides being unable to socialize with other students, there is no way to arrange personal face-to-face meetings with the teachers. This, too, can be a significant disadvantage for those students who are motivated by close personal connection, discussion, and advice.
Online tutorials definitely do not provide this vital touch and online discussions may not be intimate enough to provide the same powerful stimulus.

3. Classroom Attendance – None

This may sound like a good thing to some, but for many this is a major flaw of the online system.
Some simply cannot focus on their own, while sharing an actual room with other motivated students right in front of them is a great incentive to concentrate and understand. Others simply love the atmosphere of campus classrooms and would never give them up.

4. Self-Discipline

Studying via the net from home means you have more freedom and more responsibility for managing your time and effort.
It is important to know that you are able to invest enough effort into studies without the stricter discipline imposed by traditional institutions and without their added incentives of classroom attendance and personal meetings.

5. Accessibility

Most people would have no problem accessing

online education and that is one of its major plusses. Still, some simply do not have the required Internet connectivity (the required bandwidth for taking online class) or no personal computer they could comfortably use for prolonged private study sessions.

For these people campus-based courses are actually much better, since they provide an environment for group and individualized study: classrooms, offices, libraries, etc.

6. Accreditation and Employment

This is one of the most serious aspects of the online education.

It is still an emerging system and many authorities and employers officially do not recognize many online diplomas. Moreover, even if a degree is from an officially accredited online institution, many employees still prefer candidates with traditional degrees.

Virtual classrooms vs. real classrooms

There are two camps around this issue – Those who love attending campus-based lecture and those would rather stay at home.Virtual education means there are no campuses and no classrooms. For those who prefer to be at home and are comfortable with cyber-space this is a virtual paradise. For those who are technophobic, get confused by online multi-media, and who prefer direct human contact this may be a veritable digitalized hell. But the amount of people who are uncomfortable with technology and the internet is decreasing exponentially. Most people are addicted to the internet. And video communication is becoming standard nowadays, allowing top-quality group video communication online.

Traditional and Online Schedules

Online institutions deliver many or all courses via modules.

These modules can be scheduled by the student him or herself to be taken virtually at any time of day or night. This is obviously impossible with traditional classes, however requires a high degree of self-motivation and the ability to meet requirements while enjoying greater freedom.

The Value of online classes/degree earned as compared to the traditional ones

When it comes to quality, going to Online Classes becomes universal as going to a traditional college class.

One has to remember that the world is changed rapidly and the online education is now a great alternative to the traditional one. Just like a person got used to choose between campus-based colleges and universities, today the online education grows to be an option. Of course, with its different varying quality of degrees, just like any on-campus degrees.

Conclusion:

Distance learning is expanding and examples of it are increasing dramatically. Fewer than 10 states were using distance learning in 1987; today, virtually all states have an interest or effort in distance education. Distance learning systems connect the teacher with the students when physical face-to-face interaction is not possible. Telecommunications systems carry instruction, moving information instead of people. The technology at distant locations are important and affect how interaction takes place, what information resources are used, and how effective the system is likely to be.

Distance education places students and their instructors in separate locations using some form of technology to communicate and interact. The student may be located in the classroom, home, office or learning center. The instructor may be located in a media classroom, studio, office or home.

The student may receive information via satellite, microwave, or fiber optic cable, television (broadcast, cable or Instructional Television Fixed Services (ITFS), video cassette or disk, telephone - audio conferencing bridge or direct phone line, audio cassette, printed materials - text, study guide, or handout, computer - modem or floppy disk, and compressed video. Recent rapid development of technology has resulted in systems that are powerful, flexible, and increasingly affordable. The base of available information technology resources is increasing with dramatic speed. Much has been learned about connecting various forms of technology into systems, so that the ability to link systems is growing. Most distance learning systems are hybrids, combining several technologies, such as satellite, ITFS, microwave, cable, fiber optic, and computer connections.

Interactivity is accomplished via telephone (one-way video and two-way audio), two-way video or graphics interactivity, two-way computer hookups, two-way audio. Interactivity may be delayed but interaction provided by teacher telephone office hours when students can call or through time with on-site facilitators. Classes with large numbers of students have a limited amount of interactivity. Much of the activity on computer networks is on a delayed basis as well. Possibilities for audio and visual interaction are increasingly wide.

Challenges which faced the early users of distance education are still with us today. If distance education is to play a greater role in improving the quality of education, it will require expanded technology; more linkages between schools, higher education, and the private sector; and more teachers who use technology well. Teachers must be involved in planning the systems, trained to use the tools they provide, and given

the flexibility to revise their teaching. Federal and state regulations will need revision to ensure a more flexible and effective use of technology. Connections have been established across geographic, instructional, and institutional boundaries which provide opportunities for collaboration and resource sharing among many groups In the pooling of students and teachers, distance learning reconfigures the classroom which no longer is bounded by the physical space of the school, district, state or nation.

The key to success in distance learning is the teacher. If the teacher is good, the technology can become almost transparent. No technology can overcome poor teaching which is actually exacerbated in distance education applications. When skilled teachers are involved, enthusiasm, expertise, and creative use of the media can enrich students beyond the four walls of their classroom.

Teachers need training in the system's technical aspects and in the educational applications of the technology. Areas for assistance include the amount of time needed to prepare and teach courses, how to establish and maintain effective communication with students, strategies for adding visual components to audio courses, ways to increase interaction between students and faculty, planning and management of organizational details, and strategies for group cohesion and student motivation.

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Using Information and communication technologies (ICT) in education

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Abstract: Information and communication technologies (ICT), including radio and television and the newer digital technologies like computers and the Internet as potentially are introduced powerful tools and activators of educational reform and changes. different ICT, when properly applied can be developed to help access to education and the relationship between training and workshops to strengthen the increasingly digital, the quality of education also helped to create teaching and learning in an active process connected to real life high take. However, the experience of being raised by ICT in the classroom and other educational sites around the world during the last few decades proves that is not automatic fully realize the potential benefits of ICT training. With the help of state and local funding, information technology has been purchased for schools ever since the 1980s. The state has also found many ways to support teacher training in the use of IT, and it has also allocated funds for the production of IT programs. Instruction in the use of IT has also played an important role in teacher training organized by local school authorities .It is against this background that the need arose to find out how far we have progressed in the application of ICT in education and what impacts these significant economic investments have had. It is also time to start a value-oriented discussion of how strongly the future of the Iran society—and with it, of education and training—will be linked to the vision of an information society brimming over with technology.
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Introduction:

The global economy requires the kind of necessity and purpose of educational institutions. Since the current trend towards reducing incomplete information and access to accurate information is growing, other schools can not control time to transfer a set of prescribed information from teacher to student during a fixed time point are, but schools must to promote Culture of "Teaching for Learning For example, acquisition of knowledge and continuous learning skills which make possible during the individual's life. According to Alvin Toffler, illiterate in 21st century, who was not read and write but those who do not know which fail to learn or remember are illiterate. (Jauhari, 2004).

In the rural context, development involves use of physical, financial and human resources for economic growth and social development of the rural economies (Burkey, 2000). The term rural development also represents improvement in quality of life of rural people in villages. As per Chambers (1983) "Rural Development is a strategy to enable a specific group of people, poor rural women and men, to gain for themselves and their children more of what they want and need." Singh (1999) defines Rural Development as "A process leading to sustainable improvement in the quality of life of rural people, especially the poor". The fact of the matter is that three quarters of the world's poor, about 900 million people are in rural areas, and the Millennium poverty target set by Millennium Development Goals (MDG), cannot be met unless the world addresses rural poverty. "Sustainable Rural Development can make a powerful contribution to four critical goals of: Poverty Reduction, Wider shared growth, Household, national, and global food security and Sustainable natural resource management" (World Bank, 1997). Hence worldwide there is a growing emphasis on development of rural economy of the countries. Any improvement, in the social or economic status of rural areas would not just directly benefit rural poor but would also bring down the migration-pressures on cities and contribute by positive ripple effect in global stride towards development.

Institutions and experts accept Governance as a reflexive process, wherein policies, institutions, outcomes and analysis interact, to maximize the process of participatory development (UNDP, 1997; Ludden, 2005; Mehta, 2006).

The importance of communication in the development process has been acknowledged for many years by the development community. FAO has spent at least thirty years pioneering and promoting - both in thinking and practice - the centrality of communication in development. The most essential ingredient of good communication – putting people at the centre of the communication process - has similarly been understood and documented for many years.

Information Technology, more precisely the Information and Communication Technology (ICT), has emerged world over as a technology of the new

millennium. By augmenting the process of information exchange and reducing the transaction costs, this ubiquitous technology is instrumental in increasing productivity, efficiency, competitiveness and growth in all spheres of human activity. The potential benefits of, however, can be harnessed only if the technology diffuses across the different sectors of the society. Unfortunately, we are living in a world of 'digital divide' wherein half of the world population have never made a telephone call . The digital divide is not only an international problem, but for most developing nations including is also a national phenomenon. Nonetheless, it has been argued that in an era of globalization, the ability to harness this technology for the 'rural' improves the capability of the developing country.

Information technology (IT) has connected the world globally and is now changing our lifestyle and social consciousness dynamically. Of late, it has emerged as a best tool for information sharing and mutual communication. None of the walks of life have been left untouched by the IT sector be it grain threshing or global business. Agriculture has also been greatly influenced by IT in the present era though the share of IT in agriculture is only 1.3%.

Information Technology and its Components

Induction of IT as a strategic tool for agricultural development and welfare of rural requires that the necessary IT infrastructure is in place. The rapid changes and downward trend in prices in various components of IT makes it feasible to target at a large scale IT penetration into rural. Some of the broad factors to be noted with respect to various components of IT are listed below :

1. Input devices :

Radical improvements are witnessed with respect to the means of communication by human beings with computers such as key boards, mouse devices, scanners. The advent of touch screen monitors that allow users to give input to computers by touching on the appropriate location of the monitor has made it possible to develop user-friendly interface for farmers which is easy, intuitive, circumvents language barrier and at the same time provides a relaxed environment to the users. The present day digital cameras make it possible to capture and store good quality graphics and large video clips. The small size and low weight of these digital cameras, which are increasingly becoming affordable, open up the possibilities of providing computer based demonstration clips to educate the farmers.

2. Output devices :

Monitor screens, printers & plotters, data projectors support high resolution and good quality output. The quality of these output devices have the potential of generating renewed interest in the farmers in using IT based services. The light weight portable data projectors can be easily carried by the agricultural extension personnel for serving larger audience. Similarly, speakers can also be attached to the computers to incorporate voice based trainings for farmers.

3. Processors:

The processing speeds of computers have gone up. At present, Intel P-IV based processors @ 1.5 Ghz are available in the PC range which makes it possible to undertake substantial processing of data at the client side.

4. Storage Devices :

40GB and even higher hard disk drives have become common in PC range of computers. This makes it possible to store substantial information at the local level which facilitates faster access. Similarly, high capacity floppy disk drives, CDs make it possible to transfer large volumes of data to locations which can not be connected to networks immediately. These storage devices are also used for backup of crucial data. As a precaution, many corporates store their backups at locations away from the place of work.

5. Software :

Various operating systems are available which act as interface between the user and the machine. The graphic user interface (GUI) has become an accepted prerequisite for end users. Microsoft's 'Windows' continues to be a favourite. Application softwares which can support complex user requirements are available. Of the shelf solutions for office automation packages, groupware applications, complex database solutions, communication products, solutions based on remote sensing & geographical information systems are available. In addition, solutions based on some or all of these are also readily available. The present downward trend in the IT industry provides an opportunity get customised application for any specific task developed at an affordable price. Rapid Application Development and Deployment (RADD) is a popular model for quick development and deployment of applications. Development environment itself is simplified with tools that quicken the pace of software specialists. Project management and monitoring software are available that facilitate efficient execution of large and complex applications that are required for rural.

6. Networking devices :

The capacity of modems, used to convert the data from digital to analog and vice versa, which are popularly employed to use telephone lines have increased. Internal modems are available integrated into

the computer so that they are not exposed to outside environment. The capacities of other networking devices such as routers have also gone up which makes it possible to create large networks with smooth data transmission.

7. Transmission Media

The media through which the data transfer takes place has also undergone revolutionary change. Telephone lines are still the popular source although the reliability and low bandwidth are still major issues. High capacity cables, optical fibre, radio, wireless local loops, satellite transmission and various solutions based on a combination of these are already being used in many parts of the country.

8. Other accessesories :

Uninterrupted Power Supply (UPS) devices are crucial to ensure the longetivity of the IT equipment as well as provide backup mechanisms. The potential of solar power packs to provide a feasible solution to shortage of power in the rural areas needs to be exploited.

CONCLUSION

A common strategy in higher education ministries in developing countries is public and private sector partnership in strategy or pursue rapid ICT projects is based. This partnership has different forms such as grant aid private sector interaction with public assistance, donated educational equipment and components by companies to public schools, providing technical assistance for planning, management and consolidation tools and human resources at the local level. But after financial aid, testing programs based on ICT is critical.

Many of the ICT training programs based on the charitable agencies aid have been unable to have high durability. Because the government has failed in its financial assistance in this situation none of the local communities to provide resources do not needed to continue these programs. Two strategies in here "to support government and local communities to move" are important. Since the 21st century, is century of education support about youth in Asia, to find sustainable ways to bridge the digital age in Asian countries is a real priority. And work through partnership that local leaders and guides are experts it can be lasting forever.

Several recommendations that emerged from the discussions emphasized on the need to think of ICT in education beyond computer aided learning and investigate the potential other technologies like community radio and other medium. These mediums could not only be cost effective but also has a greater outreach potential. It was also pointed out that low cost software solutions for e-learning that have scopes for innovation, should be incorporated in large scale projects. With an indication to open source solutions, the sessions recommended that such solutions should become a part of the overall policy for implementating technology supported education interventions.

Sustainability and scalability of project are also issues that needed serious considerations. While moving beyond the pilot and experimental phase, projects especially those that needs a considerable financial contribution should have a viable sustainability model for up scaling. It was also recommended that implementers needs to be cautious when selecting areas for implementing ICT in education projects.

Projects should also not lose priority of the education objectives. In some cases ensuring school accountability system and teachers attendance may be more important that investing time and resources in ICT integration in schools. One fact that emerged in the sessions was that ICTs effectively computers, initiated in government department and schools were being used as decision support in education. Essentially, clear criteria, norms and standards needs to be developed for the information that was being used for decision-making.

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Aspects of Decentralization in rural activities

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Abstract: Pubic extension services are being forced to change. In the 1990s agricultural extension services were attacked for being inefficient, irrelevant, ineffective, and poorly targeted. The need for reform was obvious and national systems responded with three major strategies— privatization, decentralization, and program revitalization. Although cost reduction has been the force behind many changes, the principal objective of reforms should be an attempt to improve quality of services to clients Decentralizing extension services, when implemented effectively, can transform exten- sion and address a range of generic problems. Decentralized extension brings decisionmaking processes closer to clients and makes programs more responsive to user needs. Service providers become more accountable to clients and better oversight increases efficiency of operations. Decentralization itself can introduce a new dynamism in programs and can promote diversity in service providers and program approaches, thus serving as a first step toward privatization. Agricultural extension is a non-formal type of education that provides advisory services by the use of educational approach in acquiring knowledge and skills to deal with the growing needs of global world. Diverse agricultural extension funding and delivery arrangements have been undertaken since the mid-1980s by governments worldwide in the name of "privatization." When agricultural extension is discussed, privatization is used in the broadest sense – of introducing or increasing private sector participation, which does not necessarily imply a transfer of designated state-owned assets to the private sector. In fact, various cost-recovery, commercialization, and other so-called privatization alternatives have been adopted to improve agricultural extension.

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Introduction:

Un-fortunately in developing as well as low income countries agricultural extension has failed in diffusing new technology to its ultimate users (Government of Malawi, 2000) and further deterioration witnessed with the passage of time (Eicher, 2001). The failure of agricultural extension services for last decades is under constant pressure to be responsive to ever-growing challenges of food production.

Over the past two decades many countries have undertaken to decentralize government functions and transfer authority and responsibilities from central to intermediate and local governments, and often to communities and the private sector. Decentralization is potentially important to agricultural knowledge and information systems, but decentralization is not an end in itself, and successful decentralization strategies must address three challenges—establishing a national framework for decentralization, developing subsector approaches, and enhancing capacities of various participants for coproduction of decentralized goods and services. Agricultural extension services are under increasing pressure to become more effective, more responsive to clients, and less costly to government. Decentralization is an increasingly common aspect of extension reforms. Field extension advisory services are well suited to decentralized approaches, but a comprehensive extension system requires a range of extension support services and programs, some of which (strategy formulation, training, monitoring and evaluation, specialized technical support) are often best carried out at the central level.

The prime challenges in the traditional public extension systems enlisted as outdated, top-down, paternalistic, inflexible, subject to bureaucratic inefficiencies that results less ability to cope with the dynamic demands of modern day agriculture (World Bank, 2002; Obaa et al., 2005). In some countries the change is occurring with its natural pace but in many developing countries these have been accelerated by structural adjustment reforms (Chapman & Tripp, 2003).

Like other developing country Pakistan is also an agrarian country, whose economy is highly dependent on agriculture having 23% share to GDP (Government of Pakistan, 2005). But still the performance of agriculture sector at the farm level remains significantly below the potential and limited due to the weak institutional formwork in disseminating agricultural technology to the farmers (Farooq, 2005). Research scientists evolving new methods and technologies to meet the challenges of new era and the farming community also has a potential and courage to adopt but the third component i.e. agricultural extension, which

serves as a technology transfer vehicle and play a significant role in increasing the productivity, farm incomes and ensure food security has been very much weak since independence (Luqman et al., 2004; Farooq, 2005). The extension services in the country have not been able to achieve their goals effectively, because of a number of bottlenecks. These include weak research-extension linkages, lack of adequate resources for on-farm demonstrations, poor mobility, inadequate research and training in extension methodology and lack of an effective system of continuing education for extension personnel at various levels (Sandhu, 1993). Among major filed crops wheat, rice, cotton and sugarcane accounts for 90.4% of the value added in major crops and 37.1% of the value added in overall agriculture (Government of Pakistan, 2005). The low production of these crops depends upon a number of factors including ineffective and isolated agricultural extension system.

Decentralizing:

Decentralization as transfer of authority and responsibility for government functions from central government to intermediate and local governments, and often to communities and the private sector has become widespread over the 1980s and 1990s. Countries with diverse systems and traditions of government have pursued decentralization initiatives for many reasons, including especially the failure of government to meet expectations under centralized approaches to economic management and service approaches to organizing public administration. Though not yet widely applied to agricultural research and extension, decentralization strategies are potentially important to these agricultural knowledge and information systems. Decentralization is frequently viewed from one of two different perspectives(Johnson, 2000).

1. The democratic view emphasizes the aspect of empowering local people to control and direct their own public programs; and

2. The administrative view emphasizes the efficiency gains resulting from improved administration and effectiveness of public programs due to local control. Decentralization is generally expected to: encourage local financing and ownership of programs, result in more efficient and equitable allocation of government resources, provide incentives for production and service delivery, ensure lower-cost service delivery, build local capacity, and respond more effectively to local needs. (Khan, 2002).

For rural programs, decentralization offers hope for correcting the urban bias that results from the geographic dispersion of rural people, the difficulties for them to organize to promote their interests, and the discrimination against agriculture inherent in many country policy frameworks. Decentralization of agricultural extension and research seeks to increase user participation in technology programs and make programs more accountable to users. (Eicher, 2001).

Enthusiasm for decentralization needs to be tempered with some caution. In small countries, decentralization may be unnecessary and in very large countries decentralization to the state or provincial level may still leave programs distant from user influence. Definitive evidence of the impact of decentralization is limited and not everyone benefits from any reform. Furthermore, decentralization does little to improve intraregional disparities, may bring oppressive elites into power, and can lead to greater inequalities in allocation of government resources.

Thus, decentralization has the potential to increase access to and cost of services, but specific targeting mechanisms and strong central oversight are needed to avoid inequities in service access and quality. (Farooq, 2005).

Pubic extension services are being forced to change. In the 1990s agricultural extension services were attacked for being inefficient, irrelevant, ineffective, and poorly targeted. The need for reform was obvious and national systems responded with three major strategies— privatization, decentralization, and program revitalization. Although cost reduction has been the force behind many changes, the principal objective of reforms should be an attempt to improve quality of services to clients Decentralizing extension services, when implemented effectively, can transform exten- sion and address a range of generic problems.

Decentralized extension brings decisionmaking processes closer to clients and makes programs more responsive to user needs. Service providers become more accountable to clients and better oversight increases efficiency of operations. Decentralization itself can introduce a new dynamism in programs and can promote diversity in service providers and program approaches, thus serving as a first step toward privatization. In addition, reforms to revitalize and privatize programs can accompany decentralization reforms, which generally involve: (World Bank, 2003).

- Administrative decentralization—moving responsibilities for extension to local levels of government;
- Political decentralization—expanding user influence on program priority setting, planning, and management; and
- Fiscal decentralization—giving financial management responsibility to local governments or requiring cofinancing from local governments and producer groups.

Extension services differ from research in two important ways that affect their potential for decentralization. First, extension advisory services (field

extension services) come in direct contact with clients and provide services that have a high private-goods content. These characteristics make field extension services a much better candidate for decentralization than research, which typically has a longer-term payoff. Local producers are more willing to commit resources to pay for effective extension services from which they realize immediate direct benefits. Still, there remains a need for other extension services to address "externalities"— environmental problems, food quality or safety concerns, or social equity issues (that is, special needs of small farmers)—that are in the public interest, but are not a priority for individual producers or decentralized institutions. This requires continued central support for extension. A second difference between research and extension is the scope and scale of programs. (Williamson, 2002).

Research institutions are generally smaller and more concentrated. Extension programs typically operate across the country, provide information on a wide range of technologies from various sources, and draw on traditional knowledge and farmer innovation to improve producer organization, management, production, and marketing functions. The broad demands on extension require strategies that incorporate a variety of approaches to providing services.

Despite the apparent suitability of extension service provision to be decentralized, they are often highly centralized. A World Bank study of 19 countries found that in the early 1990s 13 countries or regions showed almost no evidence of decentralization of extension services. Colombia, Jiangxi (China), the Philippines, and Nusa- Tenggarra-Timor (Indonesia) were relatively highly decentralized, and Poland and Tunisia showed some decentralization. The study found that:

• When extension is decentralized there is a fairly good balance in fiscal, administrative, and political decentralization;
• Political decentralization (the role of elected officials) lags other elements of decentralization;and
• NGO involvement is moderate and farmer participation is significant in extension.
Underlying these conclusions was the fact that institutional development and civil society provide important support to decentralizing extension services. (FAO, 2001).

Government inability to sustain financial support for large extension systems has been a motivation for the many reforms that attempt to reduce public sector funding, introduce private financing, or eliminate government programs that compete with the private sector. Typically, these strategies tend to decentralize extension financing. Although an objective of many decentralization reforms has been to reduce government expenditures, local governments generally have limited resources and limited ability to raise funds. Central governments therefore must usually continue financing for extension services through intergovernmental financial transfers (IGFTs), and must also finance the considerable costs of reform and local capacity development. This increases total financing requirements for extension, at least over the short term. Over the longer term, decentralizing extension services might reduce government financing requirements by: (1) increasing efficiencies through better oversight and greater flexibility in funding decisions and (2) increasing cofinancing by being more responsive, and demonstrating greater benefits, to users. Cofinancing grants (IGFTs) to local governments or farmer groups are an important element of fiscal decentralization, but they present two significant problems: (Chapman & Tripp, 2003).
• Many local organizations lack capacity to plan, manage, and evaluate extension programs and lack the contacts and financial management capacity to procure needed services; and
• Resource-rich farmers are better able to cofinance services and capture program benefits, even if program objectives are to assist weaker elements of rural society. Still, many new initiatives are using subgrants of various types for local subprojects, and future program design can draw on this experience Decentralization programs must address these two problems. Training and orientation, program promotion, and support services are critical to enable target clients and local organizations to take over extension responsibilities under new decentralized systems. Later, as programs are implemented, a strong monitoring and evaluation system is needed to provide management with information necessary to understand who is benefiting from the program and what real impact it is having (Farooq, 2005).

Conclusion:

Decentralize extension services where possible, with emphasis on giving users control over program planning, implementation, and evaluation.

• Provide for adequate centralized support systems for decentralized extension services, especially support for training, subject matter specialists, and production of extension materials.
• Adapt strategies to local institutional environments to accommodate country legal frameworks, political traditions, administrative structures, and social and agroecological conditions. Extension strategies can emphasize decentralization when there is already a strong political decentralization in the country, but should proceed cautiously when decentralization is not

yet well established.

• Determine on a case-by-case basis whether decentralized services should be managed by local governments, community/producer organizations, or local governments bin conjunction with producer/community organizations.

• Provide clear division of responsibilities between the different levels of government and other program participants.

• Develop procedures for policy formulation and priority setting in mixed systems to reconcile central government financing and policy objectives (poverty alleviation, food security, and environmental conservation)b with local peoples' priorities that emerge from the decentralized program governance.

• Provide for needed fiscal transfers from central government to decentralized implementing agencies to finance decentralized extension services, recognizing that over the short term decentralization rarely reduces requirements for central government financing.

• Structure fiscal transfers to give users maximum influence over programs and to promote institutional pluralism in service provision. This empowers users and develops capacities in a range of public and private providers, such that the most competent institutions are able to provide the services.

• Provide for extensive planning, promotion of the rationale and principles behind reforms, and training in new operational procedures before launching decentralization reforms.

• Provide for needed investments in development of local capacity (local governments, executing agencies, community or producer groups), as such implementation capacity is critical to success of decentralization reforms.

• Establish effective systems to monitor and bevaluate decentralized programs, and ensure that the data are available at all appropriate blevels. Central monitoring should be sensitive to equity issues and the possibility of local elites capture of programs, thus excluding services to the poor or women.

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The role Rural women in rural economic

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Abstract: As most men leave the village to work in town, women provide much of the agriculture force in the area. In recent years the situation has been more considerable as rural migration to town is getting more. In most Iranian villages women's population is more than men. According to FAO's reports, in some African regions, for 60% of families, women are responsible for supervising family. Even for cases that men are the direct responsible of production affairs, women's role in family economy can't be denied just because they don't get paid. Although these efforts appear to register in none of official statistics, they easily replace some other activities with significant financial value. Studies by FAO show that more than half of the world's crops are collected by women. According to estimates, 1.3 billion of world's poor are women, thus the slogan "poverty has a feminine face" is spread worldwide. Given that in many parts of the world, the production potential of women is not used properly, a cost-benefit study by the World Bank shows that investing on women in developing countries will be more profitable than any other investment. In addition to financial benefits of this huge force, its ancillary results will also be useful. The ancillary benefits of women's employment include: lower population growth and children mortality rates.
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Keywords:, rural women, rural economic

Introduction:

Having investment (capital) independency enforce people to think about economic from different angles. He should study the ways for using capital, he must consult with authority and experienced people and he will investigate about relevant markets. Such things will help him to be authoritative & independent. But how rural women can get such independency? Are the women created inherently for housekeeping, parenting and working or is there any opportunity for rural women to show their skills in economic & social development?

It seems that experiences which are obtained from performing financial programs in some villages in the developing countries could answer clearly to such questions.

A glimpse to previous planning about rural development in the world shows that from 1950 many developing countries understood that the main reason for making their economic growth (development) slowly in their countries is the weakness of investment in the agriculture part. Although many countries by patterning from developed societies have proceeded to improve & develop their industrial agriculture part and by this action not only had irreparable damages to many traditional farmers but also the main problem (the lack of capital sources) is also remained in the rural regions. (Rahimi, 2001).

From 1970, the waves of thought about micro-credits and run of small activity in villages was one of the suitable way get increased for invest improvement in rural occupations.

The said plan because of special grants such as giving loan with low wage and no interest and with long reimbursement could give farmers this opportunity to don't rely usurers and jobber intermediaries. Indeed giving micro-credits to rural women was more effective. Because along agriculture activities which need more investments, the women with using micro-credits couldn't only show their talent in rural production, but also could improve their economic & social empowerments and they could also participate in social activities. (Chabokru et al, 2005).

Women's self-reliance and independency were the outcome of giving credits to women and in some cases were the obstacle of receiving credits by women which is necessary to explain about them shortly

Rural women are a big part of productive force and in developing countries third to half of them are supervising households; as a result they face numerous problems, such as:

-Lack of access to social and health facilities
-Various daily chores inside and outside the home
-Men's skill and increase of women's responsibility
-Lack of professional to educate women

Around the world and in Iran, the issue related to female employment, especially in rural areas (which is a manifestation of participation), is not unemployment but unpaid employment; because all the unpaid work done by women at home, such as cleaning, washing, nursing, social affairs, agriculture and livestock,… are encountered as non-economical activities; While visible economic sector cannot continue to exist without this invisible sector's goods and services. On the other hand,

rise of industrial system and expansion of factory job all over the world, attracted men to these economic systems and this has given men an objective vision; Whereas, the majority of women, due to working alone at home have got a subjective vision. Now, as women enter labor market and start to participate, they'll become objectified; because the work system will encourage them to think like men. Being more around the house and their local area will help both men and women in terms of subjectivity and objectivity (Arab-Mazar and Jamshidi, 2005).

Therefore, according to preceding discussions and importance of women's participation in future plans, it's of great importance to study and recognize the factors affecting their participation in social activities of rural area (Fakhraee, 2002).

Rural women are among those major groups at society who previously were considered less by planners, due to specific reasons in the past. And this problem is more observable at developing countries. While, by looking at women's history of economic and social life, we can find that this great group, continuously have played basic role in forming economic condition of country. This great group consistent with men have had active role at areas of social-economic activities and always have had major part on economic production of society. Nowadays, supporting family supervisor women is adopted by universal society, as politic, economic a social concern and nearly all countries applied related approaches, and however these efforts have resulted in failure, in so many cases (Banihashem, 1999). paying part of cost of life by government or charities , establishing forums to analyze family supervisor women's problems , supplying necessary facilities to grow and improve child's life quality and paying facilities to provide sustainable employment , are among most important approaches to support family supervisor women . Paying credit facilities to access sustainable employment with easy terms at limited time, is one of the most important approaches to support family supervisor women. Because alongside supplying their continues needs, their esteem wouldn't be marred. Currently, this approach is used at many countries and positive results have emerged. (Ghaffari, 2000).

Criteria of empowering women:

Enabling as a theory of policy making for women, in it present five criteria:

Welfare, access, Concientisation, participation and control.

Welfare criteria :

In this criteria, men and women as human resources of development should enjoy of desirable welfare conditions and equality (Paknazar, 2000).

Most of timing developmental programs, have worked on base of women's welfare. They have considered and provided some services for women who were passive recipient of these services. But these services were limited to physical needs and mostly were considered to revive their role of productivity, again. sometimes , it has been said that this approach has begun at colonial era and has considered women from poor country and intended services for them that dose not exceed from that poverty level . Agricultural and industrial projects were designed for men and social programs for women and children. Most of welfare programs were inadequate or its success was limited. Considerable point in this criteria is that men and women as human resources of development should enjoy equality and desirable welfare conditions. At this stage, women's material welfare and their enjoyment of welfare programs, compared to men (nutrition, death rate and …) were considered. And women's role as producer to supply their own needs isn't very important.

1- access criteria :

Lack of access or limited access for women to sources including (fields, job, capital and training) cause that their functions at production is less than men (Paknazar 2000). Access to facilities, sources, designed program and projects for women and access to schools and … are in this part. Just whenever most of other legal, cultural and social issues being solved, men and women would equally access to sources and facilities. Concept of enabling at this stage is that women have equal right to access to sources at family and greater society.

3- Concientisation criteria

Women should know that their problems aren't due to their individual inefficiency and shortage but it has emerged by social system in which discriminations has become formal and acceptable issue. (Araghzadeh, 2002). This stage is more critical and important than other stages. Because women can participate at development activities not just be passive users. Women have real equality at development, just when be aware. Concientisation will help to increase women's ability to equality at participation at society. At this stage, women face with critical analysis with society and will find that what has been considered natural and unchangeable reality, is changeable. (Bakhshoodeh, 2005).

4- Participation criteria

One the most important items that this criteria has considered , is men and women's equal participation at decision making process of affairs of family at society (Paknazar 2000) . Men and women both should participate at process of assessment needs, designing, performing and evaluation of projects and development programs (UNICEF, 1998). In summary, this criterion means women's participation at all stages of surveying

needs, detecting problems, planning, management, performing and valuation.

5- Control criteria

This criterion emphasize on this point that in addition to equal access of men and women to development sources , they must have adequate control on these sources that this issue is balance criterion , between men and women so that no one exceed other one (Paknazar 2000) . Women should have opportunities for decision making at workplace and home. If woman is producer, should be shared with part of her interest and wage. Women like men, should be able to choose her individual and social field and able to make decision and also development activities should be facilitator of these processes.

FAO (food and agricultural organization) addresses these three purposes as strategic goals while enabling women:

1- equality between men and women to access production sources
2- women's participation at policy and decision making
3- decreasing rural women's workload and increasing job opportunity and income for them (Paknazar 2000)

within theoretical framework of enabling women , having control on sources is presented as highest stage at women's participation process on development , but existing data at most developing countries , indicates that not only rural women haven't any control on financial resources of family but even they were deprived to access to sources and credits , specially through formal credits system (Shaditalab, 2002) .

The question that arises here is that what relation is there between enabling women and micro-credits programs? Nowadays, micro-credits are considered as effective mechanism to eradicate poverty for women. Interests of micro-credits further increasing women's income, include:

- Improving women's role in family
- Increasing women's confidence, not only through obtain financial success through business activity, but through increasing women's access to social services and communication with other women.
- Changing at social level (social class) at perspective of women's role.

Discussion and conclusion:

In most of the villages in Iran there is patriarchy in the families which is not acceptable for the most of the rural people and groups. When rural women became financially independent, it's acceptable to see its cultural & social outcomes.

Giving the right that women make decision, independency to their family, increasing the cultural knowledge among them& making relation with new institutions, having independency in making decision about marriage, occupation, migration & something like this are the right that women have got it.

Women by getting these rights can make change in the rural cultural & social issues which make disfunction & crudity in their family's relation. However, rural women's self-reliance has caused improvement in the economic, social & cultural issues. For solving women's self-reliance problems we can do these activities:

- Giving promotional services for increasing rural women's skills in various fields.
- Giving promotional instructions to men for believing their women's economic role & their women opportunity to participate in all economic, authority & … aspects.
- Increasing rural women's knowledge in all social, political, cultural & economic fields.
- Making use of micro-credits programs to motivate & support women for doing economic affairs better & finally to make women self-reliance.

Nowadays, micro-credit and micro-financing have changed people's lives; it has brought back life to poorest and richest communities of the world. So we can easily observe a great increase in people's access to general financial services. Facilitating the access of families to financial services, they begin to invest on educational expenses, healthcare, healthy nourishment, trading, and housing based on their priorities. Overall in many countries financial plans mostly focus on women. Women, provided with financial facilities, will receive a loan, guarantee to pay it back, keep their saving account and also they'll have insurance coverage. Micro-financial plans have an important message for families and communities. Many studies have proven that women's access to mentioned facilities may improve their conditions in family and society; it also helps them feel more self-confident and makes them aware of their own abilities. Thus providing micro-credit services for the poor in society is a powerful tool to reduce poverty and so that they are able to create assets, earn more money and become less vulnerable against the economic pressure. Of about 1.3 billion poor in the world there are 900 million poor women, this obviously shows that poverty has a feminine face. According to UN's development fund, 10% of world's income and less than 10% of world's assets belongs to women. While a majority of them never posses the capital needed for their activities, women still play an important role in the economic development of country. Therefore women draw the micro-credit policy maker's attention more than others. Choosing women as the main target of micro-credit plans is an effective strategy to eradicate poverty; because their income will upgrade the family welfare; furthermore earning money

improves their social status. In some countries this choice is influenced by society's attitude and culture (Araghzadeh, 2002).

For instance founder of Grumman Bank of Bangladesh, Mohammad Yunes, has stated that: "women have plans for themselves, their children, and their family life; they always have an overlook while men just look for fun" to explain why 94% of their clients are women.

Women's access to micro-credits have shown that their income benefit to improve their family and provide livelihood. In addition to all these another reason of women being the target of micro-credit plans is that women have higher loan recovery rates. Totally, expanding women's access to micro-credits may lead to many useful results which in economy is mentioned as "virtuous spiral"; because their access to micro-credits results in family welfare and in a broader point it'll improve community's welfare and shall be increased welfare this process is repeated.

In researches that conducted by Nanda (2004) became clear that women participation in credits programs had positive effects on their demand about health care. Fiona Steele and et al (2008) in researches that conducted as called " influences of credits programs on empowering women at Bangladesh , found that women who joined to credits programs , have participated in more educational programs and have married with more educated men and also they have saved more and they had more cash .

Shahnaj and Chaudhury(2009) in research as "credits and its role on empowering women " concluded that there is meaningful relation between attending in credits programs and empowering women , at economical dimensions .

Maybe the main challenges that threaten credits associations , is lack of necessary emphasizes on social dimensions and on reinforcing their basics , that practically cause that this social foundations lose its efficiency soon and practically changed to unsuccessful institution .

Fiona Steele and et al (2008) in researches that conducted as called " influences of credits programs on empowering women at Bangladesh , found that women who joined to credits programs , have participated in more educational programs and have married with more educated men and also they have saved more and they had more cash .

Ellen and her Colleagues (2009) used approach called it "credits and education at Bolivia, Ghana, Honduras, Mali and Thailand". This approach looks for empowering women through financial services with education. In this approach, women get familiar with importance of credits through education and extension and also familiar with ways to access it through establishing different groups.

Ruhal Amin and others (2010) found that those who joined credit funds had more ability rather than those who didn't.

Jameela (2010) presented that credit programs has shown lot of affects on empowering women so that has increased their social, politic and economic ability.

Thus it is obvious that credits programs and its educational and empowering programs can be affective on social, humane and economic development or rural society, if it be associated with proper and gradual practices and base on reciprocal communications principles and apply opinion of local society.

A study conducted by Chabokru et al (1384) shows the crucial importance of micro-credits for farmers who do not possess physical financial assets (land, building, livestock, well…) and work in agricultural sector because of environmental conditions (such as living in a village) or because it's their ancestral occupation.

So today, women's participation in sustainable economic, social, and cultural development in rural areas is not optional but an essential matter. Those communities that have not seriously considered the necessity of participation faced failures and delayed community's development, welfare and security process. In any community, village, or social group, broad participation of every women in decision-making and any other matter related to national or local development programs, is a key variable in social sciences and in the last few decades, it has interested many scholars of socio-economic and especially cultural issues, and is considered as one of the most fundamental democratic rights of women in a society. As we know in a popular participation, all people are given the opportunity to participate in planning and decision making for their society and for their own future. When in practice women feel that they can be involved in planning, policy making and deciding or solving problems in the society certainly they'll feel more solidarity and become more interested in social, economic, and cultural development programs.

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Densification and Fuel Characteristics of Briquettes produced from Corncob

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Abstract: Corncob residues are usually dumped and flared on the farms, where they constitute health risk to both human and ecology. Densification of corncobs would improve their bulk handling, transportation and storage properties. This work investigated densification characteristics of corncobs using an experimental briquetting machine. Raw corncobs were milled into particles by a hammer mill. The blends of ground corncob and cassava starch gel were compacted in a 4-compartment briquetting machine, which operates on hydraulic principle with a dwell time of 120 seconds. The ASAE standard methods were used to determine the moisture contents (dry basis) and densities of the milled residues and briquettes, while ASTM standard methods were used to determine the proximate and ultimate analyses of the residues. The compaction, density and relaxation ratios of the briquettes were also determined. The mechanical properties were determined using instron universal testing machine, while the heating value was determined with the aid of Gallen Kamp Ballistic Bomb calorimeter. The mean moisture content of the corncob was 9.64 %, while the relaxed briquette was 7.46 %. The corresponding value of bulk density of the residue material was 95.33 kg/m^3. The initial, maximum and relaxed densities of produced briquette were 193; 757 and 389 kg/m^3 respectively, while the density, compaction and relaxation ratios of the briquette were 0.77, 4.38 and 1.71 respectively. The compressive strength of briquette was 2.34kN/m^2, while the higher heating value of briquettes was found to be 20,890kJ/kg. The study concluded that the densification and fuel parameters were good enough and that briquettes produced from corncob would make good biomass energy.
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Keywords: - corncob, briquette, agricultural wastes, processing parameters, briquetting machine

1. Introduction

The importance of energy in nation development cannot be overemphasized as this can contribute immensely to economic and social life of such nation. The vision of our country, Nigeria to be among the 20 largest economies in the world by the year 2020 may after all be a mirage, if the issue of energy is not properly addressed. At present, there is a problem of energy shortage world-wide; Nigeria inclusive.

One of the principal sources of energy is fossil fuels. According to El-Saeidy 2004 and Kaliyan and Morey, 2009, 86 % of energy being consumed all over the world is from fossil fuels. It must be admitted that, the use of fossil fuels is very convenient. However, many problems are associated with their application. One of such problems is the issue of global warming, the seriousness of which was underscored by the United Nation sponsored conference on climate change held at Copenhagen in Sweden in early December, 2009, where notable world leaders rubbed minds on how best to reduce global warming (Oladeji, 2011). Therefore, there is the need to gradually shift attention from fossil fuels and in this regards agricultural residues can play a significant role in alternative energy generation on a renewable basis.

One of the processes through which these residues could be converted to biomass energy is briquetting. Olorunnisola 2007, Wilaipon 2008 described briquetting as a process of compaction of residues into a product of higher density than the original material, while Kaliyan and Morey 2009 defined briquetting as a densification process. According to Tabil 1997, briquetting process can be classified under two broad groups, which are briquettes without binder and briquettes with binding agent. In terms of technique of briquetting, there are low-pressure and high-pressure briquetting processes (Joseph and Histop, 1999).

Efforts of previous researchers were reviewed from three perspectives. These are: development of briquetting, residues investigated and investigation of factors affecting briquetting process. For examples, Adekoya 1989 developed briquetting machine, which was based on hydraulic principle to produce briquettes from sawdust, while Olorunnisola 2007 developed briquetting machine in form of extruder to produce pellets from admixture coconut husk and waste paper. Some of the residues investigated were banana peel (Wilaipon, 2008), palm waste (Ilechie, et al., 2001), rattan furniture (Olorunnisola, 2004), cotton stalk, (El-Saeidy, 2004), wood wastes

(Kaliyan and Morey, 2009) and so on. Some of the factors investigated by researchers were pre-heating of biomass feedstock (Joseph and Histop, 1999), effects of moisture content (Grover and Mishra, 1996), pressure/density relationship (Wilaipon, 2008) and effects of particle size (Gilbert et al., 2009). They are concluded that all those aforementioned factors have one effect or the other not only on briquetting process, but as well as on the quality of briquettes produced.

The overall aim of this work was to investigate densification characteristics and fuel properties of briquettes produced from the blend of ground corncob and cassava starch gel.

2. Materials and Methods

The agro-residue selected for briquetting was corncob from maize (***Zea mays***). This is because; Nigeria is second producer of maize in Africa, after South Africa, U.S.A. being the largest producer of maize worldwide (Adesanya and Raheem, 2009). Raw corncob was procured from corn processing mill at Odo-Oba, a suburb of Ogbomoso. The raw corncobs were sun-dried until stable moisture content was obtained and were later subjected to size reduction through the hammer mill. Sieve analysis was carried out, where a particle size of 2.40mm representing medium series was selected. To facilitate conversion of ground corncob into briquettes, a prototype briquetting machine was fabricated (Figure 1).

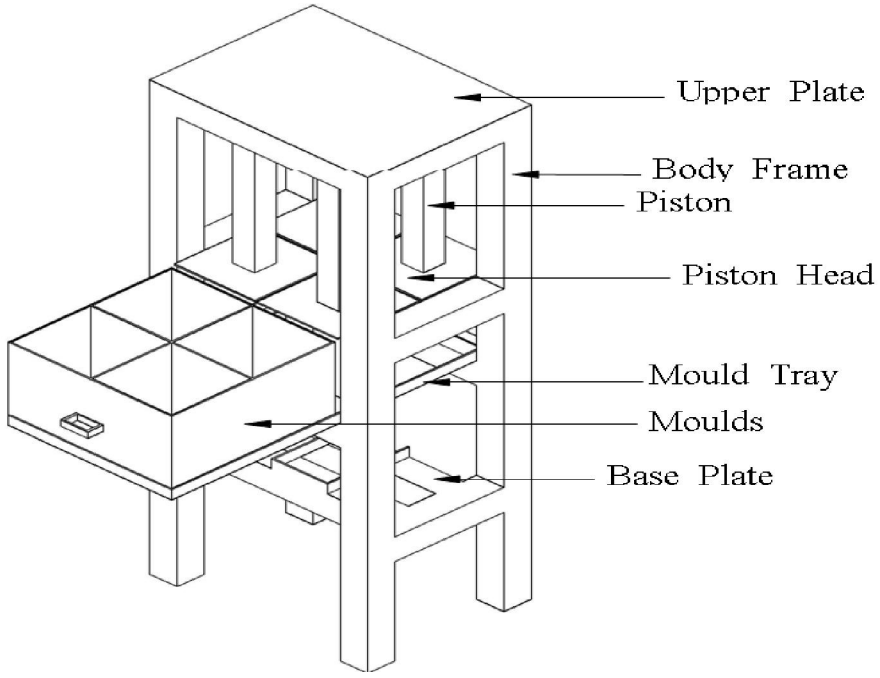

Figure 1: Isometric View of the Experimental Briquetting Machine

A low-pressure technique was employed; hence a binding agent in form of cassava starch gel was used and the procedure highlighted by Musa 2007 was followed. For the production and formation of briquettes proper, the biomass feedstock was mixed with cassava starch gel and compaction was carried out in the fabricated machine.

The briquettes produced (Plate 1) were late ejected after the dwell [holding] time of 120 seconds was observed. This was followed by immediate measurement of briquette's dimensions and densities. The ejected briquettes were later sun-dried and their densification characteristics were determined.

Plate 1: Sample of Produced Corncob Briquettes

2.1 Determination of densification characteristics of the briquettes

The density of briquette from both species was determined immediately after ejection from the mould and this was calculated from the ratio of the mass to the volume of briquette.

The relaxed density of the briquettes was determined in the dry condition. Relaxed density can be defined as the density of the briquette obtained after the briquette has remained stable. It is also known as spring-back density. It was calculated simply as the ratio of the briquette's mass to the new volume.

Equilibrium moisture content of the briquettes produced was determined in accordance with ASAES 269-4 (2003), while the percentage carbon, hydrogen, oxygen, nitrogen and sulphur were determined in accordance with ASTM standard D5373-02 (2003).

Proximate analysis of the briquette samples was carried out to determine the percentage volatile matter content, percentage ash content and percentage content of fixed carbon. The procedure of ASTM standard D5373-02 (2003) was adopted.

The flame propagation rates of the briquette samples were determined as highlighted by Musa 2007. To do this one piece of the oven-dried briquette was graduated in centimetre and ignited over a bunsen burner in laboratory environment until the fire extinguished itself. The flame propagation rate was estimated by dividing the distance burnt by the time taken in seconds.

The afterglow time was also evaluated and determined. This became necessary in order to estimate how long the individual briquette would burn before restocking when they are used in cooking and heating. The procedure of Musa 2007 was also used. One piece of oven-dried briquette was ignited over a bunsen burner and after a consistent flame was established, the flame was blown out. The time in seconds within which a glow was perceptible was recorded.

Furthermore, the heating value of the two biomass briquettes was also examined and the procedure in accordance with ASTM E 711-87 (2004) was followed. The apparatus used was Parr isoperibol bomb calorimeter.

The compressive strength of the briquettes was investigated by using a universal testing machine. Compressive strength was determined in accordance with ASTM 1037-93 (1995).

Density ratio was calculated as the ratio of relaxed density to maximum density i.e. Density ratio $= \frac{\text{Relaxed Density}}{\text{Maximum Density}}$ (1)

In this formula, maximum density is the compressed density of briquette immediately, after ejection from briquetting machine.

Relaxation ratio was calculated as the ratio of maximum density to relaxed density, i.e. Relaxation Ratio $= \frac{\text{Maximum Density}}{\text{Relaxed Density}}$ (2)

The compaction ratio which is defined as the density of the in-die briquette divided by the initial density of the residue was determined and calculated, i.e.

Compaction ratio $= \frac{\text{Maximum Density}}{\text{Initial Density(before compression)}}$ (3)

3. Results

The results of the determination of physical and combustion characteristics of corncob briquettes are shown in Tables 1 and 2, while the results of burning characteristics of the briquettes are presented in Table 3. From the result of ultimate analysis, the moisture

content of corncob residue was 9.64 %, while the moisture content of the briquettes was found to be 7.46 %. These results are within the limits of 15 % recommended by Wilaipon 2009, and Kaliyan and Morey 2009, for briquetting of agro-residues. Other results of ultimate analysis for corncob residue gave 20.08 %, 15.56 %, 61.76 %, 0.38 % and 0.82 % for contents of carbon, hydrogen, oxygen, nitrogen, and sulphur respectively. The amount of carbon and hydrogen contents is very satisfactory, as they contribute immensely to the combustibility of any substance in which they are found (Musa, 2007). The low sulphur and nitrogen contents in the specimen is a welcomed development as there will be minimal release of sulphur and nitrogen oxides into the atmosphere and that is an indication that the burning of briquettes from corncob will not pollute the environment (Enweremadu, et al., 2004).

Table 1. Physical and fuel characteristics of corncob briquettes

Parameter	Unit	Value
Moisture content of corncob	%	9.64
Length of the briquette	m	0.270
Breadth of the briquette	m	0.088
Thickness of the briquette	m	0.008
Weight of the briquette	kg	0.05
Carbon content	%	20.08
Hydrogen content	%	15.56
Oxygen content	%	61.76
Sulphur content	%	0.82
Ash content	%	1.40
Nitrogen content	%	0.38
Volatile matter	%	83.06
Fixed carbon	%	2.57

Table 2. Combustion characteristics of corncob briquettes

Parameter	Unit	Value
Moisture content of the briquettes	%	7.46
Compressive strength	kN/m^2	2.34
The heating value	kJ/kg	20,890
Initial density	kg/m^3	193
Maximum density	kg/m^3	757
Relaxed density	kg/m^3	389
Density ratio	-	0.77
Compaction ratio	-	4.38
Relaxation ratio	-	1.71

Table 2. Burning characteristics of corncob briquettes

Parameter	Unit	Value
After glow time	sec.	369
Flame propagation rate	cm/s	0.12

For the proximate analysis, the % content of fixed carbon, ash content and volatile matter for corncob residue were 2.57 %, 1.40 %, and 83.06 % respectively. The values of volatile matter and ash content are good and acceptable. This is because higher percentage of the briquettes from the corncob would be made available for combustion.

The higher heating value calculated for corncob briquette was 20,765kJ/kg. This energy value is sufficient enough to produce heat required for household cooking and small scale industrial cottage applications. It also compares well with most biomass energy. For examples, groundnut shell briquette-12,600 kJ/kg, (Musa, (2007), cowpea-14,372.93 kJ/kg and soy-beans-12,953 kJ/kg, (Enweremadu, et al., 2004)

The values of 757 kg/m^3, 389 kg/m^3 and 1.71 were obtained for maximum density, relaxed density and relaxation ratio for produced briquettes respectively. The density obtained in this work compares well with densities of notable biomass fuels such as coconut husk briquette-630 kg/m^3, banana peel-600 kg/m^3, groundnut shell briquette-524 kg/m^3 and melon shell briquette-561 kg/m^3 (Olorunnisola, 2007; Wilaipon, 2008; Oladeji et al., 2009). The relaxation ratio obtained is also good enough and it is close to the values obtained by Olorunnisola 2007, where a relaxation ratio of between 1.80 and 2.25 was achieved for briquetting of coconut husk and Oladeji et al. 2009, where values of 1.97 and 1.45 were obtained for groundnut and melon shell briquettes respectively.

The compressive strength for the feedstock was found to be reasonable. The implication of this is that, briquettes will suffer less damage during transportation and storage.

The afterglow times of 369 sec. was recorded for produced briquettes, while the propagation rates of 0.12 cm/s was calculated. The longer afterglow time and slow propagation rate imply that briquettes will ignite more easily and burn with intensity for a long time.

4. Conclusions

The present work examined the densification characteristics and fuel properties of corncob briquettes. Thereafter, physical and combustion characteristics of briquettes produced from the corncob were evaluated. Based on the various results obtained and the findings of this study, the following conclusions can be drawn.

1. The briquettes produced from the raw corncobs would make good biomass fuels.
2. Corncob briquettes will not crumble during transportation and storage because the value obtained for their relaxed density is sufficient enough.
3. There would be minimum environmental pollution and emission of greenhouse gases from the corncob briquettes. This is not unconnected with low values of sulphur and nitrogen contents which are 0.82 % and 0.38 % for sulphur and nitrogen.
4. The relaxed density of the relaxed briquettes which is 389 kg/m^3 is higher than the initial density of the residue materials which are 193 kg/m^3 and 185 kg/m^3 for white and yellow corncob respectively. This translated into a volume reduction, which provides technological benefits and a desirable situation for material storage, packaging and transportation.
5. The average energy value of 20,890kJ/kg (SD, 25) obtained is sufficient enough to produce heat required for household cooking and small scale industrial cottage applications.
6. In a similar manner, the average value of compressive strength of 2.34kN/m^2 (SD 0.06) obtained for corncob briquette is sufficient and found to be reasonable. The implication of this is that, briquettes from corncob residues will suffer less damage during packaging, transportation and storage.

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6/13/2011

Self- Concept and Academic Achievement of Physically Challenged and Normal Students at Secondary level in District Baramullah (J&K).

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ABSTRACT: The study was undertaken to study the self-concept and academic achievement of normal and physically challenged secondary school students of district Baramulla (J&K). The sample for the study was 300 including150 normal secondary students selected randomly and 150 physically challenged by using Purposive sampling technique. Sager and Sharma's self-concept inventory was employed for the collection of data and t-test was employed for the analysis of the data. The result of the study highlight that the normal secondary school students have high academic achievement and real self as compared to physically challenged secondary school students. On the other hand, challenged were found to have high ideal self as compared to normal students.
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Key Words: self – concept, academic achievement, physically challenged students, normal students.

1. Introduction

As we look towards the world, we find different people performing different tasks. We find some people happy and some sullen, some are satisfied with life and work and some are disappointed with life and work, some are moving towards progress and some are still idle. All these activities are dependent on their self- concept. Whatever human beings do, they do it, according to their self-concept. But the question arises, how does this self-concept develops. Cooley C.H. and Mead G.H has stated that the self develops out of child`s communicative contact with others. AllPort (1961) has described the self-concept as, "the self is something of which we are immediately aware, we think of it as the warm, central private region of our life, as such it plays a crucial part in our consciousness (a concept broader than self) in our personality (a concept broader than consciousness) and in our organism (a concept broader than personality) thus it is some kind of core in our being."

Thus self-concept refers to individual`s perception or view of himself. It includes the persons abstractions and evaluations about his physical abilities, appearance, self-respect and self adequacy. It deals with self- perceptions of the person. A person`s self-perceptions will in turn affect his social interaction, level of aspiration, psychological health, school achievement and indirectly his popularity and approval by other people in his environment.

Academic achievement of students refers to the knowledge attained and skills developed in the school subjects. So, academic achievement means the achievement of students in the academic subjects in relation to their knowledge attaining ability or degree of competence in school tasks usually measured by standardized tests and expressed in grades or units based on pupil`s performance. Sinha (1970) explains it as "students whose academic performance is superior in character in the form of high percentage of marks are taken as successful candidates. On the other hand, students who fails in the previous examination and obtained low divisions in their examination are considered as individuals who are failed in their attainments".

Self-concept determines the level of aspiration of a student, whether a student has high, low or realistic level of aspiration is mostly determined by his self-concept. The self acceptant person does not think of himself as a paragon of perfection. Instead, he is able to recognize his good features as well as his faults. One characteristic of a person who is well adjusted is that he usually recognizes and emphasizes his good features rather than his faults. The more the person accepts himself, the better is his self and social adjustment. The person who makes good personal adjustment will be happy and successful. One who makes good social adjustment will be popular, enjoy social contacts and have a full and rich life.

As we know that India has long back set an objective of universalization of elementary education. To keep this objective in view, the physically challenged students (which constitutes 10 percent of total population) cannot be ignored. They too are an important and essential component to make this

objective a fact. The most important role in their academic achievement is played by a teacher. A teacher after knowing the self-concept and academic achievement of physically challenged students, can change his teaching methodologies and attitude towards this group, so that we will get good academic results. This will intern help us to Universalize education in our country.

The primary objectives of this study is to know wheather physically challenged students differ from normal seconday school students on self – concept (real self and ideal self) and academic achievement.

1.2: An overview of review

Verma Arti (2008) found that there is significant difference between both the groups in the self-concept and study habits. The normal students have good study habits and the means difference between both the groups in the self-concept favors' normal students. Hussain Akbar (2007) revealed that the level of self-concept among the physically challenged adolescents was found lower than their normal counterparts, similarly the level of self-concept among girls was also found significantly lower than the boys in general. Kumar (2005) revealed that the academic achievement is affected by self-concept and level of aspiration, both the categories viz handicapped and normal students showed marked difference in self-concept and level of aspiration. Gagandeep, S.J. and Verma B.K. (2004) revealed that there is no significant difference on real self, ideal self and reflected self of visually impaired and crippled female adolescents. Sangdeep R.K and Sharma S. (2004) revealed that both the boys and girls secondary school students have no significant difference on all the three variables viz self-concept, level of aspiration and academic achievement. Gharkar, S.C. (2003) revealed that significant difference was found among secondary school students on self-concept. Mathur A.A (1983) found no difference in academic achievement, but self-concept differs among crippled and normal children.

1.3 Hypotheses

1. Physically challenged and normal secondary school students differ significantly on real self dimension of self concept inventory.
2. Physically challenged and normal secondary school students differ significantly on ideal self dimension of self concept inventory.
3. Physically challenged and normal secondary school students differ significantly on academic achievement.

2. Materials and Method

This study was designed to compare physically challenged and normal secondary school students on self-concept and academic achievement. As such, descriptive method of research was employed.

2.1 Sample

The sample for this study was collected from 90 secondary schools of district Baramullah, J&K . The sample consisted of 300 students of which 150 physically challenged and 150 normal secondary school students were selected from district Baramullah. Physically challenged students were identified on the basis of information obtained from the offices of various secondary school institutions using purposive sampling technique, while normal students were selected randomly by using random sampling technique.

2.2 Tools used

1. For the measurement of self-concept of physically challenged and normal secondary school students, Sagar and Sharma`s self concept inventory was administered.
2. To measure the academic achievement, aggregate marks obtained by the subjects in 8^{th} and 9^{th} classes were taken as their academic achievement.

2.3 Statistical treatment

The data collected was subjected to the following statistical treatment

1. Mean
2. S.D
3. t-test

3. Analysis and interpretation of data

In order to achieve the objectives formulated for the study, the data was statically analyzed by employing t-test.

Table 1.0: Showing mean comparison of normal and physically challenged secondary school students on real self dimension of self-concept inventory (N=150 in each group).

Group	N	Mean	S.D	t-value	Level of significance
Normal	150	255.69	28.45	21.75	Significant at 0.01 level
Physically Challenged	150	168.47	20.70		

The persual of above table shows that the two groups differ significantly on real dimension of self-concept inventory. The calculated t-valve (21.75) exceeds the tabulated t-value (2.59) at 0.01 level of significance, which depicts that there is a significant difference between physically challenged and normal secondary school students on real admission of self-concept inventory. Thus from the confirmation of the results from the above table, the hypothesis which reads as, "physically challenged and normal secondary school students differ significantly on real self dimension of self concept inventory", stands accepted.

Table 1.1: Showing mean comparison of normal and physically challenged secondary school students on ideal self dimension of self concept inventory (N=150 in each group).

Group	N	Mean	S.D	t-value	Level of significance
Normal	150	161.14	14.12	14.07	Significant at 0.01 level
Physically Challenged	150	198.17	18.16		

The persual of above table shows that the two groups differ significantly on ideal self dimension of self-concept inventory. The calculated t-value (14.07) exceeds the tabulated t-value (2. 59) at 0.01 level of significance, which depicts that there is a significant difference between physically challenged and normal secondary school students on ideal self dimension of self concept inventory. Thus from the confirmation of the results from the above table, the hypothesis which reads as, "physically challenged and normal secondary school students differ significantly on ideal self dimension of self-concept inventory", stands accepted.

Table 1.2: Showing mean comparison of normal and physically challenged secondary school students on academic achievement (N=150 in each group).

Group	N	Mean	S.D	t-value	Level of significance
Normal	150	64.06	14.16	8.86	Significant at 0.01 level
Physically Challenged	150	44.82	12.50		

The perusal of above table shows that the two groups differ significantly on academic achievement. The calculated t-value (8.86) exceeds the tabulated t-value (2.59) at 0.01 level of significance, which depicts that there is significant difference between physically challenged and normal secondary school students on academic achievement. Thus from the confirmation of the results from the above table, the hypothesis which reads as, "Physically challenged and normal secondary school students differ significantly on academic achievement", stands accepted.

4. Conclusion

In this study, it was found that the normal group of secondary school students have high real self concept as compared to physically challenged students. It indicates that the two groups have not same attitudes, knowledge and evaluation of their achievement. The physically challenged secondary school students have low academic achievement as compared to normal students. Special schools, special instructional methods, instructional material and supportive services should meet the needs of physically challenged students so that we get good academic achievements. Vocational education should from an integral part of their curriculum, so that they may earn their livelihood.

5. Suggestions

1. The further study may be replicated on large sample.
2. A comparative study may be conducted on mental health, self concept and personality characteristics of physically challenged and normal secondary school students.
3. This study may be undertaken to highlight the different dimensions of self-concept, attitudinal self and reflective self of physically challenged and normal secondary school students.

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6/16/2011

评陈蜀乔引力及量子真空图像
----21 世纪新弦学概论（6）

朱科秋

摘要：陈蜀乔说他的理论和超弦/M 理论都在朝统一四种力场的目标努力，但理论都未完善，且不可避免地要把这两种理论进行比对。其实，这两种理论只是分工不同：超弦/M 理论是在往前冲，陈蜀乔的理论是在作超弦/M 理论的回采。

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关键词：模具量子力学 形变 三旋

一、前沿弦膜圈说手册大全丛书的意义

量子中国的目标是，我们需要有自己的源头，即使科学没有国界，知识属于全人类。因为具体到实践，是分成东学西渐和西学东渐两个方面的。没有基础和前沿领域的原始创新，科技创新就没有根基。原始创新是民族发展的不竭动力，是支持国家崛起的筋骨。但原始创新不仅仅是引进、消化、吸收，也不等同于集成创新。科技发展决定着未来，国家要真正强大，必须要有强大的科技，有众多高水平人才，这是国家发展的力量所在、后劲所在。科技不仅是知识和技能，更是一种文化、一种精神。科学对每个人来说都是平等的、开放的。解放思想、实事求是、勇于探索、追求真理，这是科学技术与生俱来的禀性。这使得科学需要理性，任何人身攻击是不被接受的，当然也需要独立自由地调查、质疑、思考以及去猜想未曾被想到过的事物，勇于挑战。但一位多年从事科技外交的科技管理者也告诉人们：″科学是贵族的游戏。″他说的实情是：若从事科学创新活动，前提是不能有衣食住行之忧。我国创新状态并不尽如人意，从事科学活动的个体、机构乃至大部队，大多处于谋生阶段，圆梦之旅刚刚起程。

这位管理者也许只说对了一半：要钱。专业科学家要吃饭，要养家糊口，就要有人发工资，有人买单；出外视察有人接待。他们说得很贴切的一句话：″有一分钱，做一分钱的买卖″。即仅是个人的学术愿望，没有人买单，成败自相知。但量子中国也还隐藏有另一个事实，不给钱，也有人玩″科学的游戏″。因为新中国解放后带来的变化，使许多穷人家孩子也能读中学，上大学。即使命运和能力不如专业科学家，也是国家的主人。只要有国家统编的中学、大学数理化教材知识，业余爱好者也能继学思考自然科学基础和前沿领域的原始创新问题。

有人把东学西渐的科学说成是″整体论″的，把西学东渐的科学说成是″还原论″的，从而挑起斗争。多年讲授东西方哲学的刘月生教授反对这一说法，他说西方科学也有整体论。这两种整体论的区别是，东方的整体论是″生成论″的，西方的整体论是″构成论″的。但接下来他不知道如何更好地定位生成论和构成论。其实这里的生成论，类似自然全息实验的方法，可以用类圈模具来标示。构成论类似实验室里实验的方法，可以用类点模具来标示。

理论物理学本质是实验科学。西方科学家从 1864 年麦克斯韦统一电和磁，提出电磁波的假设开始，到今天以 QCD 实验为基础提出弦膜圈的假设，从客观、务实说，是一种国际的走向。而量子中国上世纪五六十年代，由于日本物理学家坂田昌一的″基本粒子观对话″，引导了对西方哥本哈根学派″点模型″的大批判。借助这股潮流我们也印发了《基本粒子结构不是类点体而是类圈体》的论文。说实话，这不是来源实验室里实验的方法，而是得来于自然全息实验的方法。如果把国内无论专业还是业余都无法拥有的大型强子对撞机类似的实验室里实验的方法，降格为低能的宏观手操作的实验室里实验的方法，类圈体的自旋可″构成论″为三旋和″62 种自旋态+各种平动″，以及若干种费曼图类型。这种操作把自旋分为三种：

面旋--类圈体绕垂直于圈面的中心轴线旋转；
体旋--类圈体绕圈面内的任一轴线旋转；
线旋--类圈体绕体内环圈中心线的旋转。

这就是量子中国 QCD 自己源头的创新。对于这个不同于西方的自己源头本土的弦膜圈的假设，吴新忠博士说：″三旋在宏观世界是普遍存在的，不会引起大问题″；但量子三旋还没有按照真正量子化的主流派的成熟科学的框架术语，表达构造分析力学形式的转动算符、拉格朗日量、哈密顿量与波函数纯态等数学思想。但如果把这说成是不能进高能实验室里实验的玩″科学的游戏″，那么电子工业出版社 2010 年 7 月出版的陈蜀乔先生约 56 万字的《引力场及量子场的真空动力学图像》一书，是一部承前启后有数学深度接轨东西方弦膜圈假设的著作。现在选为《科学前沿弦膜圈说手册大全》丛书参考书之一，以解大家的心结。因此该书的出现使

我们感到非常高兴，也从心底欢呼这颗北京相对论研究联谊会升起的新星。

我们不认识陈蜀乔先生，买到他的这本书也属偶然。能搜索到的一条信息是：陈蜀乔，1964 年生，现为云南工业大学交通学院工程师，1986 年毕业于云南工业大学。2002 年由云南科技出版社出版有他著述的《超大统一场流形理论》一书，该书包括时空流形、一维量子波流形、三维量子波流形、轻子、光子、弱力场、强子结构等章节内容。从这些可看出他的初次工作学历并不是名牌大学，当时他也仅 38 岁，但著书的内容已属科学前沿，说明他的学习是很刻苦的。而说他是北京相对论研究联谊会的成员，依据的是 2003 年 8 月 18 日，网上秋浦先生记北京相对论研究联谊会首届年会的报道。

北京相对论研究联谊会首届年会于 2003 年 8 月 16 日在中国科学院研究生院第三公寓二楼餐厅隆重举行，有来自加拿大和中国 24 个省、市、自治区近 70 名代表集聚，题为《探索----北京相对论研究联谊会首届年会论文集（甲种本）》以在美国注册的《格物》杂志总第三期形式同时发行。这本文集发表了 90 位作者的 132 篇论文。会议由北京相对论研究联谊会秘书长、首都师范大学物理学教授、卢鹤绂格物研究所研究员王德云先生主持。北京相对论研究联谊会会长、中国科学院高能物理研究所原《现代物理知识》杂志主编、卢鹤绂格物研究所研究员、卢鹤绂格物研究所北京工作部主任吴水清先生做成立一年的工作报告。云南大学张一方教授的《电磁场的等价原理和电磁广义相对论》、新疆师范大学物理系韩锋教授的《中微子非零静质量和超光速粒子存在的可能性》等报告受到了广泛赞扬。从公布的这次《年会论文目次》中，可查到:：″92、超大统一场论图谱，陈蜀乔（23）″的字样，说明陈蜀乔先生已投身于北京相对论研究联谊会的活动。他的情况，与他同在云南工作的著名联谊会科学家张一方教授是很了解的。

第一批选入《科学前沿弦膜圈说手册大全》丛书参考书目的是六本：

[1]王德奎，三旋理论初探，四川科学技术出版社，2002 年 5 月；

[2]孔少峰、王德奎，求衡论---庞加莱猜想应用，四川科学技术出版社，2007 年 9 月；

[3]陈蜀乔，引力场及量子场的真空动力学图像，电子工业出版社，2010 年 7 月；

[4]薛晓舟，量子真空物理导引，科学出版社，2005 年 8 月；

[5]庞小峰，非线性量子力学，电子工业出版社，2009 年 7 月；

[6] [英]罗杰彭罗斯，通往实在之路，湖南科学技术出版社，王文浩译，2008 年 6 月。

以上前两部是从三旋坐标与三角坐标图像的分割出发，后四部是给予数学补充和内容完善。分割出三旋坐标之所以成为一个学术孤岛，是因为它并没有一个和三角坐标唯一接轨的正确答案。例如对类圈体量子自旋的图像进行询问，连专家知道的人也极少。因此人们希望能开发出一种与理解三角坐标方式类似的接轨图像的弦膜圈说量子力学大全。为达到这一目的，我们建议编辑《科学前沿弦膜圈说手册大全》丛书，其中的图像模具和数学从三旋坐标与三角坐标两个方面进行分割，以实现创新与守旧的平衡。首先以三旋坐标为标准进行分割，按照与三旋坐标的不同来确定科学前沿的边界。另外，以三角坐标已经通过的程式化量子力学数学方程的标准件原则，对弦膜圈说量子力学进行数学接轨。

科学殿堂外的人要编辑《科学前沿弦膜圈说手册大全》谈何容易。但这是自三旋理论诞生已经坚持了 50 多年的信念。如中科院理论物理所著名超弦理论家朱传界教授，在《写在″2006 年国际弦理论会议″前夜》的文章所说：″弦理论在中国，在超弦的第一、第二次革命，以及随后的快速发展中，中国都未能在国际上起到应有的作用。我们在研究的整体水平上，与国际、与周边国家如印度、日本、韩国，甚至和我国台湾地区相比都有一定的差距″。当然新中国成立六十多年，特别是改革开放三十多年来，也取得了一批具有世界先进水平的科研成果。但这种明显差距已影响到我国的网络论坛社区，因为当我们打开较能自我学术展示的各种各式科学前沿的创新与应用的论坛社区时，马上就能看到各种各式分散的在相对论和量子理论领域中被视为挑战的各自为阵的创新与应用，因此很难跟踪实现对他们的连续进展的识别与对话。大多数人把它看成是一种喜人的现象，所以在一些报刊杂志上发表或宣传也无难度，但对国际科学前沿主流的承认来说，却是个难以解决的核心问题。

那为什么不出版一本中文版的《科学前沿弦膜圈说手册大全》呢？例如湖南科技出版社 2008 年出版的英国著名科学彭罗斯的《通往实在之路》一书，就类似一本西方的″弦膜圈说手册大全″。彭罗斯把自然科学的与时俱进或分类学，从古到今整理出 32 个知识阶梯----这是人类发展的科学长杆标尺。也许彭罗斯整理得还不完全，甚至有错的，但人们还可以继续完善和编写。所以，《科学前沿弦膜圈说手册大全》类似孔子写″春秋″，也许是铸造中华文化的传统之″道″一样，可以通过它阐述自然科学，物质是对称连环之道，数学是承前启后之道，实证是跟进未来之道。让不分科学殿堂内外的人，在学习或创新时，都能看清自己所占阶梯的位置。所以，陈一文先生首先建议《山风工作室》办起″弦膜圈说专栏″。在其发表的《科学前沿弦膜圈说》网络专栏公告中也说：办″弦膜圈说专栏″，在于″统″，和而不同，和而相长。这就是从东西方各自的优良的传统科学文化出发，来搞科学前沿弦膜圈说的创新，而不对骂、对立、对抗、分裂，把大家纳入好全球合作、全球应对的轨道。

从前面的书目可以看出，《科学前沿弦膜圈说手册大全》丛书的编辑方法，是采用三旋坐标和三角坐标图像分割与接轨的建构，可将科学前沿传统的创新与应用效率提高。因为类似当医生，学医治病，是有一定的程式和标准件的，不然何以从医？当然局外人可以不管，但由于有这些程式和标准件，也能懂一些常识一样，玩"科学游戏"从自然全息来说，位移与旋转的分割是最常识性思维用的图像。当然它的初等知识，还不能告诉类似大型强子对撞机产生的每个图像或波形的边界在哪里？但从位移引申的类点平动伸缩，到建立的三角坐标；从旋转引申的类圈对称循环，到建立的三旋坐标，这类分割、使用、联系并通过数学程式化及标准件，进行的匹配和排除，已取得很大的进展，但积淀的这些程式化及标准件的数学、图像、模型、模具，大多是分散的，缺环多，学习效率低，且占用资源巨大。

由陈蜀乔先生出版的《引力场及量子场的真空动力学图像》一书（以下简称称《图像》，或陈蜀乔理论），虽然和其他传统研究者一样，也都采取了类点和类球体大致相同的办法，但陈蜀乔与他们不同的是：很多人的初衷只是为独创，而找与主流科学前沿弦膜圈说相区别的最适合图像。他们的普及率虽高，而前进的运算和接轨的缺环更大。而陈蜀乔对解决类圈和类点粒子模型的接轨，却能提供启示和套数，可将科学的东学西渐与西学东渐的聚焦极大提高。因为陈蜀乔是考虑到了 34 种之多的量子场论、量子力学、粒子物理学、相对论等教科书或参考书的积淀，可以用较精致的图像进行更多元的数学对接。虽然存在不少还需完成的地方，但陈蜀乔理论仍然算是有一种能找到的最完整对接的方法。即使在科学前沿弦膜圈说图像分割领域也许还有很多种新的方法，不好说陈蜀乔理论会让整个科学前沿发生变革。但应该肯定的是陈蜀乔理论非常有趣，可以将其作为一个出发点，通过与本土源头弦膜圈三旋模式的匹配，还能够实现对自然科学其他一些领域的相似问题的数学建模。

二、层林尽染模具量子力学的套数启示

以人为对象的社会科学，不需要拿人作模具，因为自己就生在其中，很多事情一说就明白。光子、电子、引力子、夸克；电荷、光速、重子数、轻子数、同位旋、味道、颜色等等微观世界，早有数学模型统一描述，但我国北京有物理学家讲，即使世界著名的量子论专家也还说，没有一个人真正懂得了量子论。可见统一微观的模具量子力学探索是一个方向。

1、扑面而来的模具量子力学

朱传界教授所说的今天科学前沿快速发展中，在国际上起到方向作用的弦论、膜论、圈论，本质是一种模具量子力学，但国内有不少学者却说见到就"恶心"。分析原因，一是介绍到我国来的和国内教科书所教的东西缺环太大，二是介绍的仅为简单的图像和过深的数学模型，不是模具。打开陈蜀乔先生的《图像》一书，至始至终扑面而来的，是说明量子场论基本概念的配有大量的尽可能利用的图像。并且这不是直接以西方弦膜圈说的简单图像来开篇。陈蜀乔是以小方体及其组装的十字架，作测量时空标尺的模具，加上添设读者能够理解和阅读的一些假设，再和传统的量子场论、量子力学、粒子物理学、相对论等教科书中的数学标准件、程式联系起来，达到了与西方弦膜圈说一致的接轨目的，这即使是对理论物理学工作者，也有很好的启发和借鉴作用；是为物理学研究提供了一个新的视角。

例如周世勋教授编的《量子力学教程》，张一方教授出版的《粒子物理和相对论的新探索》，通篇是微积分方程一类的数学模型，图像较少，也是好书。但陈蜀乔的《图像》比它们要好学一些，然而这仅仅是一种探索。那么何谓"模具"？模具和模型的分野是，粒子物理并不靠实验就能看清粒子个体内部的图像，而是靠实验提供大量的数据和波形，这就出现模具和模型的分野。一种内部含有自身推导规则的纯数学演算能撮合它，这是数学模型；一种近似的实物模具自身包含的物理规则能作一些撮合的，这是模具模型。可见模型比模具的范围大，但较直观的模具物理几何规则，并不同于数式的演算规则。那么模具量子力学从何而起呢？

1、在奥斯特和菲涅耳等人对电和磁感应问题的实验研究启发下，1820 年安培提出磁性起源假说认为：在组成物体的物质微粒内部，存在着环形电流，这种环形分子电流使每个物质微粒都成为一个微小磁体。这是量子圈态模型模具的第一次定位。1832 至 1852 年法拉第从电磁感应实验和与流体力学中的流场类比的直观研究出发，提出电场和磁场是由力的线和力的管子组成的概念。这是世界上量子弦线的杆线弦、管线弦模型模具的第一次提出。1864 年麦克斯韦把安培的分子电环发展为电圈和磁圈两种不同的圈态，圈套圈交换组装成法拉第的力线，来解释电磁场的传播：变化的电场产生磁场和变化的磁场产生电场。这是世界上量子圈链模型模具的第一次提出。但这仅是个单链式的模具。早在 1832 年，麦克斯韦发表的《论法拉第的力线》论文借助流体力学方程，就把力线写成矢量微分方程。到 1864 年他发表的电磁场运动方程，数学公式已相当完善，这是用无形的位移电流激发磁流圈自旋与运动，作电流和电场区别的图像。因此 1864 年是开启模具量子力学的元年，实验、理论合一不断到至今。

2）麦克斯韦仅是单链和非生命物质的模具，到 1953 年华生和克里克提出基因双螺旋结构 DNA 模具，这是世界上双链式物质模具的第一次提出，且是生命物质。受此启发，上世纪 80 年代，三旋理论把麦克斯韦的单链发展为双链的圈态编码，能产生连续的孤波和半自旋，定名为孤子演示链，因此能投射量子的波粒二象性和费米子的半自旋等。1996 年延边大学学报发表《模

拟 DNA 双螺旋结构的机械孤立子波》，这是圈态模具第一次统一生命与非生命物质图像的尝试，也是建立有背景和无背景引力场及量子场统一图像的真空动力学的尝试。

2、以太粒子和点模型疑难

类似陈蜀乔的光子力线结构简化图，可由球简化为一维弦再简化为点的合符庞加莱猜想操作，我国科学殿堂内外很多人都热衷于以太粒子创新，但都不及陈蜀乔《图像》的细化和工程完整。一旦和他们认真，就推说仅是在玩科学，并不想以此终生搞专业。再说模具相对数学模型仅是一种可观感的平台，模具的名称和样式可以不同，但在有背景空间和无背景空间上三旋能搭建统一，这有庞加莱猜想证明的数学结论：不是球面，就是环面。弦论学家和圈量子引力学家之间，争论的有无背景空间问题，实质是各自都还没有弄明白闭弦的自旋存在三旋。而麦克斯韦在 1864 年写圈套圈的电磁场方程的时候，也没有明白他已经进入三旋。

1）因为麦克斯韦用圈套圈感应说明电磁波传播，已不需要传播声音类似的媒介以太。所谓"麦克斯韦大厦是建立在电磁以太上的"，是带错了高帽。陈蜀乔说："空间、真空和以太这三者，不过是同一物理存在的三个不同名称"。即类似孤子演示链模拟真空结构，空间、真空和以太已同一。把麦克斯韦和以太混淆，一是支持麦克斯韦并是他亲密朋友的菲涅耳，是光波动说实验大师，他坚持光的以太介质说，人们把麦克斯韦和他的理论搅在一起。二是至今人们也没有明白圈套圈的电磁波包含线旋。三是有或无背景的**真空场，空、实都要以圈态作基础。**陈蜀乔说：轻子质量荷的"点"结构和"环"结构，都是为了理论简化和描述方便所采用的简化模型，相对于"点"而言，"线"结构更为高级。这里陈蜀乔没有提三旋，一是他还不清楚；其次他是用位移推证**圈态** $r_0 \leqslant r \leqslant R$ 形变，不是麦克斯韦的圈态旋转推证位移。

2）张崇安先生提出**空实二源论，说明空与实是万物之源，是对的。但空与实具体到真空场的**有或无背景空间的基元图像是什么？传统的量子场论，粒子物理、以太或太极子说，一般是暗指固态或液态的点或球模型。陈蜀乔说，空穴本身没有维度结构，但以空穴为中心点的圈结构却很稳定。由此陈蜀乔《图像》对**空实二源论**的处理是很好的。**例如书中电子产生图 10-2-1，因为有空实二源，图方块积木群中，A 块受到激发，从原位置中脱出至 C 时，就形成游离态的 A 块，构成激发态。在 A 原位置出现一个空穴方块，形成轻子场负电子。在 C 处多处的 A 块，挤压周围的真空场形成反轻子场正电子。接着要用空、实环胎作背景区分。**

3）再论张崇安的粒群波，他说用类似天空中飞行的行雁、机关枪打出的子弹列、放学出校门的学生队列等模具，可推出量子力学波动方程，以及密集度、质量、能量、边界等物理量描述。他定义宏观波粒二象性，波长为相邻两个群间距，频率为单位时间通过某空间界面的群数，波速为群列相对于某参照系的前行速度。还说这与介质波不同，粒群波的波动是近同群在某个空间位置更替的结果，而介质波波动是介质沿平衡位置往复振动的结果。粒群波波速多呈现为矢量，介质波波速多呈现为标量。粒群波的能量具有分立性，而介质波连贯性较强。他给出了几个类似的量子力学方程，但他没有像陈蜀乔那样，具体到每种轻子、介子、重子，如光子、电子、引力子、夸克上试试。如果张崇安拿统一有或无背景空间的孤子演示链模具，用链圈映射宏观的行雁、子弹，学生的确定性，再转换对应微观粒子概念的不确定性，就没有混淆之嫌；也不用双缝实验去区分。把行雁、子弹，学生代换映射进真空孤子演示链，类似费曼图中入射的初态粒子，至于末态粒子已交给真正的量子波动方程。孤子演示链模具模拟粒群波，自然连贯且分立性分明，推算其他物理量也好说。把粒子硬说成波是受传统数学模型的影响，但数学是有缺环的。例如拓扑论数学，图像不能撕裂和粘贴；但弦论的模具，一根弦线可随便断开，随便接长或变为圈。两者混用，模具的弦论与数学的圈论之间就争吵有无背景。三旋是它们中自主创新的数学，圈态线旋理解弦的断开、接合，很自然。

3、用三旋解读陈蜀乔理论

陈蜀乔说，他的理论和超弦/M 理论都在朝统一四种力场的目标努力，但理论都未完善，且不可避免地要把这两种理论进行比对。其实这两种理论只是分工不同：超弦/M 理论是在往前冲，陈蜀乔的理论是在作超弦/M 理论的回采。两者理论的未完善，都因未找到三旋理论。

1）三旋本身是一种量子论，但并不意味着是单个粒子（球、膜、弦状或圈态）或单种作用，而是通过类圈体的不同自旋编码表示整个粒子谱系列及诸种作用的统一。这是它开篇建立的三条公设就昭示世人的。这是在不改动欧几里德对点的定义的情况下再补充的三条公设：（1）圈与点并存且相互依存。（2）圈比点更基本。（3）物质存在有向自己内部作运动的空间属性。三旋向物质自己内部空间作运动，既是指线旋，也是时空的自然弯曲，所以能统一量子论和相对论。其次三旋开发的孤子演示链，也可解决引力场不能量子化的矛盾：引力场时空没有断裂是连续的。孤子演示链可视为质量链和粒子链编码的双链孤波模具，从模拟初态粒子到末态粒子，运动是一个完整的曲面过程，类似在发射一束辐射脉冲粒子。其自旋需要 2 对圈子，类似含引力子。再用单个类圈体作三旋矢量分析，结合流体实验可证明湍流存在。

2)如陈书 191 页图 7-2-2 是一个水平放置的环胎，在中心点 0 作三角坐标 x,y,z 轴，方向指向胎中心外，为正向位移。x 轴与环胎最外侧交于 0_1 点,00_1 为环胎外

围半径长 R。过 0_1 点作垂直于 x 轴的平面 A。以 0 点为圆心以 R 为半径作球面 C，平面 A 与环胎和球面都同点相切。把 x,y,z 轴从 0 点移到 0_1 点。y,z 轴在面 A 内的指向，可用来标示环胎面旋、体旋、线旋等三旋矢量。即 y 是面旋的矢量,z 同时是体旋、线旋的矢量。体旋是沿球面 C 的向外运动。线旋则是沿环胎本身柱面作类似向物质自己内部的运动。这种奇特是点内和点外空间的分野，体现了太极和庞加莱思想的"其小无内，其大无外"。从这种三旋坐标与三角坐标的分割到结合，可看出它们各自的不同。这种各自发展空间的分工与合作，三角坐标是各向同性的。而三旋坐标是各向异性，没考虑 x 方向的位移。此区别是产生时空背景和湍流的由来：

3）先说湍流。《求衡论》书中从 323 页"湍流和同步辐射系综"开始就推证湍流：设放大环胎为极大的圆环，设原先过 0_1 点的线旋圆面为 B,它和面 A 及 y 轴也垂直。由于原先的环胎柱面变似直线的圆柱面；把过 0_1 点的三旋矢量坐标移到面 B 内线旋的各能级的同心圆上，那么 z 方向的线旋和体旋消失，而 y 方向也存在向自己内部运动的体旋，只不过线旋和体旋在新点已经合一，原 y 方向的面旋变成原 x 方向的位移。由此会出现阵发间歇的湍流效应。

4）书《三旋理论初探》从 354 页开始讲"自旋磁陀螺之谜"：把垂直的条形磁铁上、中、下作水平直线 aa′、00′、bb′，分别代表条形磁铁整个磁力线圈发生面旋，所成球体的北半球剖面、赤道剖面和南半球剖面。把环胎和球面 C 的赤道 00′ 处的切面 A，分别移到 aa′ 和 bb′，由于它们都与所在球面的半径垂直，由此两个新切面与 00′ 就会成锐角。这种倾斜方向说明为什么从开始设的无背景空间会产生有背景空间？因为垂直移动条形磁铁，磁力作用对磁陀螺竟然同性相吸，异性相斥；陀螺自转方向改变时其公转方向也改变。这可联系自转相同的地球，南北半球围绕空洞流动的漩涡旋转方向的不同。陈蜀乔理论就难作此区别。

5）陈蜀乔说，类似装满水的洗澡盆，当把底部木塞突然拔掉出现空洞，会形成一个围绕空洞汇聚流动的漩涡。于是周围的小的场基本单元就会自旋汇聚填充这个空穴。这种效应就产生电子。把激发态场基本单元对周围所造成的整个形变区域定义为电子内禀空间；所产生的整体的效应称为电子，即具有"自旋"、"汇"的结构。又说拉伸为正空间，压缩为反空间。一个点及其邻域场构成一个量子场，因而每一点对应一个量子场（圈）。量子场是一个有邻域的点（类圈体），量子场可简化为一个点（圈）。所有的场源自于点。一个点发生移动，产生一个邻域场（圈）包含 4 种场：弱力场和强场是微观的邻域场，小于 10^{-13}cm。而电场和引力线构成的邻域场，则充满整个真空场。可见环胎是有邻域的点，实际是他全书模具的套数。

6）陈蜀乔开篇也提出了类似三旋理论三条公设的四条基本假设，着眼点就在三旋坐标放弃的那个三角坐标 x 轴向的位移、形变、应变上；有邻域的点可以和微积分运算挂钩。按此他的真空场理论四条基本假设，可整理简化为：（1）类似普朗克尺度为真空场基本单元。（2）维度指向由应变确定。（3）基本单元形变存在拉伸和压缩极限。（4）形变会降低其传播能力。

7）陈蜀乔的第四条传播能力降低类似三旋理论第三条公设，是一种转折，都含有能使时空弯曲的意思。陈蜀乔的四条假设从**图 10-2-1 的**维度方块，引出了位移、形变、跃迁、空穴、源、汇、有邻域的点、拉伸、压缩、内禀空间、应变、弹性、塑性、硬化、撕裂，等等。

三、数学承前启后接轨弦圈的完整景观

高能物理是实验科学，哈密顿形式、拉格朗日形式、薛定谔绘景、海森堡绘景、费曼路径积分、厄米算符，洛伦兹变换、动量表象、时空标架、张量变换、协变导数、正则量子化，等等数学程式、标准件都是实验的积淀，外人看来是清谈，但从找出妨碍实现实验目标的约束条件，并对它进行消除的系统改善方法来说，能否处理得承前启后，是看你专业不专业？

1、自旋荷

邹鹏程先生是四川大学教《量子力学》的老教授，早已退休。2003 年他在四川盐亭县科协主席胡彬先生及其朋友的带领下，来到笔者家。这是《三旋理论初探》出版后的第二年。邹先生 1989 年由高等教育出版社出版过他编的《量子力学》教材。胡彬请他来，是想让他与笔者交流。邹教授听完笔者对三旋理论的简介，他只问了一句话："你懂量子自旋吗？"他的言下之意，是问费米子不同于玻色子的半整数自旋的模具如何表达？加之量子信息学自旋对量子力学自旋的冲击和纠缠，这也许是我国所有教量子力学的老师的一块心病。三旋理论是专门应对，研究了 40 多年，在杂志发表过数十篇论文，却被置若罔闻，叫人如何回答？

笔者默默拿出孤子演示链，给邹教授反复演示了几遍，每个圈子（粒子）都是半整数自旋，从初态粒子到末态粒子双链演示了铁圈的落下过程，和彭罗斯《通往实在之路》书中图 23-1 的电子图像的"之"运动路线投影完全相似；而电子运动一般被数学"退化"处理成直线。最后笔者送给邹教授一本《三旋理论初探》，他们也默默地离开了，以后也没有再听到邹教授的回音。笔者另外一位朋友吴新忠博士 2011 年算是有一种回音："三旋的量子模型可以根据量子力学中转动算符与自旋的研究成果重新构造，建议研读倪光炯、陈苏卿的《高等量子力学》（复旦大学出版社，2000 年 3 月），这是从自旋开始讲述量子力学的。其实，如果把三旋的分析力学表示搞出来，再把转动算符引进去，三旋的量子模型就有了"。

1）倪光炯、陈苏卿的《高等量子力学》和邹鹏程的《量子力学》也许并没有什么不同，都是对西方量子力学传统自旋数学的承前启后，倒是我们中国的新秀陈蜀乔的《图像》还有创意，他搞出的转动算符，其模具能被三旋的量子力学所理解。笔者喜欢陈蜀乔的《图像》。虽然有人说，业余跋涉量子力学是笨蛋：自己拿钱搞科研，做出成果写成书还与钱捆绑送人，聪明人不做这种赚钱的事不干的反常的愚蠢事。但陈蜀乔的回采确让人愉悦。陈蜀乔说：自旋光子的环胎结构简化为一个圆环，可以更方便地讨论轻子的自旋：自旋量子波只有一半电力线存在于空穴球之外，对于实验来说自旋角动量 S=（1/2）×(h/2π)。式中 h 为普朗克常数。

普朗克常数在陈蜀乔理论中还有着非常明确的物理意义，就是光子总的形变量。真空中某一点发生一维位移，使得该点邻域发生形变构成场，该场总形变量也为 h。

2）实际陈蜀乔把费米子的半整数自旋，是映射变换为类似长度的计量。因为他的具体推证是从形变来的：真空具有颗粒结构，这和连续介质不同。用球坐标系讨论电子形成，电子完整的电力线包含内禀空间部分和内禀空间之外的电力线。缘于是真空丢失一基本单元，这种极度弯曲使真空场沿半径 r 方向达到压缩极限时，仍不能满足弯曲的曲率，于是真空便产生间隙。设这种间隙球面的半径为 r_0。设 r 为自旋粒子中心点转动传播的平均半径。这种间隙使电子具有纤维化的结构，称为动量线生成区，$0 \leqslant r_0 \leqslant r$。因为真空场填补这部分，指向空穴方向的维度就会向空穴方向发生一个微小的移动量，和其紧密相连的基本单元的这个方向的维度也会向后移动一个小量，这样一直持续下去，会延伸至无穷远，就在这个方向形成正电力线。对于反电子情况正好相反。设 R 为电子内禀空间球壳的半径，$r_0 \leqslant r \leqslant R$，为动量线区。从测量方面考虑，我们不能进入内禀空间由里向外进行测量，但外侧是可观测的。由里至外，靠轻子中心内侧只是轻子的中心点基本单元，是质量点，是微小的球体，无电力线存在。这样，自旋量子波只有一半电力线存在于空穴之外，对于实验来说自旋角动量 S=（1/2）×(h/2π)。

3）自旋的扩展如果只局限在以上基本单元的形变，那么其数学形式就难以保持和现代经典量子场论、弦论、膜论的基本一致，所以陈蜀乔引进了弹性膜的图像。陈蜀乔说，以轮胎（环面）的模具来演示群论、同位旋、强子等的定域规范不变性和局域规范不变性，这意味着 U(1)局域对称性、SU(2)局域对称性和 SU(3)局域对称性，仍源自背景真空场具有弹性：每一种局域对称性对应一种弹性膜，单一量子场中每一种独立的场应变矩阵，不同的组合，构成量子场的一个独立的自由度。单参数的定域规范变换形成 U(1)阿贝尔群，推广到具有更高对称性的 SU(n)群，它有 n^2-1 个参数，是非阿贝尔群。弱电统一规范场采用 SU(2)×U(1)群，其中 SU(2)是弱同位旋群，U(1)是弱超荷群。uds 三种不同味的夸克视为 SU(3)群的三个基底，$SU_c(3)$是颜色的对称性，为一种定域对称性。可见这已明晰地归顺标准模型的量子数学形式。

3）然而用三旋数学来解读并不难。群论联系对称性与对称性定义自旋及三旋操作，三旋理论的书都在为揭示 U(1)、SU(2)、SU(3)、SU(2)×U(1)、SU(n)、$SU_c(3)$群等运用的面纱。陈蜀乔对局域对称性、整体对称性等的定义，三旋类圈体上的转座子更似它们模具的量身定做。

2、质量荷

运用模具和数学，理论和实验总有不完善和显逻辑矛盾的地方。这可用同类多种模具相互补充，如类圈体除孤子演示链外还有九连环套等模具，说明粒子结耦、解耦与波形、能量关系。而陈蜀乔的测量协变原理，也是为解答光速不变原理；他的应变协调方程，也类此。

1）质量起源是粒子物理公认的难题，用应变协调方程研究形变未致破裂到断裂，是因陈蜀乔和弦论并不一致：弦论质量立足于弦振动，振动大能量大质量就大，反之相反。陈蜀乔立足于传播形变，弹性达到极限是塑性。他说质量荷是塑性变形，未分裂前形状可简化为一个小圆环。以波的形式存在。发生维度分裂，形状是开弦，但仍满足公式 $p\lambda=h$ 永远成立。即强子结构分为两部分，强子开弦被视为无静止质量弦，强子的总静止质量归并在闭弦上。

2）陈蜀乔又说，弱作用结果的分裂类似一个液滴分裂为两个液滴，导致质量空间改变，发生对称破缺获得质量。这与三旋理论质量谱公式，得出的撕裂产生质量或物质的结论相似。质量谱公式来源于宇宙大爆炸的时空撕裂；而陈蜀乔的分析是：弹性场没有质量也就没有惯性可言，振动不会停下来。而形变达到极限失去弹性变为塑性，是一个"硬"小块。应变场波以球面波向中心会聚，并绕中心轴沿一极小圆环传播，把圆环近似看成一个点，球面波动方程表述了质量效应。即质量环在时空中运动构成一个柱面，这可把长度为 R 的动量线的质量归并在长度为 Δl 的塑性形变，$R \geqslant \Delta l$，可以把轻子动量线简化为长为 $l=e\Delta l$ 的单根力线的塑性形变，这正是质量荷塑性形变的简化。弱作用质量球壳由一个分裂为两个，质量的差异是内禀空间直径不同造成的。而内禀空间动量线生成区就是质量荷空间，这与撕裂有关。

3）宇宙大爆炸的时空撕裂还联系陈蜀乔说的半向空间与不守恒。但陈仅停在笛卡儿坐标上：把三角坐标称为全向空间，半向空间是由全向空间分裂得到的。陈说把只具有单一的正空间或负空间的空间定义为半向空间，轻子的内禀空间就是半向空间。原因是，当产生一对轻子的费米子后，反的轻子为压缩场而无拉伸场存在，而正的轻子则只有拉伸场而无压缩场。于是物理空

间发生分裂，其奇特是所有的维度依然保持，但方向却仅有原来的一半。半向空间性是一种整体性，在半向空间内部某一局域如果场应变满足守恒，那么所感知的空间依然是宇称对称；只有轻子整体（费米子）才具有半向空间特性。扩展陈蜀乔的推论，那么他的多个物体构成的运动体系的镜像复杂性，是时间不可能倒流的推论，可另辟捷径。即宇宙大爆炸的时空撕裂涉及的是四维时空，撕裂产生的物质也是四维时空。如果四维时空加入半向空间，那么宏观物体自然是带时间分裂的半向空间，即使它们的三角坐标是全向空间。

3、纤维弦

三角坐标本质是庞加莱猜想正定理的弦论。说陈蜀乔能对超弦/M 理论作回采，是他开篇的四条基本假设，本质也是该类三角坐标的弦论。而且陈蜀乔已注意到时空分裂、真空场形变的非弹性粒子实验中出现的夸克海、海夸克效应，这是模具量子力学中一个很有发展的空间。陈蜀乔说，点状胶子就是夸克海中的场基本单元起伏所产生的效应。海夸克联系部分子。所有基本粒子受到扰动都激发出与之相对应的粒子海，于是受扰动的真空中便有了基本粒海。但陈蜀乔没有把海夸克，和他的形变真空场基本单元纤维结构中的小方块联系起来。

1）从《图像》书图 5-2-1、6-1-8 的光子纤维结构图，到图 7-1-1、7-2-3 的电子纤维结构图，基本粒子每个都有很多向外发散的弦线，而且每根弦线还可见是由很多十字架的小方块连接的。图 5-2-1 的光子一维结构，图 7-1-3 的轻子一维结构，更是放大的这些小方块的连接。图 10-3-1 的质子结构示意图、正电子分裂前的结构示意图，则是根据实验及其理论把四周发散的弦线，已经精简到只有三个方向。质子中三个方向是三个夸克。正电子中三个方向是三个 1/3 的正电子。但在每个夸克四周还有很多向外发散的弦线。这类弦线的每个小方块是什么？我们把它可以和海夸克联系在一起，而不应只停留在是"邻领的点"，比"场基本单元"更基本的单元上。如果把夸克海映射人类社会，海夸克就类似家庭、单位、组织、地区等中的一个人。夸克或部分子类似家庭、单位、组织、地区等中的一个类，或这个类中的代表。

2）人的口与肛门相通，要新陈代谢，要进食，要生育等等，这些相互作用形成的作用线、面，也能映射四种力场的相互作用、粒子的吸收与发散及网络。例如《图像》书图 6-2-2、7-6-3、7-6-4、10-4-3 等电磁场相互作用、电子和光子电力线的耦合、夸克之间弦作用耦合图，和以上提到的光子、轻子、电子的纤维结构图，十分类似《求衡论》书提到的弦星、毛球。而这些纤维、力线也可以用管线弦、套管弦模具模拟，其管内还可以藏无质量的粒子，联系肖钦羡的卡西米板 D 膜的强作用、弱作用说明，以及类似社会阶层的膜结构，领会更容易

3）以上是清谈，到底有什么用？或者研究模具量子力学到底有什么用？我们随时都在扪心自问。其实模具量子力学说到底是一种约束理论，破解约束条件，就在于即使没有相应的实验，人们也能寻找得到力所能及的应用。例如光子、电子是类似纤维飞舞的弦星、毛球，到处都存在，力线的耦合就可以发生相互作用。但耦合常数具有概率性。光子进入电子内不一定发生相互作用。如陈蜀乔说只有半球面的电力线才能锁定，即为 1/2；真空场为三维只有一维能形成电力线，即通道宽度为 1/3；还有连接、运动角度等等。但电子荷云、夸克色荷云又类似空气，当它处于平静感觉不到；如果有风，就具有观测性。夸克海、海夸克一受扰动也会像搅水会有浪花，QCD 量子场激起的"涟漪"，人们也能"观测"。古代中医的望闻问切及阴阳五行等医理，就类似当时的模具量子力学。今天的中医师不知道，是他们没有装上今天的"语言软件"。例如这类"软件"让摄像头从所有光线中分辨出与那些心跳有关的反射光线，还能捕捉到这些反射光线所发生的极微小的变化，并通过代码直接转化为心率数值的一种特殊算法，已开发出的一款"魔镜"类似中医对脉象望闻问切的仪器，一照即知自身心血管健康。模具方法是魔镜后设置有摄像头的监控器，监控器与一台笔记本电脑相连。血液因可以吸收光线。心脏跳动时血液会通过血管，通过血管的血液量越大，被血液吸收的光线也越多，人皮肤表面反射的光线就越少。只要人站在镜子前，他的心率就会显示在镜面上。

4）这里每个正常的成人不仅类似魔镜的电脑，更类似量子电脑，只是缺乏模具量子力学最新的理解和突破性的进展。要用，就必须诚实地看待模具量子力学的约束，敢于挑战花大价钱的实验，尤其是要像古代的中医思考，在没有现代医学的条件下，让生活有可能变得更加美好；不能造飞机，折个风筝也上天。要用，就是要找出各种条件下生产如未来低成本、低碳、无核放射污染的 QCD 化学能源等的内在规律、科学逻辑和解决问题的有效方法，将模具量子力学的约束上升到一个新的层次。那么夸克海、海夸克色荷云能证明不是虚拟的吗？

5）证明并非易事，但也绝非是造大型强子对撞机，有人已经在"真空"中见到了可见光。方法缘自真空实际上是一片不停波动的夸克海色荷云，海夸克在其中和万物之间来回转化。稍纵即逝，说它虚拟也行。然而当两个镜子被极端接近地放置在一起，能够存在于其间的虚拟粒子的数量有限，更多的存在于镜子之外而非镜子之间，它们会创造出一种卡西米力，让这两面镜子紧紧依附在一起。而一块快速移动的镜子也能产生同样的效应。即一块镜子能从落在其表面上的虚拟粒子那儿获得能量，接着发出这些能量。不过，只有当运动的镜子以非常接近光速的速度通过真空时才会出现这种效应，普通的机械装置很难做到这一点。瑞典物理学家佩尔德尔

辛等人使用超导量子干涉设备（SQUID）的装置，这个SQUID原是用于测量如人体电磁场的微弱变化等极端微弱信号的设备，该设备对磁场相当敏感。他们造出一块超导电路并将SQUID放置其中，SQUID扮演镜子的角色，通过SQUID的磁场会让这面"镜子"轻微移动，每秒几十亿次地改变磁场的方向，"镜子"的"摆动"速度会达到光速的5%，此时他们观察到一大片震动的微波光子，如天女散花般从真空中"落下"，光子的频率几乎是其"摆动"镜子频率的一半。

4、结束语

读陈蜀乔先生的《图像》使人感动，这不是科普书，也不是一般的数理教材，而属于高等量子力学，但所列举的30多种量子力学、相对论参考书，没有一本是外文的，让人感觉他是一位堂堂正正的中国人。尤小立先生说，中国大陆受中小学教育或大学本科、研究生教育的中国人，他们的第一语言是中文。他们平时的第一语言是中文，90%的时间是与校内外的中国人打交道，信息也主要是面向中国人的。不应一味强求"与国际接轨"，因为在各种差距明显时，这样只能促发"伪接轨"。这里我们不是说不能用外文资料和在国外发表论文。编辑《科学前沿弦膜圈说手册大全》主要是给中国人看的，科学前沿弦膜圈说实际就是模具量子力学。手册还要大全？主要是弦膜圈说都是西学东渐的，国内科学殿堂外的数十年公开的研究成果一直被忽视。例如量子圈态的三旋编码及其轨形拓扑的广阔数学对应，完全可以对应夸克、胶子的味与色的自由度安排，并为标准模型的四种作用力和自旋荷、电荷、质量荷等描述，提供演示的模具图像。所以丛书参考书目的前三本主要是中国人的贡献和解读，强求全中文是一种约束，也为东学西渐避免群龙乱舞的放任铸造约束的标准件。后两本是中国人对西学东渐的东西的梳理和在生命科学里的扩展。第六本完全是外国人编的手册大全。这后三本引用外文书目或外文翻译，是当然，六本书集合在一起可窥全貌。

西学东渐，陈蜀乔说，目前的量子场理论因对其内禀结构的无知而把轻子和夸克视为点粒子、类点粒子。当然西学东渐的超弦/M理论已在变化，而且陈蜀乔的理论也没有像超弦/M理论一样，对场基本单元的点内空间和点外空间进行更深的研究。因此要真正完善铸造出能东学西渐的《模具量子力学手册大全》，还需要国人共同携手合作，投入巨大的精力。

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盐亭大围坪盆塞海海啸遗迹地貌论

文绍文

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Abstract: 海啸（tsunami）是一种巨大的海浪，主要是由海底地震、火山喷发、海岸崩塌、滑坡等海底地形大规模突变所引发的具有超长波长和周期的一种重力长波。海啸在大洋中的传播速度虽然很快（720～900 公里/时），但浪高不大，通常为几十厘米至 1 米左右；而当其接近近岸浅水区时，波速变小，振幅陡涨，有时可达 20～30 米，骤然形成“水墙”，瞬时入侵沿岸陆地，造成极大危害。大部分海啸由深海地震引起。地震时造成海底发生激烈的上下方向的位移，从而导致其上方海水的巨大波动，海啸因此而发生。另外还有火山海啸和滑坡海啸。海啸引起海水从深海底部到海面的整体波动，蕴含的能量极大，因此有强烈的危害性，是一种严重的海洋灾害。海啸的形成条件是，海啸作为一种特殊的海洋浅水波，其形成需要如下三个主要条件: 震源较浅的大地震是先决条件。一般来说以倾滑为主（上下错动）、破裂过程持续长且震源深度较浅的海底大地震能引发海啸。第二是海啸源区的水深较大，多孕育于深海。如果地震释放的能量要变成巨大水体的波动能量，那么地震必须发生在深海，因为深海才有巨大的水体。发生在浅海的地震产生不了海啸，往往形成海洋激浪。第三是具有开阔并逐渐变浅的海岸条件。海啸要在陆地海岸带造成灾害，该海岸必须开阔，具备逐渐变浅的条件。海啸波在大洋中传播时，波高不到 1 米，不会造成灾害；但进入浅海后，因海水深度急剧变浅，前面的海水波减慢，后面的高速海水不停地前涌，从而造成波高急剧增加，形成巨大的破坏力。特别是，对于那些外侧宽广内侧狭窄的“三角型海湾”，越向海湾内侧，海啸的海浪越容易加剧升高，造成更大破坏。

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远古地震---堰塞湖---盆塞海---大围坪----海啸有关联吗？

那先看看海啸的定义吧。海啸（tsunami）是一种巨大的海浪，主要是由海底地震、火山喷发、海岸崩塌、滑坡等海底地形大规模突变所引发的具有超长波长和周期的一种重力长波。海啸在大洋中的传播速度虽然很快（720～900 公里/时），但浪高不大，通常为几十厘米至 1 米左右；而当其接近近岸浅水区时，波速变小，振幅陡涨，有时可达 20～30 米，骤然形成“水墙”，瞬时入侵沿岸陆地，造成极大危害。据本世纪以来有仪器记录资料的统计，我国占全球大陆地震的 33%。本世纪以来，全球因地震而死亡的人数为 110 万人，其中我国就占 55 万人之多，为全球的一半。我国从古至今都是地震灾害最深重的国家。

到 19 世纪末 20 世纪初，用大地震引发堰塞湖到盆塞海的非高斯性古史“精确研究”，就已经在中国本土“生根发芽”。据统计，大部分海啸由深海地震引起，这类海啸称为地震海啸。地震时造成海底发生激烈的上下方向的位移，从而导致其上方海水的巨大波动，海啸因此而发生。另外还有火山海啸和滑坡海啸。海啸引起海水从深海底部到海面的整体波动，蕴含的能量极大，因此有强烈的危害性，是一种严重的海洋灾害。海啸的形成条件是，海啸作为一种特殊的海洋浅水波，其形成需要如下三个主要条件。

震源较浅的大地震是先决条件。全球典型海啸统计分析表明，只有里氏 7.0 级以上的大地震才可能引起海啸，且震源较浅，一般小于 20～50 公里。值得指出的是，海洋中经常发生大地震，但并不是所有的深海大震都产生海啸，海啸的产生与海底地震的震级大小、震源机制、震源深度和破裂过程等地震物理机制有关。一般来说以倾滑为主（上下错动）、破裂过程持续长且震源深度较浅的海底大地震能引发海啸。第二是海啸源区的水深较大，多孕育于深海。如果地震释放的能量要变成巨大水体的波动能量，那么地震必须发生在深海，因为深海才有巨大的水体。发生在浅海的地震产生不了海啸，往往形成海洋激浪。第三是具有开阔并逐渐变浅的海岸条件。海啸要在陆地海岸带造成灾害，该海岸必须开阔，具备逐渐变浅的条件。海啸波在大洋中传播时，波高不到 1 米，不会造成灾害；但进入浅海后，因海水深

度急剧变浅，前面的海水波减慢，后面的高速海水不停地前涌，从而造成波高急剧增加，形成巨大的破坏力。特别是，对于那些外侧宽广内侧狭窄的“三角型海湾”，越向海湾内侧，海啸的海浪越容易加剧升高，造成更大破坏。

海啸的类型与特点是，根据海底地震震中距的远近，可把海啸大致分为近海海啸与远洋海啸两类。近海海啸也称本地海啸。海底地震发生在离海岸带几十公里到 200 公里内，海啸波到岸的时间很短，只有几分钟或几十分钟，这类海啸较难防御，造成的灾害大。远洋海啸是从远洋甚至是跨洋传播过来的海啸波。由于到岸的时间较长，有几小时或十几小时，早期海啸预警系统能有效减轻该类海啸的灾害。虽然海啸与风暴潮和海浪一样，都属重力波，且历史上的风暴潮记录往往被误认为是海啸。但相比风暴潮和海浪，海啸主要有如下特点。第一是波长非常长。研究表明，海啸的波长一般为几十到几百公里，如 2004 年 12 月 26 日发生的印度尼西亚海啸的波长为 500 公里。普通的海浪或风暴潮的波长一般为百米量级。第二是传播速度快。海啸波的速度与水深有关，每小时可达 700～900 公里，和波音飞机速度相当。海浪速度较慢，风暴潮要快一些，而最快的台风也只有 200 公里/时。

从水、治水文化到水从何来？开始对人类远古史的地震---堰塞湖---盆塞海---大围坪----海啸有关联的研究，头绪纷繁复杂。５・１２四川大地震后，人们想起浙江学人钟毓龙的《中国上古史神话演义》巨著。钟毓龙写作《中国上古史神话演义》是在 1933 年 8 月 25 日发生茂汶叠溪的 8・0 级大地震之后。那次大地震叠溪镇地区在剧震发生的几分钟之内，几乎笔直地隐落，呈单条阶梯状下滑距离达 500—600 米。强烈的地震引起岷江两岸山崩，河道堵塞，形成地震堰塞湖。崩塌的山体在岷江上筑起的银瓶崖、大桥、叠溪三条大坝，把岷江拦腰斩断，使流量为每秒上千立方米的岷江断流。截断了的江水立即倒流，扫荡田园农舍，牛马牲畜。经过 30 多天的倒流，因叠溪超过银瓶、大桥两坝的高度，注入叠溪坝内的江水又倒淹银瓶崖、大桥两坝，使三座地震堰塞湖连成了一片。湖水随群山回旋绕曲，逶迤四五十华里，最宽处达四五华里。同时松平沟、水磨沟、鱼儿寨沟等地山崩数处，形成大小海子十一个，叠溪城及附近 21 个羌寨全部覆灭，死亡 6800 多人。震后第 45 天，即 10 月 9 日，岷江上游阴雨绵绵，白腊寨公棚地震堰塞湖崩溃，江水猛增。傍晚，高 160 多米的叠溪坝崩溃，积水倾湖而出，夹带泥沙巨石，沿江而下，江中浪头高达 20 丈许，吼声震天，10 里之外皆闻。沿江村镇、田园一扫而光，数万亩农田庄稼被毁。人畜逃避不及者，尽被卷人水中，又有 2500 多人丧生。地震罕见水灾引发钟毓龙研究众所周知的大禹治水。他研究了五百余部中国古籍后发现，现在的黄河在帝尧以前是没有的。道理是，尧、舜、禹时代的洪水，淹没了现在陕西、山西两省大部分面积。如果黄河已有河床，最多只是把沿河两岸淹没，何至于陕西、山西两省大部分面积受灾？

四川盆地，地处祖国西部或西南，是中国黄河、长江两条大河上游的交汇处，也是东、西方人类文明的交汇处，还是远古云南元谋人、陕西兰田人、广西柳州人、重庆巫山人等的交汇处。如果一万至五千年前四川盆地因地球局部地质大灾变，曾经形成过盆塞海（堰塞湖的扩张版），古梁州有过山寨城邦文明和海洋文明，那么说明五千年以后的东、西人类的海洋文明，已在五千年以前的四川盆塞海演习过了几千年。即如果最后一次大冰期结束时的一万年前至五千年前，是四川上古盆塞海现象的海洋文明和山寨城邦文明，那么在这一段上古四川盆地盆塞海干涸前的多次盆开和盆塞的变故时期，就有可能迫使这段时期那里产生的人类顶尖文明，随着有人向西方和我国中原及东部地区迁徙而最终转移。作为这种文明整体的分裂，就是人类文明的大爆炸。这也是世界古文明为什么都大致形成于 1 万年至 5 千年的原因。

堰塞湖是指地震后引起的大规模山体滑坡,河水冲击泥土、山石而造成堆积,堵截河谷或河床后贮水而形成的湖泊。早在上世纪初，何拔儒产生远古大地震串引起堰塞湖以及扩展成盆塞海的思路，从盐亭辐射嘉陵江流域两岸的大围坪和古山寨地质地貌，长期考察和研究盆塞海时期的大地震产生的大围坪地貌，得出从１．２万年至 8 千年前的大冰川末期起，四川曾发生和存在过多次大地震造成的“堰塞湖”，以至盆塞海现象，从而为５０００年前中国的海洋文明和山寨城邦文明提供了地质地理条件，才得出人类文明大爆炸起源于大地震假说的。

有人问：“四川盆地在古代是上古扬子海所在，岷江注入这个海，成都平原是岷江的冲击平原，但是，这个海早在几十万年前就已经因地壳的变迁而消失了啊！”。这是最容易提出的第一个疑问。但如果不是 5•12 四川大地震发生，这些人永远也不会相信堰塞湖的自然

实际。所以普及一下从堰塞湖到盆塞海的地质知识，早就很需要。虽然早在“5•12”大地震前，到陕西省、四川省、云南省等一些地方去看，这也不是何拔儒凭空想当然的臆造。即盆塞海这些 8000 年前的“堰塞湖”，类似四川省茂汶地区的海子，就是上世纪三十年代发生的大地震，也在形成叠溪城发生的大地陷。所谓“四川盆地在古代是上古扬子海所在，这个海早在几十万年前就已经因地壳的变迁而消失了”的知识，也许这并不是问者本人的研究，而是引用别人、别国的研究。中国近代的地质知识，学西方才不过百多年，很多东西，中国地质学界并没有系统研究。直上世纪七十年代发生唐山大地震，才知道大地震会有山崩地裂的情况。如果说何拔儒竟然是凭空想当然地臆造出一个 8000 年前的“盆塞海”，由此来个海洋文明，那么我们可以告诉，从“5•12”大地震普及的“堰塞湖”及其溃坝地质知识，到四川省盐亭县有此“盆塞海”的大海啸的遗迹，如大围坪地貌，任何人都可到那里作长期地质测量，再作结论。

因为研究早期文明的起源要以田野考古的成果作证据，这个“硬道理”任何学贯中西的人也明白。中华早期文明“海洋文明在先，农耕文明在后”；五千年到一万年前存在过四川盆塞海山寨城邦文明和海洋文明，田野考古的证据在哪里？这类田野考古的城市、文字、建筑的文明评判标准的具体指标是什么？何拔儒先生半个世纪以前就一针见血指出是“大围坪地貌”。

但我国在“5•12”大地震之前的半个世纪，地质学和田野考古学对“大围坪地貌”研究仍然是一个空白。当然研究人类起源于何处的国外科学家，也才是在上世纪八十年代对非洲的乍得、肯尼亚和埃塞俄比亚等地区的人类祖先的遗址作田野考古时，才提出了类似“大围坪”的古人类活动生存地貌概念。何拔儒也不是“先知”。一百多年前在他的家乡榉溪河畔到梓江、涪江流域，数百座寨子山上的为了宗教的、政治的或者战争的原因，而特别建造的类似“礼仪建筑”的古建筑密集群还存在，类似传说的蝌蚪文的有古文字的界碑、器物随时有发现。何拔儒当然也相信中原文明中心论，并且知道从西汉四川文人杨雄讲巴蜀远古蛮荒以来，有谈“盆塞海”先进文明不雅驯的类似古代传下来的“新闻纪律”，所以何拔儒更看重田野考古的硬证据。

“5•12”大地震后，2010 年在《第四纪研究》杂志第 4 期上，李海龙和张岳桥、李建华等科学家发表了一篇重要论文：《青藏高原东缘南北向河流系统及其伴生古堰塞湖研究》。李海龙等人提出青藏高原东缘南北向河流系统的概念，定位该系统包括岷江、青衣江、大渡河、鲜水河、雅砻江等总体呈现南北走向的河段。这些南北向河流系统的形成演化，具有构造和气候双重意义。因为.晚更新世以来，南北向河流系统发生多次堵江事件，形成数套堰塞湖沉积。他们选取岷江上游、青衣江上游、大渡河上游 3 个古堰塞湖进行沉积、构造及年代学研究，结果表明，岷江上游叠溪一带于 71ka 左右，发生了大面积堵江事件，形成了上游长约 30km 的堰塞湖。堰塞坝位于叠溪以南的下游河谷，沿江分布约 10km。该堰塞湖持续了 60ka，于 11 ka 左右，彻底溃坝。青衣江上游五龙乡古堰塞湖 85ka 前形成，35ka 前溃坝，规模不详。大渡河上游开绕村古堰塞湖长于 5km，堵江时间不明，20～17ka 间溃坝，堰塞坝位于色玉村一带。依据这些古堰塞湖的沉积、构造、关键层位光释光测年数据，结合前人研究成果，划分出青藏高原东缘晚更新世中、晚期，存在 85～70ka、43～30ka 和 20～10ka 的 3 个构造活跃期，可对应于青藏高原古里雅冰芯 δ 18O 曲线，体现出的 C1,C3 和 C4 的 3 次气候冷暖转变期。他们指出大规模堵江事件，是快速的能量物质转化过程：地震释放强大内能，气候因素使得物质得以积累，深切河谷是堵江的有利场所；构造-气候耦合，促使大型洪积扇发育、大规模堵江事件发生，进而改变河流动力、塑造河谷地貌。

李海龙和张岳桥、李建华等科学家取得以上青藏东缘工作的新成果，据李海龙先生介绍，这只是岳桥领军作的青藏东缘工作之一。2008 年汶川地震发生后，张岳桥是温总理亲点的科学家之一，也是其中最年轻的科学家。李海龙是张岳桥先生的助手，各方面的工作都是由张岳桥来安排。李海龙的工作集中在岷江和大渡河内，他为川西特殊的地貌及神秘的历史吸引。正是在 2009 年做完了川西的工作之后，李海龙对四川产生了浓厚的兴趣。但他苦于没有做研究的一个很好的入手点，这时他从互联网上搜索堰塞湖，看到了绵阳市对古盆塞海、大围坪及盘古王表的研究报道，就更觉神往。他感到绵阳市盐亭大围坪地貌、嫘祖历史，或许是解开这些问题的一把金钥匙。然而历史久远，这把钥匙或也已经锈迹斑斑了，他只能希望这把钥匙今后越来越亮。李海龙先生还有一点想法：盐亭离三星堆很近，为岷江的姊妹河流涪江的下游。四川学者有成都大学的王兰生

先生猜测，三星堆的毁坏可能与堰塞湖溃坝有关。这听起来蛮不可思议，但只要想到 1933 年叠溪地震后，整个叠溪古城下陷了约 70m。这处堰塞湖于两个月之后溃坝，造成了巨大的伤亡损失，足以体现出古人在自然灾难面前的无能为力。李海龙说，5 • 12 大地震之后，唐家坝堰塞湖如不在人力下疏导，其溃坝对下游的毁坏也是很难想象的。

张岳桥研究团队 2009 年以来在野外的一些考察工作，发现了岷江上游，在史前 7-1 万年（主湖期可能是 3~4 -1 万年）期间，存在一个大型的堰塞湖，长约 30Km，其规模远远大于唐家坝，河道堵塞近 10 公里，对比看来当时地震的级别绝不会小于 5 • 12 大地震。张岳桥研究团队还发现这一时期，在岷江、青衣江、大渡河、白龙江等长江上游水系中，仍有很多大型堰塞湖（在进一步研究中），规模均很大。更为有趣的是，这些堰塞湖在大约 1 万年左右全部溃坝了。溃坝意味着大量的水，被卸载到盆地里面。李海龙说，他个人认为，其水量足以淹没整个四川盆地（具体的数据还要做更为细致的工作）。而这些堰塞湖，在一万年左右溃坝的原因，可能跟气候转变有关，也可能跟大地震有关。中华上古有传说共工撞倒了不周山，造成了天倾西北、地陷东南，继而洪水泛滥，这一幕与 1933 年叠溪地震颇为相似，这有可能也是一次大地震的纪录。地震造成了山体滑坡，堰塞湖溃坝，对于下游的人们，才有水从天上来的感觉。

李海龙说，如果地质能和四川盆地特殊的历史联系起来，会不会有一点突破？盐亭离三星堆很近，但不属于岷江下游，而是嘉陵江的中游。如若是岷江等上游水系众多的堰塞湖，在大约 1 万年左右全部溃坝，造成的四川盆塞海，那么盐亭等嘉陵江的中下游的大围坪地貌，也许就是此时期盆塞海的海啸造成留下的？2008 年 3 月 28 至 30 日，西南石油学院的地质学家常健民先生，专程到盐亭考察“大围坪地貌”，即了解盆塞海及海啸遗迹的地点、地貌、地物、传说。常健民先生 1944 年 11 月生于南充市，1962 年进入北京地质学院地质测量及找矿系地质测量及找矿专业学习。毕业后在内蒙、川北和西昌等地从事野外地质技术工作多年。到 1980 年才调入西南石油学院地质系任教，2004 年退休。他在盐亭踏勘了盘古圣地的天垣盘垭村袖头山、五面山以及嫘祖故里的云毓山、烟鼎山、嫘村山，回龙山、公子山等山寨城邦文明遗址和观看了多处收藏的文物后认为，从玉龙镇、高灯镇、金鸡镇等地区密集的古山寨遗址景观看，盐亭存在远古文明事实的可能性很大，特别是烟鼎山脚下申家沟台地上露出的民间俗称为“石条球”的约七米高竖立的“石柱”，有可能是这个远古文明留下的建筑物遗存，值得发掘。但常先生也认为“大围坪地貌”是地质学的常态，类似山区测量图中的“等高线”，即作为海啸遗迹不可靠。这也许也是我国大多数地质学家的意见。但这也是何拔儒先生早就预料到的事，所以他才在天垣盘垭村鼓动建起了小场镇，以此地作为“大围坪地貌”研究的一个典型平台。在这个平台上，常健民先生也显露出分不清“丹霞地貌”和“大围坪地貌”的区别；其次在盘垭村袖头山脉，大围坪地貌像一条大章鱼包围在桦溪河的巨形弯弓中，不是“常态”的证据是，王家坪和黄家湾已是袖头山脉一个垭口相隔的两边围坪地貌，但两处的地平面几乎在一个水平面上，显露出“大围坪地貌”并不是“常态”的证据。常先生对此没有作答复。半个世纪以来石油勘探在盐亭这块地面上已进行过无数次的测量，“大围坪地貌”在石油人的眼里已见惯不惊，但即使在盐亭，玉龙镇地区的“大围坪地貌”和紧临的黄甸镇地区的地貌也有区别，但一些石油人并没有看出“大围坪地貌”形成的特定性。

运用计量方法来进行历史研究，称为计量历史学。虽然这是个新领域，但国外已有多年的实践。丹霞地貌与大围坪地貌之争，是人们有时过高地估计了人类社会自组织的力量。有关盆塞海的水平面遗迹的计量，作田野考古不能忘记全球古气候及地质灾变和当地地貌的可能联系。“丹霞地貌”是距今约 1•9 亿至 1•6 亿年的一种湖河海沉积岩，在中国南方形成的一种红色岩系发育的特殊地貌。而“大围坪地貌”只是距今约 100 万年至 5000 年的某些盆塞海时期，因地震海啸才在盆周山区特定条件下，形成的一种半山腰山坪遗迹地貌。以四川盆地为例，丹霞地貌形成在第一个海洋期，而且需要的海洋期要很长，时间也在造山运动之前。在盐亭农村，人们称这种红色岩系为“洋港子土”。时间坐标是，距今约 2 亿年发生的印支造山运动，形成四川盆地构造轮廓。距今约 1 亿年开始的燕山造山运动，四川盆地北部、东部和中部再次上升成为陆地，从而结束了漫长的沉积历史。距今约 2300 万年发生的喜马拉造山运动，四川盆地内沉积盖层普遍褶皱，形成了今天的构造格局。距今约 1000 万年开始的新构造运动，四川盆地又发生多次间隙性缓慢抬升，从而形成今天的丘陵起伏、沟谷

纵横，以及江河两岸多级的台地地貌特征。这就是一些地质学家说的“常态大围坪地貌”。

“海啸大围坪地貌”是形成在第二个内海期。这种遗迹不是上面说的新构造运动和暴风雨，以及人力所能作为。联系大海和陆地的水平面、地平面、地平线等类概念，何拔儒等民间学者在半个世纪作田野考古过程中，把从桦溪河畔到梓江、涪江流域的数百座密集寨子山的古生态景观与寨子山下半坡的大围坪台地终于结合了起来。以从盐亭境内盘古圣地的天垣盘垭村袖头山、五面山以及嫘祖故里的云毓山、烟鼎山、嫘村山出发，如目角寨、新寨山、大牛山、寨子山、仁和寨、保和寨、大碑寨、母猪寨、子母寨、四面山、罐子寨、猫儿寨、麒麟寨、凤凰寨、锣锅寨、毛达寨、金铧寨、点灯山、古龙山、炎台山、大佛寨、长生寨、摩天岭、烽龙寨、四方山、佛贡寨、金垭寨、蚕丝山、水丝山、马鞍山、太皇山、石马山、阳鹳山、白象山、丝源山、王岗咀、打鼓山、铜钟山、笼子寨、玉龙山、高梁观、仁广寨、江家寨、大寨山、伏龙山、刘家寨、白虎寨、青龙寨、登高寨、南瓜寨、水秦寨、二龙寨、太阳寨、七庙寨、空相寨、天生寨、狮子寨、金凤寨、金龙寨、观台山等 60 多处古山寨，它们一般相距 3 至 4 里，海拔约 600 米，上下相差约 80 米。它们的主要特征是，山寨半坡的大围坪一般在海拔约 450 米处，弯月形包围山寨，或背靠山寨。现在 95%以上的农户已从不当道的大围坪搬家到沟坝或靠近沟底的不规则的台地居住。何拔儒最早提出，这些大围坪的山头与山头即使有河流、山沟相隔，水平线延伸数十数百公里如此一致，不是明清或更早年代乱世时抗土匪、元军、清军、农民起义等修建工事的人力所为；此外长期受雨水、洪水等自然外力侵蚀、切割、冲积，也难形成连同城墙腰带似的山崖，而是一种海啸遗迹。

当然，大围坪更不是解放后改田改土、学大寨的人力所为。统一海啸遗迹争论是历史计量学方法。可类比的证据是，澳大利亚伍伦贡大学地理系的布赖特教授等科学家，进行的该国南部的海啸遗迹考古研究，发现海啸可能导致对邻近岛屿产生高出海面达约 375 米的巨浪，重量达约 20 吨的岩块也能从岩石表面被冲刷掉；海啸袭击海岸的大滑坡造成的岩石台地，通常盖有年龄达约 10 万年以上的沙堆层。以新南威尔士洲为例，那里许多海岬的北面是悬崖，没有零散岩石块，而南面则缓慢倾斜入海。在过去，这里有人把沙丘的消失归因于暴风雨或者河水的冲刷，布赖特教授不同意这种看法，指出沙丘被侵蚀处的沙流要比沙丘尚存在的地方少。如果拿这种计量方法来看四川盆地第二次海洋期，盐亭大围坪地貌是被海水海面的侵蚀，再加上海啸海浪的冲击，搬走了原先类似“金字塔”山形的大山腰岩石外水平面上的土坡，才留下初具规模的城墙腰带似的山崖和大围坪地貌的。而反证就有丹霞地貌：因为这种“洋港子土”，今天多出露在台地与山崖交界的地段，说明是第二次海洋期的泥土搬迁，才能把它们从埋藏很深的地层里暴露了出来。

何拔儒的“人类文明起源于大地震假说”，实际也是在“水”上做文章，并首先冲击了钟毓龙的“尧前无黄河说”。何拔儒认为，帝尧时黄河的河床是有的，当然更谈不到东面的大海倒灌淹没到太行山。何拔儒说，约公元前８０００－３１５０年，现在的川、甘、陕是一个大地震多发地区，长江三峡和剑门关山峡因大地震的山崩地裂有合有开，在川西北地区造成过无数的堰塞湖。如果其中有的大地震的山崩地裂，造成长江三峡山崩堵塞而剑门关山峡地裂分开的组合，引起长江断流，黄河通过渭河与嘉陵江连接的剑门关山峡分开的峡谷流入四川，那么四川盆地就有可能从堰塞湖演变为盆塞海。到约公元前４１７０－公元前２０７０，如果相反的组合——其中有的大地震的山崩地裂，造成长江三峡地裂溃坝而剑门关山峡山崩堵塞的组合---即引起盆塞海下面的长江三峡溃坝，盆塞海上面的渭河与嘉陵江连接的通道剑门关山峡的重新堵塞，黄河重新向东流入大海，那么四川盆地的盆塞海就会干涸，发达的盆塞海文明大部分就会向中原转移。那么帝尧时代，黄河淹没了陕西、山西两省大部分面积的洪水从何而来？何拔儒说，以此类推除长期的暴雨成灾外，可能此次还有类似造成长江三峡地裂溃坝而剑门关山峡山崩堵塞组合的大地震，同时造成黄河三门峡的山崩堵塞，黄河才能够如此成灾。此时何拔儒实际是进一步完善了他的“远古联合国假说”。

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