16TH

ANNUAL REPORT CUM MAGAZINE

Yash Krishi Takniki Evam Vigyan Kendra

Period: - April 2019 – March 2020

YASH KENDRA

JAN HITH SEVARTH

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yashkrishi.com

(Registration No. AL-16610 dated 17th June, 2003)


PROFESSIONAL ENGINEERS WELFARE SOCIETY
DR. Y. P. GUPTA
Paryavaran Bhushan 2015
ALUMNI
YASH BEAUVERIA
STATEMENT OF COMPLIANCE
ISO 9001:2015
Thank you

Contents

1.0 Objectives Of Kendra / Society

- Organic and Natural Farming
- Waste Management – Bio Degradable waste – convert to Manure
- Waste Management - Non Bio degradable waste like: C & D waste and Waste Polythene – some useful applications.
- Social activities and camp for pilgrims coming to Sangam
- Empowerment of rural women
- Association with corporate and government organisation under CSR activities.
- Promotion and establishment of small scale units for producing bio-fertilizers & bio-pesticides and transfer the products to farmers to encourage them towards Organic Farming
- Involving organization for giving help to poor people and schools or society for better living

2.0 Minutes of 16th Annual General Meeting

The 16th Annual General Meeting of Yash Krishi, Takniki Evam Vigyan Kendra, Allahabad, was held on 26th October 2019 at the registered office of NGO at A-148 Mehdauri Colony, Allahabad.

The following members were present.

1. Dr. Y.P. Gupta - Chairman
2. Dr. Pramila Gupta - Hon. Secretary
3. Dr. Namita Gopal - Vice-Chairman
4. Er. Rajeev Gopal - Member
5. Dr. H.S. Goyal - Member
6. Er. Vivek Jaiswal - Member
7. Er. Vivek Gupta - Member
8. Er. S.L. Yadav - Member
9. Er. R.C. Vaishy - Member

Invited specialists :

a. Mr. A.B. Singh - Accountant
b. Mr. Mohd. Hafeez - Microbiologist
c. Mr. Saket Kesri - Store cum Office In-Charge
d. Mr. Ajay Singh - Field coordinator

Chairman Dr. Y.P. Gupta welcomed the members and invitees present and introduced them to each others. He also described the background of Yash Krishi... Dr. Pramila Gupta Hon Secretary introduced the members with the activities of Kendra & its establishment. Thereafter, the agenda of meeting was taken up. After discussion on agenda, the following decisions were taken.

1. The Hon, Secretary presented minutes of 15th AGM, held on 03rd October 2018. The same were circulated and discussed. Dr. H.S. Goyal proposed to confirm the minutes. They were confirmed with a voice vote.
2. Various actions taken on the minutes of last meeting were informed.

3. Dr. Pramila Gupta & Ajay Singh introduced the work done by the NGO during this year and earlier.

4. The Honorary Secretary Presented the annual report for the period April 2018 to March 2019. It was discussed and approved. This annual report has been printed as "Annual Report Cum Magazine" This Report also has gew techincal & informative articles in it. These are concerned mainly with Waste Management and Farmers.

5. The audited statement of accounts for the year 2018-2019 was circulated. Mr. A.B. Singh Accountant presented the audit report and balance sheet. The accounts were discussed and passed by the body unanimously. The balance sheet for the year is attached with the Annual Report.

6. The members resolved that M/s Amit, Om & CO. Allahabad be reappointed to audit the accounts for the financial year. 2019-2020 on the similar basis.

7. Other Points Discussed:

   A. The membership fee has not been revised since its inception. So it was proposed to revise the same. The revised fee suggested is as fallows.

      a. Life Member ..... Rs. 5000/- (One Time)

      b. Annual Member ..... Rs. 1000/- (One Year)

      c. Invited Specialist Member ..... Same as before (No Fee)

      d. There will be no admission fee

      e. This amendment in the membership fee be included in the membership form & sent to everyone by mail or email.

B. The committee appreciated the efforts of Dr. Namita Gopal in bringing up the activities for the NGO as in previous year.

C. Management Committee Formulation - As per by-laws the term of Management Committee is for three years. The last formation was in 11th meeting held on 25 March 2015 Thus its term finished. Now the proposed formulation of management committee is as follows. This was approved after discussions by the general body :

   I. Dr. Y.P. Gupta - Chairman

   II. Dr. Pramila Gupta - Honorary Secretary

   III. Dr. Namita Gopal - Vice chairman

   IV. Er. Rajeev Gopal - Member and Treasurer

   V. Ms. Nupoor Agarwal - Member & It work

   VI. Mr. Udit Agarwal - Member and Deputy Secretary

   VII. Dr. H.S. Goel - Member and coordinator Engineering applications

VIII. Mr. Vivek Gupta - Member
IX. Dr. R.C. Vaish - Member
X. Mr. R.K. Pandey - Member
XI. Mr. S.L. Yadav - Member

D. Sangam Camp; as in previous years the Sangam camp was organized during the period January to March 2019 during Kumbh Mela. Other activities organized during Mela period are (in addition of regular programs) as fallows.
   I. Organize the Kisan Gosh thies on 13th Feb 2019 dealing various subjects of farming.
   II. Organize Javik products of Yash Krishi... throughout the period of camp.
   III. Providing various facility to pilgrims who come at sangam for holy dip - these include like stay arrangement, Light, water, toilet, some food etc.
   IV. Organize Bhandara for pilgrims as Food, Tea and Snacks etc.

E. A Kisan Gosti was organized on 16.07.2018 at Kuladhia Village, District Allahabad. About 150 farmers from all over the area attended. Hon. MLA of the area, Dr. Ajay Bhartiya was the chief guest. Farmers were distributed Mementos, free samples of Tricoderma and Bio NPK along with food. Serveral talks on organic farming were delivered. Use of some of the product was demonstrated to them. Hon. MLA appreciated the efforts of Kendra and requested farmers to grow their crop organically.

F. The Kendra also participated in several Kisan Gosthies which were Organized by various Government agencies for benefit of farmers. Some of them are as fallows.
   I. A one-day Mandal Kisan Seminar was organized on 17.10.2018 by the Department of Agriculture in Allahabad in which.
   II. Few Kisan Chaupal were organized in Soraon, Nari Bari, Ghurpur, Jasra, District Allahabad on 02.11.18, 03.11.18, 04.11.18 and 15.11.18. In all these the Kendra demonstrated its products.

G. Vivek Gupta suggested that the organization's products should be popularized in the local market.

8. Chairman Dr. Y.P. Gupta presented that Kendra is not getting enough orders for Bio products. So its income is reducing every day. In view of this there are following alternatives ie.
   i. Either we generate income from donations or by sale of by products.
   ii. Some marketing representative may be searched has who has experience in agriculture. Who may be willing to take up this job on commission basis.

iii. Stop or reduce the activities of Bio product Production. If the second alternative is taken the temporarily the production concerned staff be reduce wef. 31th January 2020. Accordingly staff may be informed.

9. The Kendra's Website "www.yashkrishi.com" and 'Facebook' page be visited by all members and concerned people for increased popularity ad increased awareness of this NGO.
10. It was decided to continue with various activities of NGO like Kumbh Mela in January 2020, painting / Quiz competition, Kisan Gosties etc in the coming years.
11. The committee appreciated the efforts done by the NGO staff in organizing various activities even at difficult and odd times.

    The meeting ended with vote of thanks to the chair.

Place : Allahabad
Date : 27th October, 2019

Dr. Pramila Gupta
Honorary Secretary

Approved By Chairman
Confirmed in the Seventeenth meeting

3.0 Chairman's Message:

It is of great privilege for me to write down the message for our NGO **'Yash Krishi Taknique Evam Vigyan Kendra, Allahabad'**. I feel great pleasure to report the progress which this Kendra has achieved in previous year. The idea of starting an NGO for doing some social work and participation in development activities came in 2003. It was quickly registered as Non Government Organization with the registrar of societies. Later, the idea came that apart from doing social work; we also do something for the farmers. As the **'javik krishi'** was the need of hour at that for farmers to get healthy food for the society, so we started this field. The main initiative was taken by Dr. Pramila Gupta which was full of energy, joy and discovery. Further with the objective of Cleanliness around came the idea of Waste Management.

As we live today in a world that is so different from the past so the need of hour is to be safe and be healthy so that we resist the weather around us which is so different then in past. As we impart education to match the advancement of technology and globalization, we must also match our thinking and actions ahead with the ethos of environment, health & cleaness principles. Today's world is riding an accelerated pace of technology and we need to pause and reflect it on the entire system. I firmly believe that this change must penetrate upto the last person standing in the queue, so as to do, not what to think for them. Thus at present we work in many fields like:

- Natural and Javik Farming
- Waste Management - both: Bio Degradable & Non Bio degradable and Environment protection
- Children training and empowerment of youth and rural women
- Association with individuals, companies and government for CSR activities etc.

The Contents of this report reflect the creativity of thoughts and imagination of our NGO members, staff and associates. I extend my warm regards to all our members and associate. We fortunately have a committed associates and supportive staff who do good work in all fields. With cooperation with members, people and organization, I am sure it will take the NGO to greater heights as we continue to work in this journey on the road of excellence.

"May this organization grow into a stable tree and spread its branches to all generation to come & associate people."

Dr. Y. P. Gupta

4.0 Honorary Secretary Message:

It is proud privilege indeed to be a part of NGO as secretary of an esteemed organization "Yash krishi, Takniki Evam Kendra". As Secretary I tried to fulfill the expectations of Community with full cooperation of all members of our general body. During this period, I on behalf of the Kendra took up cudgels for the cause of farmers and farming industry in India. With the unparalleled support of Dr. Y P Gupta & guidance from our Management committee members and overwhelming advice of experts, the Kendra has been running smoothly. I have tried to mobilize the resources for the Kendra to a great extent with the help of farmers, Industry (especially sugarcane Industry) etc which helped the Kendra in organizing some important events. We have been able to get the various approvals from the Central, State Government and local administration for the cause of Organic farming and waste management.

Recounting the neglect of farming and cleanliness in the country has resulted in poor environment and human health of community at large this has resulted into farmer not have been to work on vellages & grow healthy food for community. With our incessant efforts for improvement at many places, has started getting some results. Now in the last few years our Honorable Prime Minister Mr. Narendra Modi is doing all out efforts to bring cleanliness and healthy food in markets of India. This NGO is getting lots of encouragement from his Ideas. We have organized number of activities like Kisan Gosties in rural areas, Social service, Camp at sangam, on the spot Painting competition, help to unemployed women and youth in Javik krishi etc.

I will like to put on record special thanks to our active members and workers of Kendra and all Industries associated. Thus I welcome all to Yash Krishi Takniki Evam Vigyan Kendra, Allahabad to be an associate and participate in its activities & also enlarge these as much as possible.

Dr. Pramila Gupta

5.0 Present List of Society Members:

S.No	Name	S.No	Name
1	Dr. Y.P. Gupta Ex-Professor, MNNIT Alld and Ex Director KEC Dwarahat, Uttranchal	13	Com. Arvind lochan Lt.Com Indian Navy New Delhi
2	Dr. Pramila Gupta Ex-Professor, AAI Naini and Ex Dean faculty	14	Er. R. K. Varshney Retd. Member Ordinance factory Board, New Delhi
3	Dr. Namita Gopal, Ex CSR I/C of L & T Vadodara	15	Dr. Sunil Dwivedi Food Inspector, UP Govt
4	Mr. Rajeev Gopal, Exports CEO Aditya Birla Group, Management and Export Expert	16	Dr. Ajay Gopal, MD Child specialist, Alld
5	Mrs. Indu Chandra, Entrepreneur Lucknow	17	Dr. R C Vaishya Professor (MNNIT) Alld+ & Environment Expert
6	Mr. Udit Agarwal, Management & design expert, Dubai	18	Er. Vaibhav Gupta Architect & consultant New Delhi
7	Mrs. Noopur Agarwal HR with IBM Dubai	19	Dr. Vipin Kumar Microbiology, Expert
8	Dr. H S Goyal Professor (MNNIT), Alld	20	Er. Ashutosh Kumar Architect, New Delhi
9	Er. Vivek Gupta , Secretary IEI Ald Consultant, Designer and Builder, Alld	21	Mr. Ashutosh Sharma Consultant, Alld
10	Dr. Razia Perwez Professor (SHUATS) Alld	22	Dr. Rakesh Kumar Yadav District Engineer (Zila Panchyat, Allahabad)
11	Er. R K Panday (Industrialist) MNREC Industrial Estate, Alld	23	Er. Vivek Jaiswal, LLB Legal Advisor, High Court, Alld
12	Er. Kshitij Gopal, Microsoft Singapore Mechanical / Computer Engineer	24	Er. Shiv lal Yadav Engineer (Hindustan Aeronatical Ltd.) Korba
		25	Er. O P Sharma Consultant & Valuers, Lucknow

5.1 List Of Associate Staff Of The Kendra:

Sl	Name	Position
1	Mr.Saket Kesri	Office Administration & Store
2	Mr. Mohd Hafeez	Microbiologist
3	Mr. Ajay Singh	Field Officer
4	Mr. Chitragupt Varshney	Field coordinator
5	Mr. A. B. Singh	Accounts
Many others in the field for advise and working in associate places		

6.0 List Of Some Relevant Works Done By Kendra:

6.1 Donation Of Some Useful Items To Schools For Betterment Of Education Of Children:

A. **पूर्व माध्यमिक विधालय बरेड़िया जसरा इलाहाबाद** में 200 बच्चो को NGO की तरफ से निशुल्क पानी का थर्मस वितरित किया गया। संस्था अपने पूर्व उदेश्य निस्वार्थ भाव से समाज की सेवा करने का कार्य पिछले 17 सालो से करती आ रही है इन्ही उदेश्य की पूर्ति के लिए संस्था से वर्ल्ड वाइड लोग अपना सहयोग करते आ रहे है जो आर्थिक रूप से संस्था की मदद करते है और संस्था उन्ही पैसो से समाज की सेवा करती है।

B. इन्ही क्रम में संस्था ने अपने प्रंशसित दानकर्ताओं की मदद से **अमरावती उच्चतर विधालय मेजा इलाहाबाद** में NGO की तरफ से स्कूल को एक कम्प्यूटर सेट प्रदान किया गया। कम्प्यूटर देने का विचार संस्था सहयोगी श्री क्षितिज गोपाल का रहा उनकी दूरदर्शिता यह दर्शाती है की ग्रामीण आँचल के बच्चे भी आधुनिकता में जिए और आगे आने वाले समय में वह तकनीकी में पीछे न रह जाये। कम्प्यूटर के माध्यम से वह सदैव नई नई चीजों से परिचित हो सकेंगे।

C. आगे बढ़ते हुए इसी क्रम में संस्था ने **अमरावती उच्चतर विधालय मेजा इलाहाबाद** में NGO की तरफ से स्कूल को एक सिलाई मशीन प्रदान किया गया। सिलाई मशीन पाकर स्कूल में पड़ने वाली बालिकओं का चेहरा खुशियों से खिल गया इन्ही खिले हुए चेहरों के लिए ही तो संस्था पिछले कई वर्षो से अथक प्रयास करती आ रही है। इस मशीन से बच्चे मास्क इत्यादि बना रहे है जो आज की आवश्यकता है।

D. मोदी जी के द्वारा चलाये गए स्वस्थता अभियान के तहत संस्था ने अमरावती उच्चतर विधालय मेजा इलाहाबाद में NGO की तरफ से स्कूल को एक RO प्यूरीफायर प्रदान किया गया। जिससे की बच्चो को शुद्ध जल पीने के लिए प्राप्त हो सके और उनका स्वस्थ ठीक रहे ।

6.2 Donation or Of Some Useful Items To Needy Society For Their Living & Standered:

A. मिस आरती देवी जो की कुलड़िया इलाहाबाद में रहती है और संस्था के प्रयोगत्मक फार्म हॉउस की सहयोगिका भी है उनको स्वालंभि बनाने के उदेश्य से संस्था ने अपने प्रशंसित दानकर्ता मिस पूजा कुमार के सहयोग से एक सिलाई मशीन प्रदान किया गया जिससे की उनकी आर्थिक स्थिति मजबूत हो सके और उनके बच्चे भी औरो बच्चो की तरह स्कूली शिक्षा प्राप्त कर सके, तथा इनकी बालिकाएं सिलाई का काम सीख सके और अपने आप को स्वलाम्भित की राह पर चल सके।

B. संस्था समाज के साथ साथ अपने साथ काम करने वाले लोगो को भी प्रोत्साहन करती है इसी क्रम में संस्था सहयोगी श्री राजेंद्र प्रजापति को NGO की तरफ से उनके बच्चो के लिए एक कम्प्यूटर सेट प्रदान किया गया। इस कम्प्यूटर की मदद से इनके बच्चे आजकल ऑनलाइन पढ़ाई कर रहे है।ज्योकि आजकल ऑनलाइन शिक्षा की मांग हो रही है इसी वर्तमान परिवेश को देखते हुए संस्था सचिव ने इनके बच्चो को कम्प्यूटर देने का निर्णय लिया।

C. संस्था का मुख्य उदेश्य बच्चो का सर्वांगीड़ विकास करना है इसी क्रम में संस्था सहयोगी श्री अजय सिंह रघुवंशी की उनकी होनहार बच्ची आस्था रघुवंशी जिसकी उम्र मात्र 12 वर्ष है और अग्रिमा रघुवंशी को NGO की तरफ से एक म्यूजिकल इंस्ट्रूमेंट (काशियो) प्रदान किया गया, वह अक्सर ऑर्केस्ट्रा व निजी कार्यक्रमों और स्कूल में काशियो बजाती नजर आती है वह अपनी इस प्रतिभा के लिए वह समाज में बहुत प्रशंसित है उसकी छिपी हुई प्रतिभा को निखारने के लिए ही संस्था सचिव डॉ० प्रमिला गुप्ता ने इनको काशियो देने का निर्णय लिया।

D. संस्था अध्यछ के ग्रैंड सन श्री क्षितिज गोपाल का शादी के बाद प्रथम बार सपत्नीक मिस रितिका का इलाहाबाद आगमन पर एक सम्मान कार्यक्रम का आयोजन किया गया। जिसमे संस्था से जुड़े हुए हरेक व्यक्तियों को निमंत्रित किया गया जैविक वातावरण को बढ़ावा देने के लिए कार्यक्रम में फूलो की होली का आयोजन किया गया जिसको वृन्दावन से आये हुए प्रोफेशनल कलाकारों ने अपनी जादुई कला मुद्रओं से मंचित किया| श्री क्षितिज गोपाल सिंगापूर में माइक्रोसॉफ्ट कम्पनी में इंजीनियर है समय समय पर वह संस्था का भर्मण करते है और NGO को अपना अमूल्य मार्गदर्शन भी देते रहते है। साथ ही आये हुए अतिथियों को किचन गार्डन सम्बंधी जानकरी भी दी गयी जिसका मुख्य उदेश्य था लोगो को जैविकता के बारे में जागरूक करना। इंजीनियर आर के वार्ष्णेय (रिटायर्ड मेंबर आर्डेन्स फैक्ट्री बोर्ड) , क्षितिज गोपाल (सॉफ्टवेयर इंजीनियर सिंगापुर), और रितिका त्रिपुरिया (सॉफ्टवेयर इंजीनियर सिंगापुर) का इलाहाबाद भर्मण के दौरान संस्था चेयरमेन डॉ वाई गुप्ता ने इन सभी को यश कृषि के कुल्हड़िया स्थित प्रयोगत्मक फार्म हॉउस का निरीक्षण करवाया जहां इन सभी ने नवग्रह वाटिका , आक्सीजन प्लांट और जैविक उत्पादित फसल और फलो को देखा तथा उसका स्वाद भी चखा और संस्था के द्वारा किये गए कार्यो को खूब सराहा।


यहां।

E. संस्था उपाध्यछ श्रीमती नमिता गोपाल ने कारपोरेट सोशल रिस्पोंस्बिलिटी के ऊपर के एक काफी टेबल किताब की लांचिंग की है जिसका शीर्ष्क है "BEYOND BALANCE SHEET " इस पुस्तक का विमोचन पश्चिम बंगाल के राज्यपाल माननीय श्री केसरी नाथ त्रिपाठी जी के हाथो किया गया। इसमें संस्था यश कृषि के बारे में पूर्ण रूप से विवरण किया गया है जिसको माननीय राज्यपाल महोदय ने पढ़कर NGO के कार्यकलापों को खूब सराहा और संस्था को अपनी शुभकामानएं दी।

Yash Krishi Takniki Evam Vigyan Kendra

Yash Krishi Takniki Ewam Vigyan Kendra(YASTK), an NGO which matches its long name with its long list of contributions to society, has been in existence for over 15 years now.

Working primarily in the area of agriculture and social forestry, YASTK propagates enriching and healthy agricultural practices around the world with the safest possible ways of growing farm products.

Through their commitment to quality, constant innovation and a deep respect for a clean environment, they encourage methods for waste processing to ensure less garbage by way of waste separation, vermi composting of biodegradable waste & healthy methods of growing food. Highly popular and sought after in the North Indian belt, YASTK helps farmers and green agriculture and green environment by distributing Bio fertilizers and Bio pesticides to promote organic food and living.

Many horrific ailments are plaguing mankind today. Incidence of cancer, skin diseases, numerous auto-immune disorders and a host of other diseases have increased in a big way. While we cannot do away with this in totality, organic food which has not be touched by chemicals is unarguably a possible solution to reduce this trauma. Organic inputs for food cultivation are the need of the hour. While there is extensive propagation of this thought, the reality is different.

F. संस्था सचिव डॉ० प्रमिला गुप्ता का स्वदेसी जागरण मंच इलाहाबाद की तरफ से माघ मेला परेड ग्राउंड पर आयोजित नारी सम्मान समारोह में विशिष्ट अतिथि के रूप में आमंत्रित किया गया जहां इन्होने अपने जीवन के कार्यानुभव को आमंत्रित अतिथियों के साथ साझा किया और उनको आगे बढ़ने की प्रेरड़ा दी तथा समाज और देश के उत्थान के लिए स्वदेशी अपनाने का संकल्प दिलाया।

7.0 Organisation Of Kisan Gosties For Better Organic And Natural Farming:

A. संस्था के प्रयोगात्मक फार्म हाउस ग्राम कुल्हड़िया जिला इलाहाबाद पर एक 'रबी की फसल में समसमायिक कृषि प्रबन्धन' विषयक किसान गोष्ठी का आयोजन किया गया। जिसमें एग्रीकल्चर इंस्टीट्यूट के जाने माने कृषि विशेषज्ञों एवं संस्था सचिव कृषि वैज्ञानिक डॉ० प्रमिला गुप्ता ने किसानों को देशी / जैविक विधी द्वारा उत्पादन की जानकारी दी एवं किसानों की समस्याओं के समाधान के उपाय भी बताये । कार्यक्रम के मुख्य अतिथि बारा विधायक श्री अजय भारतीय रहे जिन्होंने कर्यक्रम को खूब सराहा और NGO को अपनी शुभकामनाये दी। संस्था द्वारा बनाये गये जैविक उत्पादों का प्रदर्शन किया गया एवं उसकी प्रयोग विधि की

जानकारी एंव लाभों से भी किसानों को रूबरू कराया गया। एग्रीकल्चर इंस्टीट्यूट के कृषि वैज्ञानिको ने किसानों को रासायनिक उर्वरक एवं कीटनाशी दवाओं के दुष्प्रभाव से होने वाली बीमारियों के बारे में चर्चा की। एग्रीकल्चर इंस्टीट्यूट से आये हुए डॉ० मनीष केशरवानी ने किसानो को बताया कि कैसे हम देशी फ्रिज बनाकर अपने फल एवं सब्जियों को संरक्षित कर सकते हैं।

अन्त में संस्था सचिव डॉ० प्रमिला गुप्ता ने कृषि क्षेत्र में अमृत कहे जाने वाले ट्राइकोडर्मा के बारे में विस्तार से चर्चा की एवं उसके अनगिनत फायदों को बताया। इसके साथ ही इन्होनें संस्था द्वारा उत्पादित जैव उत्पादों जैसे - एजेटोबैक्टर, फास्फोप्लस, राइजोबियम, बिवेरिया आदि के विषय में जानकारी दी। कार्यक्रम में क्षेत्र के लगभग दो सौ किसानों ने बढ़ - चढ़ कर हिस्सा लिया एवं कार्यक्रम से लाभान्वित होने को सराहा तथा संस्था के प्रयोगात्मक फार्म हाउस में जैविक विधि द्वारा उत्पादित होने वाली फसलों को प्रत्यक्ष देखा। संस्था द्वारा लगाये गये जैव उत्पादों के स्टाल पर उत्पादों की जानकारी ली संस्थाध्यक्ष डॉ० यश पाल गुप्ता ने मलवा और वेस्ट प्रबंधन की तकनीकियों एवं जानकारी दी, आये हुए किसानो को जैविक खाद एवं कीटनाशी का निशुल्क वितरण किया गया।

B. गाँधी जयंती के शुभ अवसर पर संस्था कार्यालय पर गाँधी जी के चित्र पर माल्यार्पण किया गया तथा इसी दिन कृषि विज्ञानं केंद्र नैनी प्रयागराज में जल शक्ति अभियान के तहत एक दिवसीय किसान गोष्ठी का आयोजन किया गया जिसमे संस्था ने प्रतिभाग किया और अपने उत्पादों की प्रदर्शनी लगायी।

C. संस्था की तरफ से अवध शुगर मिल सीतापुर में आयोजित गन्ना किसानो की गोष्ठी में संस्था कार्यकर्ता अजय सिंह, साकेत केसरी, मोहम्द हाफिज के द्वारा अपने उत्पादों का प्रदर्शन किया गया।

D. संगम कैम्प पर महिला किसानो के साथ एक किसान गोष्ठी का आयोजन किया गया।

E. संस्था सचिव डॉ० प्रमिला गुप्ता ने हरीश चंद्र रिसर्च इंस्टिट्यूट झूसी इलाहाबाद में नारी सशक्तिकरण के ऊपर व्याख्यान दिया जिसमे इन्होने महिलाओं को स्वदेसी तकनीकी की विधियों द्वारा उनको स्वालंभी बनने की गुण सिखाये।

7.1 Organization Of Other Social Activities By Kendra:

Magh Mela Camp:

संस्था पिछले एक दशक से प्रत्येक वर्ष संगम क्षेत्र में अपना कैम्प लगाती है जहा पर दूरदराज से आये हुए तीर्थयात्रियों को उनके रहने, खाने, पीने का पानी आदि की सुविधा मुहैया कराती आ रही। इसी क्रम में संस्था ने इस वर्ष भी जनवरी - मार्च 2020 में कैम्प लगाकर समाजिक सहायतार्थ हेतु कुछ कार्य किये जो निम्न प्रकार से है।

- जैव उत्पादों की प्रदर्शनी

- पोस्टर द्वारा स्वच्छता जागरूकता की प्रदर्शनी
  - कंबल का वितरण
  - जैव उत्पादों का फ्री पैकेट बटाना
  - किसान गोष्ठी का आयोजन
  - चाय नाश्ता, खाना पानी का लंगर चलना


कृषि तकनीकी एवं विज्ञान केन्द्र

7.2 Work shop on polluted Climate in Cooperation with Allahabad Management Association:

कुलड़िया फार्म हाउस पर होली के शुभ अवसर पर एक होली मिलन समारोह का आयोजन किया गया जिसमे इलाहाबाद मेनेजमेंट एसोसिएशन (AMA) के बुद्धजीवियों ने हिस्सा लिया रंगारग कार्यक्रम के बीच आये हुए आतिथियो ने प्रदूषित वायुमंडल के बारे में एक परिचर्चा की। AMA एक मेनेजमेंट संस्था है जो All India Management Association से जुडी हुई है। यह संस्था समय समय पर समाजिक हितार्थ हेतु समाजिक कार्य करती रहती है संस्था अध्यछ डॉ वाई पी गुप्ता इस संस्था के प्रगतिशील कार्यकर्ता के रूप में इससे जुड़े हुए है तथा यह संस्था समय समय पर समाजिक विषयो के उत्थान के लिए रूपरेखा तैयार करती रहती है। इस कार्यक्रम में क्षेत्र के 200 किसानो और महिलयो ने प्रतिभाग किया, कार्यक्रम में आये हुए अतिथियों को जैविक विधियों द्वारा उगाये गए फल, सब्जियों को दिखाया और चखाया गया जिसकी लोगो ने बहुत सहराना की सभी अतिथियों को यादगार के रूप में एक एक पौधा वितरित किया गया।

8.0 Tree Plantation & Other Activities Of Society:

संस्था की तरफ से समय समय पर स्वछता अभियान के तहत शहर में विभिन्न जगहों पर पौध रोपड़ का कार्य करती आ रही है। अब तक संस्था की तरफ सैकड़ो की संख्या में पौध रोपड़ किया गया है |

Some view of Tree Plantation in Rural Arears Given Here

a. संस्था कार्यालय में भगवान विश्कर्मा का पूजन अर्चन किया गया ।


b. संस्था कार्यालय में ध्वजा रोहड किया गया ।


9.0 Research Activates Related To Better Agricultural Practices

- Bio-efficacy field trials are being conducted regularly with various Yash Products on various field, vegetable, fruit crops at YASTK's farm on Kulhadia Block, Allahabad.
- Shelf- life studies are being conducted on various YASTK bio products for its increase in shelf- life.
- Organisation has Developed “Yash Activator Plus”: A microbial consortium for composting” in sewage treatment plants (STPs).
- A view of concerned lab is gives Photographs below.
- Some relevant Articles, Reserch Paper and Views on associated topics given at the end.

View of Lab, Equipment & Product

10.0 Registration Of Our Organization "Yash Krishi..." Under 80 G Of Income Tax Department

Kendra is registered with Income tax Department under 80 G. Thus it is authorised to receive donation u/s 80G of the income tax act 1961 of Govt. Of India. Such donation is exempted from income tax as per the rules. These donations are used for furtherance of society welfare & upliftment of the poor people and Village schools in the country.

11.0 List of some other organization with NGO is attached & gets support

The Kendra is closely associated with many organizations. This is in regard to approval of bio products, From Government Organization CIB & other. This is for organizing seminars, cleanliness drive or tree plantation etc.

- MSME, Allahabad
- NSIC, Allahabad
- EUPCCI, Allahabad
- NCOF, Lucknow
- IMO, Bangalore
- ISO, Delhi
- IOV
- IEA
- UPSIC, Allahabad
- CIB Fridabad
- Plant Protection Lucknow
- DAO Allahabad
- DDPP Allahabad

12.0 Award, Appreciation Of NGO And Its Associated Members From Others:

a Appreciation Of NGO By Other Reputed Organization In India:

- Ganna Vibhag Shajahapur (UP)
- Seksaria Sugar Mill (UP)
- District Horticulture officer Allahabad (UP)
- Balrampur chinni Mill (UP)
- Allahabad Management Association and many more (UP)

13.0 List Of Bio-Products Being Generated And Supplied To Farming Community:

S.No.	Trade name (Technical Name)	S.No.	Trade name (Technical Name)
1	**Yash Azoto Plus** (*Azotobacter spp*)	11	**Yash Javik Khad** (*Enriched with Biofertilizer,Biopesticide*)
2	**Yash Phospho Plus** (*Phosphate solubilizing. Bacteria*)	12	**Yash Super Shakti Plus** (*Micronutrients*)
3	**Yash Azospi Plus** (*Azospirillum spp.*)	13	**Yash Activator Plus** (*Microbial consortium for composting/ treatment of solid waste/city waste/sugarmill waste etc*)
4	**Yash Aceto Plus** (*Acetobacter spp.*)	14	**Yash Derma** (*Trichoderma*)
5	**Yash Rhizobium** (*Rhizobium sp.*)	15	**Yash Beauveria** (*Beauveria bassiana*)
6	**Yash Potash Plus** (*Potash Solublizing Bacteria*)	16	**Yash Verticilium** (*Verticilium lecani*)
7	**Yash Zinc Plus** (*Zinc activating Bacteria*)	17	**Yash Pseudoplus** (*Pseudomonas flouresence*)
8	**Yash Bio NPK** (*Microbial NPK*)	18	**Yash Neem plus 1500ppm** (*Azadirachtin 0.15%*)
9	**Yash PGPR** (*Microbial plant growth promoter*)	19	**Yash Neem plus 3000ppm** (*Azadirachtin 0.30%*)
10	**Yash Sulpho Plus** (*Sulphur oxidizing bacteria*)		

A typical photo of product material of Trichoderma is given here and other similar products.

14.0 Organisation Quality Policy

QUALITY OBJECTIVES STATEMENT

" Development, manufacture & supply of organic farming inputs and organizing Seminars, Conferences, Meetings, Workshop, Trainings, Camps On matters of public and social issues"

Chairman

15.0 List of Possible Project Proposals of NGO for help Under CSR & Individual Funding:

- Organise the several Kisan Ghosthi in Rural area for creating about better organic practise
- Assessment of optimum Water requirement for Agricultural crops Irrigation
- Facilitating village roads by providing solar light
- Soil Testing Laboratory in Rural area for district Allahabad
- Empowering Rural People by providing sustainable energy Inputs
- Establishment of old Age home
- Education Through Technology
- Providing Safe & Potable drinking water

Annexure-I (Annual Audit Report 2019-20)

YASH KRISHI, TAKNIKI AWAM VIGYAN KENDRA
A-148, Mehdauri Colony, Teliarganj, Allahabad- 211 004

Annexure -'1' of Fixed Assets as on 31.03.2020

Sl.No.	Assets	Rate	Opening Balance as on 01-04-2018	Addition during the Year		Deletion During the year	Total Amount	Amount of Depreciation	W.D.V. as on 31.03.2019
				Upto 30.09.2018	After 30.09.2018				
1)	**Land & Building**								.
i)	Land & Building	10%	76,884.00	-	-	-	76,884.00	7,688.00	69,196.00
2)	**Plant & Machinery**						-		
i)	Machine & Equipment	15%	27,337.00	-	-	-	27,337.00	4,101.00	23,236.00
ii)	Equipment	15%	2,38,092.00	-	-	-	2,38,092.00	35,714.00	2,02,378.00
iii)	Fire Protection Equipment	15%	3,439.00		-	-	3,439.00	516.00	2,923.00
iv)	Inverter Battery	15%	2,669.00	-	-	-	2,669.00	400.00	2,269.00
v)	R.O	15%	15,998.00	-	-	-	15,998.00	2,400.00	13,598.00
vi)	Mixy	15%	6,683.00	-	-	-	6,683.00	1,002.00	5,681.00
3)	**Furniture & Fittings**				-				
i)	Fan	10%	3,428.00	-	-	-	3,428.00	343.00	3,085.00
ii)	Furniture	10%	36,670.00	-	-	-	36,670.00	3,667.00	33,003.00
4)	**Vehicles**						-		
i)	Vehicle TATA 207A	15%	1,84,612.00	-	-	-	1,84,612.00	27,692.00	1,56,920.00
ii)	Cycle	15%	242.00	-	-	-	242.00	36.00	206.00
5)	**Computer**								
i)	Computer	40%	11,454.00	-	24,990.00	-	36,444.00	9,580.00	26,864.00
ii)	Printer	40%	4,992.00		-	-	4,992.00	1,997.00	2,995.00
iii)	UPS	40%	11,466.00	-	-	-	11,466.00	4,586.00	6,880.00
Total			**6,23,966.00**	**-**	**24,990.00**	**-**	**6,48,956.00**	**99,722.00**	**5,49,234.00**

Place: Allahabad
Date: 11-11-2020

For Yash Krishi Takniki Ewam Vigyan Kendra
Chairman

Annexure - '2' of Sundry Debtors as on 31-03-2020

S.No	Party	Amount
1	Diva Organic Bio Science	2,108.00
2	Kisan Enterprises	20,000.00
3	Krishi Vigyan Kendra	4,263.00
4	Nacoaf India Ltd	3,32,467.08
5	PRD Agro Science	4,312.00
6	Raj Bio Energy Pv Ltd	3,06,556.00
7	Rajesh Srivastava	1,756.72
8	Seksarai Biswan Sugar Mill	2,58,720.00
	Total	**9,30,182.80**

Place: Allahabad
Date: 11-11-2020

For Yash Krishi Takniki Ewam Vigyan Kendra
Chairman

YASH KRISHI, TAKNIKI AWAM VIGYAN KENDRA
A-148, Mehdauri Colony, Teliarganj, Allahabad- 211 004

STATEMENT OF AFFAIRS AS ON 31ST MARCH 2020

LIABILITIES	AMOUNT	AMOUNT	ASSETS	AMOUNT	AMOUNT
GENERAL FUND:			**FIXED ASSETS:**		
Opening Balance	64,12,316.64		As per Annexure '1' annexed		5,49,234.00
Add: Income Tax Refund	6,656.00				
Less: TDS	23,576.00		**INVESTMENTS**		
Less: Excess of Expenditure over Income	8,63,305.01	55,32,091.63	Term Deposits With Vijaya Bank		24,09,634.00
CURRENT LIABILITIES & PROVISIONS:			**CURRENT ASSETS, LOANS & ADVANCES:**		
			Current Assets:-		
Current Liabilities			Balance with Vijaya Bank		14,62,918.83
Payables	30,686.00		Receivables		
Duties & Taxes			(As per Annexure '2' annexed)		9,30,182.80
GST Payable	52,070.00	82,756.00	Loans & Advances:-		
			Earnest Money	20,000.00	
			Pramila Gupta	75,311.00	
			Security Fees	1,47,500.00	
			Shri.Ajay Singh	5,000.00	2,47,811.00
			Balance with Revenue Authorities:-		
			TDS 2019-20	15,067.00	15,067.00
TOTAL		**56,14,847.63**	**TOTAL**		**56,14,847.63**

Significant Accounting Policies and Notes to Accounts at Annexure '3'

Place: Allahabad
Date: 11-11-2020

As per our separate report of even date
For Amit Om & Co
Chartered Accountants
FRN No. 011957C

Amit Agarwal
Partner
M. No. 400193

For Yash Krishi Takniki Ewam Vigyan Kendra

Secretary Chairman

YASH KRISHI, TAKNIKI AWAM VIGYAN KENDRA
A-148, Mehdauri Colony, Teliarganj, Allahabad- 211 004

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

EXPENDITURE	AMOUNT	AMOUNT	INCOME	AMOUNT	AMOUNT
To Expenditure towards Bio Fertilizer Activity/ Society Activities			**By Receipt from Bio Fertilizer Activity/ Society Activities**		30,08,871.50
Expenditure on Farming	23,155.00				
Kisan Gosthi	43,242.00		**By Society- Other Income**		
Labour Payment	1,38,456.00		Interest from Bank	66,117.00	
Maghmela Camp	56,770.00		Interest on IT Refund	394.00	
Printing of Packing Matarial	2,68,017.00		Interest on FDR	1,50,670.00	
Purchase of Raw Matarial	2,50,218.00		Donation	65,697.37	
Promotion of Bio-Pesticides	1,62,500.00		Other Miscellaneous Income	14,210.00	2,97,088.37
Promotion of Organic Farming	2,50,100.00				
Packing Matarial	84,295.00		**By Excess of Expenditure over Income**		8,63,305.01
Registration & Laboratory Expense	1,23,739.00				
Training Expenses	48,878.00				
Transportation	81,800.00	15,31,170.00			
To Society and Administrative Expenditure					
Audit Fees	12,000.00				
Bank Charges	4,083.60				
Donation Expenditure	9,250.00				
Electricity Charges	1,51,338.00				
Employees Welfare	51,136.00				
Hospitality	6,056.00				
Legal and Consultancy Charges	19,700.00				
Maintenance of Office Bld and Elect Mainten	35,130.00				
Maintenance of Vehicle and Equipment	60,417.00				
Misc Expenditure	17,556.00				
Petrol and Oil	33,100.00				
Plantation	965.00				
Postage	1,739.00				
Printing and Staionery	12,999.00				
Rent and Taxes	1,36,230.00				
Rent - Society	1,16,000.00				
Repair & Maintenance	16,755.00				
Repair & Maintenance - Computers	950.00				
Salary of Staff	12,08,052.00				
T.A. and D.A.	26,296.00				
Telephone	30,131.00				
Insurance of Vehicle	18,121.00				
Membership Fee Expenditure	2,450.00				
Reasearch Activity	4,120.00				
Written off account	5,63,798.28	25,38,372.88			
To Depreciation		99,722.00			
TOTAL		**41,69,264.88**	**TOTAL**		**41,69,264.88**

Significant Accounting Policies and Notes to Accounts at Annexure 3

Place: Allahabad
Date: 11-11-2020

As per our separate report of even date
For Amit Om & Co
Chartered Accountants

Amit Agarwal
Partner
M. No. 400193
FRN No. 011957C

For Yash Krishi Takniki Ewam Vigyan Kendra

Secretary Chairman

YASH KRISHI, TAKNIKI AWAM VIGYAN KENDRA
A-148, Mehdauri Colony, Teliarganj, Allahabad- 211 004

RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

RECEIPTS	AMOUNT 31.03.2020	AMOUNT 31.03.2020	PAYMENTS	AMOUNT 31.03.2020	AMOUNT 31.03.2020
Opening Balance:			**Expenditure towards Bio Fertilizer Activity/ Society Activities**		
Balance with Vijaya Bank		16,76,664.06	Expenditure on Farming	23,155.00	
			Kisan Gosthi	43,242.00	
Incomes			Labour Payment	1,38,456.00	
Receipt from Bio Fertilizer Activity/ Society Activities		30,08,871.50	Maghmela Camp	56,770.00	
			Printing of Packing Matarial	2,68,017.00	
Society Income			Purchase of Raw Matarial	2,50,218.00	
Interest from Bank	66,117.00		Promotion of Bio-Pesticides	1,62,500.00	
Interest on IT Refund	394.00		Promotion of Organic Farming	2,50,100.00	
Donation	65,697.37		Packing Matarial	84,295.00	
Other Miscellaneous Income	14,210.00		Registration & Laboratory Expense	1,23,739.00	
Refund of income Tax	6,656.00	1,53,074.37	Training Expenses	48,878.00	
			Transportation	81,800.00	15,31,170.00
Changes in Assets / Liabilities					
Decrease in Current Assets	1,34,807.50		**Society and Administrative Expenditure**		
Increase in Current Liabilities	20,236.00	1,55,043.50	Audit Fees	12,000.00	
			Bank Charges	4,083.60	
			Donation Expenditure	9,250.00	
			Electricity Charges	1,51,338.00	
			Employees Welfare	51,136.00	
			Hospitality	6,056.00	
			Legal and Consultancy Charges	19,700.00	
			Maintinence of Office Bld and Elect Maintince	35,130.00	
			Maintinence of Vehicle and Equipment	60,417.00	
			Misc Expenditure	17,556.00	
			Petrol and Oil	33,100.00	
			Plantation	965.00	
			Postage	1,739.00	
			Printing and Staionery	12,999.00	
			Rent and Taxes	1,36,230.00	
			Rent - Scociety	1,16,000.00	
			Repair & Maintenance	16,755.00	
			Repair & Maintenance - Computers	950.00	
			Salary of Staff	12,08,052.00	
			T.A. and D.A.	26,296.00	
			Telephone	30,131.00	
			Insurance of Vehicle	18,121.00	
			Membership Fee Expenditure	2,450.00	
			Reasearch Activity	4,120.00	
			Written off Account	-	19,74,574.60
			Increase in Fixed Assets	24,990.00	24,990.00
			Closing Balance		
			Balance with Vijaya Bank		14,62,918.83
TOTAL		**49,93,653.43**	**TOTAL**		**49,93,653.43**

Place: Allahabad
Date: 11-11-2020

As per our separate report of even date
For Amit Om & Co
Chartered Accountants

Amit Agarwal
Partner
M. No. 400193
FRN No. 011957C

For Yash Krishi Takniki Ewam Vigyan Kendra

Secretary Chairman

Annexure-II (Membership form)

Application for becoming member of Society

I wish to voluntarily become a member of the society " Yash Krishi Takniki Ewam Vigyan Kendra" Allahabad. I know the general setup of the society. For this the necessary information about me is given below.

Membership Form

Name:

Address:

Phone: Fax: e-mail:

Wish to support society: Yes/No

Member category requested: Life member/Ordinary member

Give the name and address of organization /firm you belongs:

Date: Signature

Note: Send the application form at following address.

Dr. Y P Gupta/ Dr. Pramila Gupta

Chairman/Hon. Secretary,

Yash Krishi Takniki Ewam Vigyan Kendra,

A-148, Mehdauri colony, Teliarganj, Allahabad-211004 (UP)

Phone/Fax: 0532-2545620, Mobile: +91 9415239739, +91 9450961670

E-mail: krishi@yashkrishi.com, Web address: www.yashkrishi.com

Note: Membership fee: Life Member---------- Rs. 5000/-

Ordinary Member-------- Rs. 1000/-

Particular of fee: D.D/Cheque no ..... dt ..... Amount.....

(Bank draft /cheque is drawn in favor of "Yash Krishi Takniki Ewam Vigyan Kendra" and payable at Allahabad)

A/C detail for RTGS :

Bank : Bank of Baroda

Branch: MNNIT branch, Allahabad

A/c Name: Yash Krishi Takniki Evam Vigyan Kendra

A/c No : 77660100010580

IFSC Code : BARB0VJMNRE

Annexure - III

Technical Paper - I

LETS MAKE A DIFFERENCE

By

Ms. Avni Agarwal, Class 11 student from Dubai -
GEMS Modern Academy, Dubai
Yash Krishi, Taknique Evam Vigyan Kendra, Allahabad

Picture this, it's the year 2050 and you go for a camping trip to the forest. You drive to a large area with flat barren land all across and not a tree in sight. As soon as you leave your car, you feel the heat hit you like that of a thousand suns. Your eyes start to tear up and you start coughing uncontrollably. That's the pollution that we couldn't control back in 2020. The heat is because of the global warming that we failed to reduce 30 years ago. The ozone layer's almost gone and its too late to fix it.

This is something we can avoid. We have been given the gift of just enough time, and information on how we can help our planet.By doing a simple thing like planting a tree, we shall be making the world a better place and for sure we shall always live to be proud of our achievement. Proper handling of waste materials, such as reusing or disposing of them properly, should constitute an important part of our efforts to preserve energy and protect the environment. Switching to reusable much as possible as possible will make sureyou'll have less trash piling up at your house, and you'll be helping to protect the environment in a major way.You can also easily find out how to recycle special items such as electronics, batteries and appliances online and make use for them in an environmentally friendly way. Use eco-friendly fertilizers to grow your own crops and plant more trees around you.

These simple acts which we can all do in our daily lives will help us save the planet and make it a hospitable place for all generations to come. We must make this a place where they can not only survive, but also thrive. Lets stand together and make a difference.

Technical Paper - II

Sustainable Environment through Organic Farming

By
Dr. Pramila Gupta, Ex. Professor, AAI, Allahabad
Yash Krishi, Taknique Evam Vigyan Kendra, Allahabad

Current, intensive agriculture causes many problems viz.:

- Artificial fertilizers and herbicides are easily washed from the soil and Pollute rivers, lakes and water courses.
- The prolonged use of artificial fertilizers results in soils with a low organic Matter content which is easily eroded by wind and rain.
- Dependency on fertilizers. Greater amounts are needed every year to Produce the same yields of crops.
- Artificial pesticides can stay in the soil for a long time and enter the food Chain where they build up in the bodies of animals and humans, causing health problems.
- Artificial chemicals destroy soil micro-organisms resulting in poor soil Structure and aeration and decreasing nutrient availability.
- Pests and diseases become more difficult to control as they become resistant to artificial pesticides. The numbers of natural enemies decrease because of pesticide use and habitat loss.

Why farm organically?

Organic farming provides long-term benefits to people and the environment.
Organic farming aims to:

- increase long-term soil fertility.
- control pests and diseases without harming the environment.
- ensure that water stays clean and safe.
- use resources which the farmer already has, so the farmer needs less money to buy farm inputs.
- produce nutritious food, feed for animals and high quality crops to sell at a good price.

Reduction in cost of cultivation

What is organic farming?

Organic farming works in harmony with nature rather than against it. This involves using techniques to achieve good crop yields without harming the natural environment or the people who live and work in it. The methods and materials that organic farmers use are summarized as follows:

A modern approach to farming

Organic farming does not mean going 'back' to traditional methods. Many of the farming methods used in the past are still useful today. Organic farming takes the best of these and

combines them with modern scientific knowledge. Organic farmers do not leave their farms to be taken over by nature; they use all the knowledge, techniques and materials available to work with nature. In this way the farmer creates a healthy balance between nature and farming, where crops and animals can grow and thrive. To be a successful organic farmer, the farmer must not see every insect as a pest, every plant out of place as a weed and the solution to every problem in an artificial chemical spray. The aim is not to eradicate all pests and weeds, but to keep them down to an acceptable level and make the most of the benefits that they may provide.

Combined techniques

On an organic farm, each technique would not normally be used on its own.
The farmer would use a range of organic methods at the same time to allow
them to work together for the maximum benefit. For example the use of green manures and careful cultivation, together provide better control of weeds than if the techniques were used on their own.

Following are reccomended practices:-

A. To keep and build good soil structure and fertility:

- recycled and composted crop wastes and animal manures
- the right soil cultivation at the right time
- green manures and legumes

1. Composting

Compost is organic matter (plant and animal residues) which has been rotted down by the action of bacteria and other organisms, over a period of time. Materials such as leaves, fruit skins and animal manures can be used to make compost. Compost is cheap, easy to make and is a very effective material that can be added to the soil, to improve soil and crop quality.

- Compost improves the structure of the soil. This allows more air into the soil, improves drainage and reduces erosion.
- Compost improves soil fertility by adding nutrients and by making it easier for plants to take up the nutrients already in the soil. This produces better yields.
- Compost improves the soil's ability to hold water. This stops the soil from drying out in times of drought.
- Compost can reduce pests and diseases in the soil and on the crop.

Ways to make compost

The basic material used in composting depends on locally available resources/ some of the common methods being followed here include: method

- Pit composting
- Vermi composting
- NADEP composting
- CPP technique

- Using microbial formulations viz composting cultures

Compost has many advantages over chemical fertilizers. These provide nutrients for plants but do not improve soil structure. They usually only improve yields in the season in which they are applied. Because compost feeds soil life and improves soil structure, the beneficial effects are long lasting. turn after 15 days turn after another 15 days 15 days more compost ready after 4 to 5 days ingredients for compost.

Green manures:

- Increase and recycle plant nutrients and organic matter
- Improve soil fertility
- Improve soil structure
- Improve the ability of the soil to hold water
- Control soil erosion
- Prevent weed growth
- Stop nutrients being washed out of the soil

**To control pests, diseases: **

- careful planning and crop choice
- the use of resistant crops
- good cultivation practice
- crop rotation
- encouraging useful predators that eat pests
- increasing genetic diversity
- using natural pesticides like Neem Product etc

Use of natural natural antagonistic,pathogenic,predacious microbes fungi like Trichoderma, entomopathonic fungi like Beaaveria bassiana, Metarhizium, nuclear polyhedrosis viruses like HaNPV, SlNPV and entomopathogenoc nematodes like Steinernema sp bacteria like Pseudomonas flourens, Bacillus subtilis etc, ent EPN (steinernema etc)

Choice of crops

Each crop and crop variety has its own specific needs. In some places it will grow well and others it will not. Crops are affected by;

- soil type
- rainfall
- altitude
- temperature
- the type and amount of nutrients required
- the amount of water needed

These factors affect how a crop grows and yields. If a crop is grown in a climate to which it is not suited, it is likely to produce low yields and be more

Susceptible to pest and diseases. This then creates the need to use agrochemicals to fertilizer the crop and control pest and diseases.

The successful organic farmer learns to grow the crops and varieties which are suited to the local conditions. He should grow crops which are suited to his geography and climate. He should choose varieties which are suited to the local conditions such as local varieties.

Crop nutrition

To produce a healthy crop an organic farmer needs to manage the soil well.

This involves considering soil life, soil nutrients and soil structure. Artificial fertilizers provide only short term nutrient supply to crops. They encourage plants to grow quickly but with soft growth which is less able to withstand drought, pests and disease.

Artificial fertilizers do not feed soil life and do not add organic matter to the soil. This means that they do not help to build good soil structure, improve the soils water holding capacity or drainage.

The soil is a living system as well as the particles that make up the soil, it contains millions of different creatures. These creatures are very important for recycling nutrients. Feeding the soil with manure or compost feeds the whole variety of life in the soil which then turns this material into food for plant growth. This also adds nutrients and organic matter to the soil. Green manures also provide nutrients and organic matter. These are plants with high nitrogen content that are sown as part of a rotation and are dug into the soil when young.

It is important to remember, however, that using too much animal manure or nutrient rich organic matter, or using it at the wrong time, could be as harmful as using man-made, artificial fertilizers. The organic farmer must cultivate the soil at the right time and in the right ways to provide the best living conditions for the soil life and plant roots.

Crop Rotations

Growing the same crops in the same site year after year reduces soil fertility and can encourage a buildup of pests, diseases and weeds in the soil. Crops should be moved to a different area of land each year, and not returned to the original site for several years. For vegetables a 3 to 4 year rotation is usually recommended as a minimum.

Crop rotation means having times where the fertility of the soil is being built up and times where crops are grown which remove nutrients. Crop rotation also helps a variety of natural predators to survive on the farm by providing diverse habitats and sources of food for them.

A typical 4 year rotation would include a cycle with maize and beans, a root crop and cereals with either of the following;

1. Grass or bush fallow (a fallow period where no crops are grown).
2. A legume crop where a green manure, which is a plant grown mainly for the benefit of the soil, is grown.

A simple rotation that includes a legume Cereal, legume, roots, maize / beans.

Weed Control:

In organic farming systems, the aim is not necessarily the elimination of weeds but their

control. Weed control means reducing the effects of weeds on crop growth and yield. Organic farming avoids the use of herbicides which, like pesticides, leave harmful residues in the environment. Beneficial plant life such as host plants for useful insects may also be destroyed by herbicides.
On an organic farm, weeds are controlled using a number of methods:

- Crop rotation
- Hoeing
- Mulches, which cover the soil and stop weed seeds from germinating
- Hand-weeding or the use of mechanical weeders
- Planting crops close together within each bed, to prevent space for weeds to emerge
- Green manures or cover crops to outcompete weeds
- Soil cultivation carried out at repeated intervals and at the appropriate time when the soil is moist. Care should be taken that cultivation does not cause soil erosion.
- Animals as weeders to graze on weeds

Weeds do have some useful purposes. They can provide protection from erosion, food for animals and beneficial insects and food for human use.

Mulching

Mulching means covering the ground with a layer of loose material such as compost, manure, straw, dry grass, leaves or crop residues. Green vegetation is not normally used as it can take a long time to decompose and can attract pests and fungal diseases.
Mulches have several effects on the soil which help to improve plant growth:

- Decreasing water loss due to evaporation
- Reducing weed growth by reducing the amount of light reaching the soil
- Preventing soil erosion
- Increasing the number of micro-organisms in the top soil
- Adding nutrients to the soil and improving soil structure
- Adding organic matter to the soil

Alternative mulching materials include black plastic sheeting or cardboard.
However these materials do not add nutrients to the soil or improve its structure.

How to use mulches

- Always apply mulches to a warm, wet soil. Mulch applied to a dry soil will keep the soil dry.
- Care should be taken as to the thickness of the mulch applied. Too much mulch will prevent air flow and encourage pests.
- To allow the germination of planted seeds through the mulch, a layer of less than 10cm should be used.
- To clear an area of land of persistent weeds a layer of 10cm or more can be used.

Mulching with large leaves / Green manures

Green manures, often known as cover crops, are plants which are grown to Improve the

structure, organic matter content and nutrient content of the soil. They are a cheap alternative to artificial fertilizers and can be used to complement animal manures.
Growing a green manure is not the same as simply growing a legume crop, such as beans, in a rotation. Green manures are usually dug into the soil when the plants are still young, before they produce any crop and often before they flower. They are grown for their green leafy material which is high in nutrients and provides soil cover. They can be grown together with crops or alone.

Requirement of Organic Certification

The International Federation of Organic Agriculture Movements (IFOAM) has produced a set of international organic standards, laid down by exoerts from many countries. These give guidelines about what organic farming is and how it should be practiced on the farm.
International standards are also used to help countries set their own standards, which take into account different farming systems.
Many countries have an organic standards authority which lays down national standards and awards a symbol to farms which have followed the standards. This symbol then allows farmers to market certified organic produce. This is important, as it ensures that people know that the food which they buy is organic. The main principles of organic farming were laid down by IFOAM in 1992.
India also through a legislative body APEDA gives organic certification/accreditation and use of "India Organic" logo to those organizations which fulfill the laid down protocols as per the inspection report from registered bodies.

Advantages of certification:

- To produce food of high nutritional quality in sufficient quantity.
- To interact in a constructive and life enhancing way with all natural systems and cycles.
- To encourage and enhance biological cycles within the farming system, involving micro-organisms, soil flora and fauna, plants and animals.
- To maintain and increase long term fertility of soils.
- To use, as far as possible, renewable resources in locally organized agricultural systems.
- To work, as far as possible, within a closed system with regard to organic matter and nutrient elements. This aims to reduce external inputs.
- To work, as far as possible, with materials and substances which can be reused or recycled, either on the farm or elsewhere.
- To give all livestock living conditions which will allow them to perform the basic aspects of their innate behavior.
- To minimize all forms of pollution that may result from agricultural practices.
- To maintain the genetic diversity of the agricultural system and its surroundings, including the protection of plant and wildlife habitats.
- To allow agricultural producers a living according to the UN human rights; to cover

- their basic needs and obtain an adequate return and satisfaction from their work, including a safe working environment.
- To consider the wider social and ecological impact of the farming system.

Lately, Organic food is becoming popular also in India after Europe and America. However, for food to be sold as organic it must bear a symbol that proves that it is truly organic. This is obtained through an accredited certification organization. This is quite a complex procedure and is potentially expensive.
The list of certification bodies in India and the procedures involved can be obtained from India Organic website.

Yash Krishi Takniki Ewam Vigyan Kendra
Allahabad

Technical Paper - III

Getting ready to Design Future Townships though Renewable Material and Technology

By
Dr. Y. P. Gupta, Chairman
Yash Krishi, Taknique Evam Vigyan Kendra, Allahabad
Ex Technical Advisor Naini Bridge , Allahabad
Email: yashpalg11@gmail.com

I. Introduction:

If an equipment or process fails to function, it does not hurt anyone. But if a building collapses, it hurts or kills people, effects public safety and dents the credibility of planners, designers, engineers and host of many other professionals associated with the buildings/city design. Great responsibility rests on the shoulders of Architects and civil engineers as human civilization is increasingly getting urbanized. They would need to plan future cities that would be safe, healthy and especially sustainable in view of migration of people to cities and waste generation. Thus engineers must explore the possibilities of having such as mega city, rural city, floating city, frozen city and cities on other planets. As more and more people move into cities during the current century, there is a possibility of people living in skyscrapers and having bridge connecting the high rise, thereby eliminating the necessity to come down. With oceans rising in the wake of climate change, several coastal cities would go under water, and planners may have to think of "floating cities." One such project has been conceived with regard to Miami, Florida. The planers may have to re-conceive the roads/pavement for future cities as they may become an interactive space for future citizens and will increasingly be used to tap solar energy or for installing charging stations as mobility solutions are switching over to electric vehicles. This may lead to choking of corridors in the air, prompting further research into mobility.

According to environmental needs new material will have to be found as concrete is not green and steel has become a material of the past. Seattle in USA and Japan already has glass bridges while bamboo could also be tried in future. It is also required to use waste utilization and of nano-material.

II. Use of Waste as Construction Material:

a. Waste Definition:

Waste is an unwanted or undesirable material left over or thrown after the completion of a process. In other words any substance or matter which the holder discards or intends to discard is waste or which as such cannot be used again. A

Figure 1- A typical waste dump on the sides of Streets

typical waste Dump on city street is shown in figure 1.
In the times when our natural resources are diminishing and waste is increasing - then the research and new developments are needed which will directly deal the process of waste for the availability of resource or on 3R principle.

III. Various type of Waste Material possible for Construction Industry:

Waste is generated from Industry, Municipality, Hospitals, Agriculture or from any other process of human or animal use. The waste may be in the form of solid, liquid or gases. They require huge space to dump it also pollute the environment. Some of these waste can be used in industry or human cycle after proper processing. However, properties – both physical, chemical & biological must be investigated to see the suitability and compatibility as one component of construction materials.
Some of waste materials which may possibly be used in Construction after processing are :

- Demolition Waste of Buildings or C & D Waste
- Recycled Concrete Material
- Fly Ash
- Microsilica or Silica Fume
- Ground Granulated and Air-Cooled Blast Furnace Slag
- Rice Husk Ash
- Glass
- Sand Waste from Foundry
- Lime By-Product
- Reclaimed Asphalt Pavement
- Metal & Steel Reinforcement
- Waste Plastic
- Red Mud
- Old Tires / Crumb Rubber and many others.

IV. Processing of Waste Material and its Use in Construction:

Some details of the process of few waste material for construction is given here.

A) Demolition Waste or Construction And Demolition Waste (MALWA):

Construction industry during rehabilitation, repairs and modernizing of buildings produces huge waste called C & D waste or MALWA. A typical dump of such waste is shown in Figure 2 as on road sides. They occupies space and contributes to not only environmental pollution but also traffic movement.

Figure 3 - A typical Demolition Waste thrown on the road side

Manufacturing Bricks / Blocks With Concrete using Such Recycled Aggregate:

A typical application of such concrete is in casting of conventional type of bricks.

Concrete mix can be designed with recycled aggregate at different cement contents. With such concrete mix - bricks can be cast which are similar to conventional burnt clay bricks. Materials can be mixed in a typical weigh batcher. Bricks of size 230x115x70 mm as shown in figure 5 or similar can be cast as per the conventional method. They can be cured in open with water sprayed a few times in the day. These bricks can be used similar to convention burnt clay bricks.

Figure 5 - Typical Concrete Bricks made with C & D waste

Performance and use:

It is seen that both its compressive strength and density is higher or similar to conventional clay bricks. It is seen that they are superior to brunt clay bricks as their average compressive strength is about 15 MPa or more.

B) Fly Ash:

Fly ash is a by-product produced during the operation of coal-fired power plants. In general, the coal is pulverized and combustion of pulverized coal is fired to achieve high temperatures in the steam generators of power plants. Fine coal particles which are fired create high temperatures and turn in gaseous form and the ash produced in molten / fused form solidifies while remain suspended in the exhaust gases. A typical shape of fly ash particles is seen in figure 4.

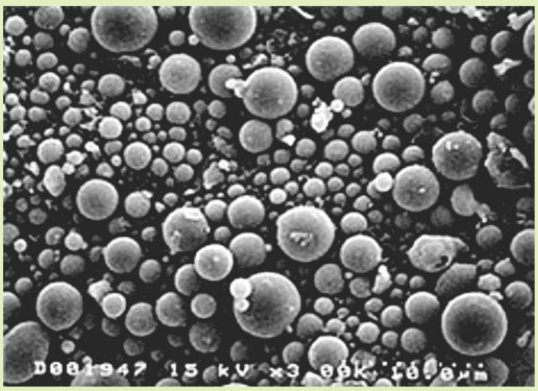

Figure 8 - Fly ash particles at 2,000x magnification (seen through Electron Microscope)

Some of the various Uses of Fly ash

1. Mix fly ash with clinker to make blended or Portland Pozzolana Cement
2. It can be used as a partial replacement of cement in concrete. Generally carbon content, measured by the loss on ignition (LOI), should be less than 4%. It is taken as one component in making concrete in addition of cement, sand, aggregate.
3. Make high volume fly ash concrete.
4. Dry fly ash can be used as an inert fill material for Road / soil embankments.
5. It also can be used as supplementary cementitious material to improve cohesion and stability of bituminous concrete binder etc.

C) Blast Furnace Slag (BFS):

Blast furnace slag is a byproduct from the manufacture of pig iron and obtained through rapid cooling by water or quenching molten slag. Iron ore, as well as scrap iron, is reduced to a molten state by burning coke fuel with fluxing agents of limestone and/or

dolomite. Blast furnace slag is a nonmetallic by-product produced in the process of steel production.

Possible Use: Crushed BFS can be used in nearly all mix applications utilizing it as natural aggregates, such as bituminous and Portland cement concrete, embankment, or sub-base and fills. By using BFS in Concrete has a positive effect in disposing blast furnace slag in environmentally friendly way and preserving resources and above all producing concrete of better quality. Experimental studies were conducted to develop and examine the performance of concrete mixes using BFS in crushed form as cement replacing pozzolana and mixing it in the batching plant. The study showed that concrete not only can be easily made by using this but also gain strength with age.

D) Plastic Waste Scenario:

Typical garbage dump on road side with plastic begs is shown in figure 1. The ingredients distribution of such garbage dump shows that there is about 1 to 2% Plastic waste in it. Typical plastic bags are shown in figure 5.

Figure 12 – Typical waste polythene begs after sorting

Plastic bags are non degradable material, so it cannot be decomposed and used as organic manure. Some plastic bags can be reused or it can be reprocessed by converting it to granular form and then re-rolling it in the form of sheets. Rest of plastic waste is either land filled or incinerated. Both processes are not eco-friendly and they pollute the land and water bodies.

Figure 14 - Polythene waste coated concrete Block

Possible Use: Though, used Plastic is considered a pollution menace, but it can find its use in construction Industry/processes and thus can help solving the problem of pollution.

Binding property and its use:

Some of the uses of waste Plastic begs after heating it with nominal side aggregate and coating it can be:

1. Studies show plastic-waste as a blending material with bitumen behave similar to PMB, thus having improved properties compared to plain bitumen. The molten plastic waste inhibits good binding property.
2. Use of Plastic Blend Bitumen in Bearing Coat of Road Pavement:
3. Use of Plastic-Waste as Perforated Polymer Concrete Blocks as shown in figure 6. These can be used on road side pavement or in Parking Lots . They allow rain water penetration in side ground - thus rain water harvesting.

V. Advantages of Using Waste as Renewable Material For Newer Cities:

It is important to have sustainability of any system on earth. At present times when there

is crunch of resources and need is increasing in the light of increase of population in urban area. At the same time global warming taking place, then it is all the more necessary that we have better management of resources and waste utilization. The technologies and the materials used for development should complement the use of local resources and waste management for future living of people.

- By processing C & D waste one can make Concrete bricks, make simple things like benches, pots etc. Thus disposal of Demolition Waste becomes easier.
- By making use of locally available demolition waste aggregates, there would be sufficient reduction in aggregate requirement at construction site.
- Top soil of earth will be saved which is used in making burnt clay bricks and thus environmentally viable.
- It is possible to produce a plastic waste modified Bitumen using this Bitumen for highways.
- It can generate work for unemployed people like collecting waste by Rag pickers etc, and deposit it at Bitumen or Hot mix plants or Concrete batching plants.
- Generally demolition and plastic bags are lying on road sides and Street cows eat it like kitchen waste. Thus they give rise to various diseases in these animals.
- The processing waste will also make the system Sustainable and can also conserve energy.

VI. Ethical commitment for Future cities:

It is desired that ethics should come first among all the priorities of civil engineers who are principally responsible for city infrastructure and building design where health and safety cannot be compromised. It is also indicated that asset management has to be given priority in business across the globe. The maintenance holds the key of safety of structures.

VII. Recommendations:

- Every house or street or similar establishment should be provided three container to collect three different types of waste – eg.
  a. Kitchen waste, Flowers etc – Bio degradable waste
  b. Plastic or polyphone type of waste like bags, milk packets etc
  c. Other non biodegradable waste like bottles, tins, metals etc.
- These wastes should be collected separately hopefully by different teams and unloaded in the corresponding industries which must be established to process it. The industries should be on the out skirts of city – may in all four different directions of town.
- Other waste like electronic waste, Hazardous waste etc be collected separately and handed over to corresponding industry.
- The Bio-degradable waste can also be used to make bio fertilizers and generate electricity, The technology for this has been developed.

Technical Paper - IV

Empowering the minds of the farmers in India

By
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Yash Krishi, Taknique Evam Vigyan Kendra, Allahabad

Empowerment -

The process of becoming stronger and more confident, especially in controlling one's life and claiming one's rights. While some things seem obvious to many, the reality is much different. Especially when the lens focuses on the Indian farmer. Much talked about and much harried – the 'empowered' farmer seems to be eons away.

The last few years have witnessed an almost permanent and continuous thought in the minds of the Indian Population. "Hamare Kisaan ko sahi Hake Ewam income nahin milti".

In a logical thought process, we would like to say that everyone needs to fight for their rights and snatch it for themselves. That is what the theory of evolution is based on. But in the case of the Indian farmer fraternity, it is always the farmer who is portrayed in a poor, helpless, light. The farmer who is vulnerable to the vagaries of the unpredictable climate.The pitiable farmer. The farmer who feeds the country, butwho himself commits suicide since he is unable to feed his own. The Farmer who survives on the small plot of land and struggles to make ends meet.

Mounting loans and daily struggles, India witnesses problems of plenty when Farmers throw their produce on the roads to rot away as prices plummet due to oversupply. And when prices rise, it is the trader who rakes in the money while the farmer is left wondering if his income was really worth the effort.

It is easy to blame systems, processes, Governments, traders, inadequate storage facilities, less opportunities for food processing, etc. etc.

It is high time the famer's mind and thought process rise to tackle these unending issues. The need of the hour is an 'empowered' farmer. A farmer who can think 'out of the box'.A farmer who has basic education, a farmer who can search for buyers using the Internet. The empowered and smart farmer can demand a price. He need not depend on external forces. He can choose his crops based on market demand. The empowered farmer can foresee changes in customer requirement and alter his farming accordingly. New crops, new species, new farming techniques – all come with an empowered mind.

The important question then is – "how to create an empowered farmer?"

In my opinion, the way ahead to create an 'empowered' farmer is to expose him to a digital path. A road that is technology enabled. An environment where he gets information at his fingertips. With the advent of cheaper Smartphones and affordable data, an awareness towards technology based solutions would go a long way to help the Indian farmer.

Organizations like 'Yash Krishi Takniki Ewam Vigyan Kendra' are doing exemplary work in the area. Numerous Kisaan Gosthis, training farmers in the use of organic inputs, providing Bio pesticides and Bio fertilizers at affordable rates, disseminating knowledge on crop care and disease resistant processes are going a long way in empowering the farmers mind.

Vermi Composting, using NADEP techniques for making indigenous fertilizer for agriculture and giving the farmers an educated and technology based advice has been the hallmark of this progressive NGO. With scientists and Senior professionals running the show, there is little wonder that the organization has grown in stature since 15 years of its inception.

Technical Paper - V

Pest and disease management practices in Organic Farming

By
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Yash Krishi, Taknique Evam Vigyan Kendra, Allahabad

Pests and diseases are part of nature. In the ideal system there is a natural balance between predators and pests. If the system is imbalanced then one population can become dominant because it is not being preyed upon by another. The aim of natural control is to restore a natural balance between pest and predator and to keep pests and diseases down to an acceptable level. The aim is not to eradicate them altogether.

Currently Chemical methods of pest/disease management are being used indiscriminately and none judiciously:

Pesticides do not solve the pest problem infect despite of more than twenty percent increase in their usage the pest problem increase many time more . In the past 50 years, insecticide use has increased twentyfold, while crop losses from pest damage have doubled

Advantages of organic practices

Safety for humans, live stock, vegetation

Artificial pesticides can quickly find their way into food chains and water courses. This can create health hazards for humans. Human health can also be harmed by people eating foods (especially fruit and vegetables) which still contain residues of pesticides that were sprayed on the crop. There is also much concern for those people using chemical pesticides. The products may be misused because the instructions are not written in the language spoken by the person using them. This has led to many accidents such as reports of people suffering from severe skin rashes and headaches as a result of using chemical pesticides. There are an estimated one million cases of poisoning by pesticides each year around the world. Up to 20,000 of these Result in death. Most of the deaths occur in tropical countries where chemica Pesticides which are banned in Europe or the USA are still available.

Safety for the environment

There are a number of harmful effects that chemical pesticides can have on the environment:

- Chemical pesticides can kill useful insects which eat pests. Just one spray can upset the balance between pests and the useful predators which eat them.

- Artificial chemicals can stay in the environment and in the bodies of animals causing problems for many years.
- Insect pests can very quickly, over a few breeding cycles, become resistant to artificial products and are no longer controlled. This means that increased amounts or stronger chemicals are then needed creating further economic, health and environmental problems.

Reduction in Cost of Cultivation

Using natural pest and disease control is often cheaper than applying chemical pesticides because natural methods do not involve buying materials from the outside. Products and materials which are already in the home and around the farm are most often used.

Natural method for control

There are many ways in which the organic farmer can control pests and diseases.

- Growing healthy crops that suffer less damage from pests and diseases.
- Choosing crops with a natural resistance to specific pests and diseases.
- Local varieties are better at resisting local pest and diseases than introduced varieties.
- Timely planting of crops to avoid the period when a pest does most damage.
- Companion planting with other crops that pests will avoid, such as onion
- or garlic.

An organic farmer should try to:

- grow a mixture of crops in the same field (mixed cropping, intercropping, strip cropping)
- grow different varieties of the same crop
- use as many local crop varieties as possible
- save the seed of local and improved crop varieties rather than relying on buying seed from outside the farm every year. Exchange of seed with other farmers can also help to increase diversity, and ensure the survival of the many traditional crop varieties which are being lost as they are replaced by a few modern varieties. Strip cropping onions and tomatoes to prevent pest and disease attack.

To control pests, diseases:

For this it is important to know that the farmer should learn to recognize insects and other animals that eat and control pests and their habit. Even with these natural pesticides, their use should be limited as much as possible and only the safest AGRONOMIC ones used.

- Careful planning and crop choice
- The use of resistant crops

- Good cultivation practice
- Crop rotation
- encouraging useful predators that eat pests
- increasing genetic diversity
- using natural pesticides like Neem Product etc.
- Use of Natural antagonistic like fungi (Trichoderma, Beauveria etc) viruses (HaNPV, SlNPV etc), bacteria (Pseudomonas flourens, Bacillus subtilis etc), EPN (steinernema etc)
- Companion planting
- Handpicking, Trapping (pheromone traps, sticky traps etc.)
- Using crop rotations to help break pest cycles and prevent a carryover of pests to the next season.
- Providing natural habitats to encourage natural predators (tricograma, other eggprasitoids etc) that control pests.

Genetic diversity

Within a single crop there can be many differences between plants. They may vary in height or ability to resist diseases.

Animal husbandry

In an organic system, the welfare of the animals is considered very most important. Therefore their nutrition & health care should be well taken care off.

Yash Krishi Takniki Ewam Vigyan Kendra
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Technical Paper - VI

Pave the Way for Daughters of the Soil

By
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The dream of socio–economic empowerment of women in India will not be complete without empowering those who are an integral part of India's rural landscape... the ones whose day starts before sunrise and continues after sunset. These are women farmers who have been struggling to establish their identity at grass root level due to patriarchal traditions and gender-based discrimination.

The adjoining illustration is so familiar that we do not stop to question it. The woman seemingly subservient, while the man leads! Looking at it, are we reminded that on an average, a woman spends nearly 3300 hours in the field in a crop season as against 1860 hours by a man? Or those ancillary branches of the agriculture sector like animal husbandry, fisheries and vegetable cultivation depend majorly on women?

Women play a significant role because Indian agriculture is largely a household enterprise…yet they remain confined as workers. Farm tools are primarily designed for male farmers. Women are left to use traditional tools resulting in low efficiency, drudgery, occupational health risks and low income. Their contributions fall under indirect material income and go unacknowledged in decision making. Illiteracy, lack of knowledge, improper training and less opportunity for skill development worsen their subdued existence. Hence getting loans, participating in mandi panchayats, assessing and deciding the crop patterns, bargaining for MSPs, loans and subsidies continue to remain male activities.

Women have to be empowered for their rights, access to land, leadership, opportunities and choices to promulgate sustainable societal growth

The way forward:

- Skill development and training in field operations, conservation of biodiversity, organic farming etc
- Designing of tools for women that are tailored to local conditions
- Education on modern agricultural techniques
- Providing information on soil, plant & animal health
- Creation of self-help groups for financial support and for generation of employment

- Projection of successful women & acknowledgement of their contribution in economic terms
- Providing financial powers by making appropriate changes in legal, financial, and educational systems
- Creating opportunities for income-generating activities along with agriculture
- Participation in policy making that involve rural women

These voices need to be heard at both the policy and implementation levels if we are to realize the dream of a progressive India. Closing the gender gap is essential in order to accelerate the pace of growth in the agriculture sector. Agribusinesses can play a critical role in bridging the gender gap in Indian agriculture.

Technical Paper - VII

Energy Efficient Integrated Model for Sustainable and rural up liftment

By
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The vast majority of the population of India has always lived in the rural areas which is still estimated around 70 % of the total population of the country. India is a country of villages and about 50% of the villages have very poor socio-economic conditions. Since the dawn of independence, concerted efforts have been made to ameliorate the living standard of rural masses. So, rural development is an integrated concept of growth and poverty elimination has been of paramount concern in all the consequent five year plans. Rural Development (RD) programmes comprise of following:

- Provision of basic infrastructure facilities in the rural areas e.g. schools, health facilities, roads, drinking water, electrification etc.
- Improving agricultural productivity in the rural areas.
- Provision of social services like health and education for socio-economic development.
- Implementing schemes for the promotion of rural industry increasing agriculture productivity, providing rural employment etc.
- Assistance to individual families and Self Help Groups (SHG) living below poverty line by providing productive resources through credit and subsidy.

The process of rural development has now been further intensified with incorporation of development of basic infrastructural facilities, educational institutions, health care, sanitation, housing, improved farming practices, livelihood, doubling farmers income etc. A number of centrally as well as state sponsored schemes has been launched to achieve the targets of rural upliftment. Our Prime Minister Shri Narendra Modi ji always emphasize the importance of rural upliftment in all platforms in many ways including Mera Gaon Mera Gaurav, doubling farmers income, Vocal for Local etc.

At present the rural economy is facing multiple problems related to decreasing land holdings, high farm input costs, unemployment, lesser income from farm produces, high energy consumption, wastage of horticultural crops (in case of high yield), increasing use of fertilizers and farm accessories, degradation of agricultural land. As a

result some of the rural population/ farmers are migrating to cities and other states in search of better sources of income and related basic amenities. The situation need be addressed by all concern authorities by providing better options for augmentation of their income while staying in the villages with active participation of the rural masses.

While apprising various rural development schemes of the governments targeting poverty, unemployment and related issues, following are some useful measures which have potential of drastic improvement in rural economy, employment generation, doubling farmers income and overall upliftment of rural India:

1. Integrated farming practices : Cultivation of single agricultural crop is not all always much profitable for the farmers, therefore integration of the farming with some other practices is more profitable. The better options for the practices are agricultural crops-horticrops- cattle rearing- fish farming- poultry rearing-pig/ goat/ duck - rearing. Such a diverse farming practices are also useful for round the year income, protection from bad weather conditions and recycling of resources within a limited area.
2. Production and use of wormi compost: Wormi compost is a better option of chemical fertilizers for agricultural and horticulture crops, because excessive use of chemical fertilizers is harmful for soil health. Further wormi-compost can be produced on commercial scale as a source of additional income, besides use in farmers own crops. Wormi-compost is highly useful to maintain good soil health.
3. Use of solar energy in farming practices: Since the use of electricity and diesel equipments in farming practices is becoming highly expensive, therefore there is need to shift some of the activities through solar energy devices. Solar energy is efficiently used in drying of agricultural, horticultural and fishery produces.
4. Decomposition of paddy straw for use as organic manure by application of suitable decomposers would be best remedial measure to control the menace of air pollution after paddy harvest.
5. Value addition of farm produces: Its pertinent to add value in the farming produces/ by products for better pricing and expansion of employment opportunities.
6. Development of farm based small scale enterprises using local fibres, horticultural crops, fishery and dairy in rural areas for efficient use and income generation
7. Home stay - a new dimension of employment generation particularly in tribal and hilly areas. Home stay is a new form of eco-tourism which is becoming popular among the urban societies. With rising standards of living, the bulk of the population is able to expand its involvement in recreational activities.
8. Eco-tourism/ Fishery based eco-tourism is a sustainable model of resource use,

which contributes to environmental conservation, while providing accrued socio-economic benefits to the people through the non-consumptive uses and indirect values of the natural biological resources. Considering the vulnerable nature of our environment, eco-tourism based on optimum multiple uses of the resources on sustainable basis is an excellent option for livelihood and conservation. Fishery based eco-tourism is emerging potential area for employment generation.

9. Fish watching: Like bird watching, fish watching also has abundant potential to be explored. Moving shoals of different size, colour and shaped fishes always provide joy to the visitors particularly to children. Many of the religiously protected water bodies in the hills like Martand temple at Mattan (Anantnag) in Jammu & Kashmir; Renuka lake in Himachal Pradesh; river stretch of Ganga at Haridwar and Rishikesh, Gomati river at Baijnath, Nal Damayanti tal in Uttarakhand are some examples of fish watching spots, which attracts thousands of tourists.
10. Development of ornamental fish enterprises
11. Creation of Self-help -groups for making fishing boats, nets, traps, fish feed based on local produces would be a better option for resource use and employment generation.

These are some tips aimed for sustainable rural development, pollution control, resource recycling, employment generation and doubling farmers income.

Technical Paper - VIII

Prevalent Agroforestry of Eastern Uttar Pradesh

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Introduction:

Agriculture is the major source of the livelihood for majority of the population in Uttar Pradesh state of India. Due to increasing pressure of population on land, most of the farmers of Uttar Pradesh, which is about 82%, are marginal having uneconomical land holding of less than 3 hectare. The income generated from such small land holding is not adequate to keep the farmers above the level of poverty. It has been observed that the sole agricultural practices is not economically sustainable and there is an emergent need to utilize the available resources optimally for increasing the productivity so that the ever increasing demand for food, fodder, vegetables, fuel wood, timber, medicines etc. may be achieved.

Agro forestry in the present day is the appropriate land use system that increases production in ecologically sustainable manner, as well as supports sustainable development. Agro-forestry involves the introduction of woody components such as trees, shrubs, bamboos along with agricultural crops. It has both productive and protective potential. This land use system provides significant sustainable development benefits such as food security in developing countries, extra income generation from tree crop, maintaining biodiversity and soil quality, sequestering carbon, maintaining watershed hydrology etc. It also mitigates the demand for wood and reduces pressure on natural forests. Recently, agroforestry practicing has been increased in India and tree plantations have been started in farmer's fields. Agro forestry system of farming has come up in big way in many part of the country but eastern part of Utter Pradesh State of India is lagging behind in this regard. Besides the above mentioned benefits, extension of agro forestry is also required to increase the tree cover of Uttar Pradesh state which is only 4.46%, whereas, the State Forest Policy 1998 of India envisaged that one third of the total geographical area should come under forest/tree cover. Since most of the land of the state is agricultural, hence, adoption of agroforestry is now the only option to increase the desired tree cover of 33%.

Agroforestry Being Practiced in Eastern Uttar Pradesh:

In Uttar Pradesh state of India, agroforestry practices vary considerably according to the agro climatic zones, socioeconomic conditions, and land holdings of the farmers and the marketability of tree produce. In the western part of the state, agroforestry is well adopted by the farmers, possibly due to the assured available market of agroforestry produce because of flourishing wood based industries in the region. Whereas, the farmers of the eastern part of the State is less willing to adopt agroforestry, only few progressive and big farmers are practicing agroforestry in their fields . Moreover, very little is known about the agroforestry practices in terms of suitable tree crop combinations for different agroclimatic zone of this region. Therefore before promoting agro-forestry in this region, suitable tree crop combinations for different agroclimatic zone of this region, should be studied. At the same it is also required to study the

major constraints in adoption of agroforestry in this region and marketability of the tree products, so that a suitable policy may be formulated to promote the agroforestry in this region. Four Districts, Prayagraj, Jaunpur, Barabanki and Gorakhpur, representing four different agro-climatic zone of the region, have been selected for the study. As a prelude, field survey in selected Districts was conducted to identify farmers who were already practicing Agro forestry in their fields. Agro forestry plots of different tree species viz: Aonla (fruit tree), Eucalyptus, Teak and Poplar were selected for the study. The soil samples of selected plots were analyzed for their physico-chemical characteristics. Data regarding forestry species and crop production were recorded for assessing the suitable tree-crop combinations for particular agro-climatic zone, economically as well as ecologically. Based on the results obtained from the production data and effect of particular agroforestry on soil quality , marketability of the tree produce and economic gain, it has been concluded that Aonla and Teak based agroforestry system were identified as the most suitable and profitable option of agroforestry in Prayagraj District, representing Central Gangetic Plain of Uttar Pradesh. Whereas, for Jaunpur District, representing Eastern plain, Teak based agroforestry system was found the most suitable. For Gorakhpur District which represented the North Eastern Plain region of Uttar Pradesh, teak and poplar based agroforestry and for Barabanki District, representing Central Plain region, Eucalyptus and Teak based agroforestry were found suitable among the studied options.

Teak based Agroforestry in Prayagraj

Aonla based Agroforestry in Prayagraj

Teak based Agroforestry in Jaunpur

Eucalyptus based Agroforestry in Jaunpur

Eucalyptus based Agroforestry in Barabanki

Teak based Agroforestry in Barabanki

Teak based Agroforestry in Gorakhpur

Poplar based Agroforestry in Gorakhpur

Constraints in Adoption of Agroforestry:

Questionnaire based Field survey was also conducted to study the major constraints in Adoption of Agroforestry and marketability of tree produce, in selected Districts. Legal problems in harvesting, unavailability of market, lack of awareness, less availability of agricultural land, long span of period required for getting benefits, unavailability of planting material, personal disputes, these are major factors identified ad constraints in adoption of agroforestrey by the farmers. However their extent varied in each districts. In Prayagraj district, legal problems in tree felling, unavailability of market for tree produce and adverse effect of trees on agricultural crop production were identified as major constraints in adoption of agroforestry, whereas other issues like unavailability of quality planting material, lack of awareness about agroforestry and personal disputes were identified as other reasons, which were almost irrelevant, for non adoption of agroforestry. In Barabanki district, legal problems in tree felling was identified as major constraint in adoption of agroforestry, whereas other issues like adverse effect of trees on agricultural crop production, personal dispute in trees planting on bunds, unavailability of quality planting material and long span of period required for getting benefits were identified irrelevant reasons for non adoption of agroforestry. In Jaunpur district, legal problems in tree felling, unavailability of market for tree produce and adverse effect of trees on agricultural crop production were identified as major constraints in adoption of agroforestry, whereas other issues like personal dispute in trees planting on bunds, lack of awareness about agroforestry,

unavailability of quality planting material and long span of period required for getting benefits were other reasons for non adoption. In Gorakhpur district, legal problems in tree felling was identified as major constraint in adoption of agroforestry, adverse effect of trees on agricultural crop production, unavailability of market for tree produce, lack of awareness about agroforestry, unavailability of quality planting material, long span of period required for getting benefits were identified as other significant reasons for non adoption of agroforestry.

Market Availability for Forestry Crop in Selected Districts was also studied. It was found that in Allahabad, District, No proper organized market is available. Most of the sale is only through local intermediaries, traders and saw mills. In Jaunpur District, No proper organized market is available. Selling of harvested forestry crop is a problem. Farmers have to go to Varanasi for sale to traders and saw mills. In Barabanki District, Most of the sale is through local intermediaries and Traders. Eucalyptus is transported from Barabanki to Haldwani for utilization by Paper Mill and Plywood Manufacturing Units. In Gorakhpur District, No proper organized market is available. Most of the sale is only through local intermediaries, traders and saw mills. Recently a plywood factory has been established for the district which may increase the future market for tree produce like poplar. However the major constraints in market linkages of forestry species to be taken up in agro forestry were identified and summarized below:

- Lack of Agroforestry wood based industries viz Pulp & Paper, Plywood and Furniture etc.
- Non Availability of Organized Marketing Institutions for Agroforestry products.
- Poor Accessibility of State run Marketing Agency e.g. Forest Corporation for Agroforestry products.
- Non Lucrative Minimum Support Prices for Agroforestry products.
- Tree Felling Regulations.
- Transit of Timber and Forest Products Rules and Regulations.
- Unavailability of Organized timber and Agroforestry products' transportation cost especially in Rural/Agroforestry Adoption areas.
- Lack of Agroforestry products' based Marketing Information System regarding varieties Viz. Logs, Boles and Poles etc, Value Added Processing Plants, Pricing Mechanism, Prices, Transportation Facilities and Sale Destination Centres.

Conclusion:

It has been concluded from the Information obtained from the above survey that after resolving these constraints, the agroforestry may be adopted by the farmers of this region. Introduction of wood based industries in this region, fixation of minimum support price for agroforestry produce, awareness regarding the agroforestry, availability of quality tree planting material and softening in tree harvesting and transit rules may enhance the practicing of agroforestry in this region. Therefore, the adoption of agroforestry may enhance the income of the farmers from the same limited land resources and reduce their poverty; simultaneously it may also increase the tree cover of the region and make it an ecologically viable option for the sustainable development of the farmers of this region.

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दिनांक 13–09–2019

प्रमाण–पत्र

प्रमाणित किया जाता है कि चीनी मिल क्षेत्र में मै0 यश कृषि तकनीकी एवं विज्ञान केन्द्र,यूनिट–।। इण्डिस्ट्रीयल एरिया फुलपुर, इलाहाबाद का ट्राइकोडर्मा (लाल सड़न रोग हेतु) बिवेरिया बेसियाना (दीमक के उपचार हेतु) एवं पी0एस0बी0 कल्चर का उपयोग गत 10 वर्षो से कृषकों द्वारा गन्ने की फसल में किया जा रहा है।

उक्त जैव उर्वरक का परिणाम अत्याधिक प्रभावी पाया गया।

मुख्य अधिशासी

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You may also contact us for

- Society has setup library facilities. which is located at A-148, Mehdauri colony Allahabad. It contains information on Bio-farming, Sustainbility of waste management etc.
- You can contact us for expert advice on Bio Farming and waste management concrete technology and associate topics.

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