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From the Patron's pen.....

Happy to know that Shodh Darpan is publishing Sept- 2015, Vol. -1 No-2. I appreciate the goodwill of the contributors in their pursuit for keeping research mind blooming. Heartfelt congratulations to Dr. Ashim Ranjan Sarkar, Editor-in-Chief and team members, especially to Dr. Anita Nair and Mrs. Siji Jestus John. May this be an inspiration and an opportunity for many to pursue their research activities! With best wishes,

-Fr. Dr Paul Joseph Thymootil

SHODH DARPAN

Members of International Editorial Board

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'डॉ नरेन्द्र कोहली' के स्वामी विवेकानन्द के जीवन पर आधारित उपन्यासों में आदर्श का चित्रण

डॉ0 श्रीमती जस्सी जोस, क्राइस्ट महाविद्यालय जगदलपुर, जिला बस्तर (छ.ग)

सारांश

(स्वामी जी के निकट रहकर लोग मानवनिर्मित वर्गों और संप्रदायों से परे देखने लगते थे और अपने धार्मिक विश्वासों के बावजूद स्वामी जी के साथ तादात्म्य का अनुभव करते थे। धर्मसंसद में तो स्वामी को बोलते हुए सुनकर अमेरिका जनता अवाक रह गई थी। स्वामी ने अपने ओजस्वी भाषण से सबको अपने मोहपाश में बांध लिया था। आचार्य रामचन्द्र शुक्ल ने भी अपनी पुस्तक में स्वामी जी के शिकागो धर्म–संसद के भाषणों का रोचक विवरण प्रस्तुत किया है।धर्मसंसद के बाद स्वामी जी विदेश में कई शहरों में भ्रमण करते हुए वहाँ की जनता को भारतीय संस्कृति का नित–नया ज्ञान प्रदान करते हैं। वह अमेरिकी जनता को भक्ति के संबंध में बताते हैं। ईसा के श्रीचरणों में यदि तुम स्वयं को समर्पित कर दोगे, तुम तद्धत् हो जाओगे। ईश्वर से प्रेम करो। दिन–रात उसका चिंतन करो। ईश्वर को अर्पित करके खाओ। उसको अर्पित करके पियो। यह सबसे अधिक उपयोगी है।)

*नरेन्द्र कोहली एक उपन्यासकार, कहानीकार, नाटककार तथा व्यंग्यकार है। इसकेसाथ ही वे अपने समकालीन साहित्यकारों से भिन्न है तथा साहित्य की समृद्धि तथा समाज की प्रगति में उनका प्रत्यक्ष योगदान है क्योंकि वे आधुनिक होते हुए भी पश्चिम का अंधानुकरण नहीं करते। नरेन्द्र कोहली के उपन्यासों का समीक्षात्मक अध्ययन करने पर हमें उनके उपन्यासों में आदर्श के चित्रण के साथ कहीं– कहीं आदर्श व यथार्थ का संघर्ष भी दिखाई देता है क्योंकि उपन्यास साहित्य न तो पूर्णतः यथार्थवादी हो सकता है और न वह एक मात्र आदर्शवादी होकर ही अपनी उपादेयता अधिक समय तक स्थायी रख सकता है। उपन्यास साहित्य का आविर्भाव यद्यपि मानव जीवन के यथार्थ चित्रण के लिये हुआ है परन्तु फिर भी वह पूर्णतः यथार्थवादी नहीं हो सका है। उपन्यास साहित्य में, साहित्य व साहित्यकार के बीच यह आदर्श व यथार्थ का संघर्ष निरन्तर चलता रहता है। यथार्थवाद यदि आँखें खोल देता है तो आदर्शवाद हमें उठाकर किसी मनोरम स्थान में पहुँचा देता है। नरेन्द्र कोहली द्वारा रचित क्रान्तिकारी विचारक स्वामी विवेकानन्द के जीवन पर आधारित उपन्यास **"तोड़ो कारा तोड़ो"** एवं **"न भूतो न भविष्यति"** में आदर्श का चित्रण बखूबी से किया गया है इसलिए नरेन्द्र कोहली के उपन्यास साहित्य को भी उच्च कोटि का साहित्य कहा जा सकता है। जिसके अन्दर सदा यथार्थ व आदर्श दोनों का समावेश हो जाये।*

"तोड़ो कारा तोड़ो" स्वामी विवेकानन्द के जीवन पर आद्यृत उपन्यास है। यह तो सर्वविदित है कि स्वामी विवेकानन्द हमारी वर्तमान पीढ़ी के लिए आदर्श हैं। उनके चरित्र में आदर्श की प्रधानता होना निश्चित ही है। स्वामी जी का जन्म ही ऐसे परिवार में हुआ था, जिसका समाज में सम्मानजनक स्थान था। उनके पिता यद्यपि चाहते थे कि नरेन्द्र अपने बाबा की तरह सन्यासी न बने, किंतु वह अपने घर आने वाले सन्यासियों का अनादर कभी नहीं करते थे। विश्वनाथ के पिता भी सन्यासी हो गए थे। वह अपने घर पर किसी सन्यासी का सत्कार कर, वस्तुतः अपने पिता का ही सत्कार करते थे। उनके घर पर सन्यासियों का तिरस्कार नहीं हो सकता था। वह अपने पिता की भावना का अपमान नहीं कर सकते थे। नरेन्द्र का जन्म ही एक आदर्श परिवार में हुआ था। बचपन से ही नरेन्द्र में भी भक्ति के लक्षण प्रकट होने लगे थे।

एक बार नरेन्द्र अपनी माँ भुवनेश्वरी से पूछता है कि, क्या तुमने भगवान को सचमुच कभी पुकारा है। तो भुवनेश्वरी उसे बताती है कि उसने भगवान को स्वार्थ की घड़ी में पुकारा था, और भगवान से तुम्हें मांगा था पुत्र। इतना छोटा सा नरेन्द्र उन्हें बताता है कि तुमने भूल की थी माँ! तुम्हें तो उनके दर्शनों की याचना करनी चाहिए थी। पुत्र तो सबके होते हैं; किंतु भगवान के दर्शन किसने किए हैं। भुवनेश्वरी उसे बचपन से ही झूठ व पाप से दूर रहने की शिक्षा देती है। संसार में झूठ, पाप तथा लोगों के भ्रष्ठ आचरण को देखकर नैतिकता कभी नहीं छोड़नी चाहिए। जीवन को कभी अपवित्र नहीं करना चाहिए। नरेन्द्र के माता–पिता का चरित्र भी आदर्शवादी चरित्र है। बचपन से ही उन्हें जातीय एकता की शिक्षा मिली थी। ज्ञान भी एक है, जैसे सत्य एक है। ऊपर के वर्ग विभाजन तो अज्ञानियों के लिए है, या मूर्खों के लिए।

एक बार नरेन्द्र ने अपने पिता के कमरे में कई सारे हुक्के देखे तो, उसने नौकर से पूछा कि इतने हुक्के क्यों रखे हैं। क्या एक हुक्के से काम नहीं चल सकता। नौकर उसे बताता है कि प्रत्येक जाति के मुवक्किलों के लिए अलग–अलग हुक्का है। अगर जाति चली गई तो शेष कुछ नहीं बचता है। सबकुछ गड़बड़ हो जाता है। नरेन्द्र परीक्षण करके देखना चाहता है। नौकर के जाने के बाद वो एक–एक कर प्रत्येक हुक्के से कश लेता है और अपने अंगों को टटोलता है कि कहीं उसे कुछ हो तो नहीं गया। जो प्रयोग वो छुपकर कर रहा था, वह उसके पिता ने देख लिया था। अब उनका क्रोध प्रकट होगा। किंतु पिता नाराज नहीं होते हैं और उसे बताते हैं कि सब जाति समान हैं। हिंदु हो या मुसलमान सब एक ही ईश्वर की संतान है। विश्वनाथ ने नरेन्द्र को आदर्श शिक्षा दी थी। जो आजीवन उसके लिए एक प्रेरणा बन गई थी।

नरेन्द्र के एक मित्र के घर में वह देखता है कि उसके मित्र के पिता एक साधु को फटकार रहे हैं। उसका मित्र बताता है कि उसके पिताजी भिक्षा–वृत्ति को प्रोत्साहित करने के विकट

विरोधी हैं। किंतु नरेन्द्र साधुओं के प्रति उनकी उपेक्षा को बर्दाश्त नहीं कर पाता। सब लोग अपने–अपने स्वार्थ और भौतिक सुखों के पीछे पड़े हैं, इसलिए वे अपनी–अपनी आजीविका कमा रहे हैं। सन्यासी ने तो सबसे पहले अपना स्वार्थ छोड़ा है, भौतिक सुखों की कामना छोड़ी है, अपने–पराए का भेद छोड़ा है, अपना अहंकार छोड़ा है, ईश्वर पर निर्भर रहना सीखा है– इसीलिए सन्यासी अपनी आजीविका के लिए समाज पर और उससे बढ़कर, ईश्वर पर निर्भर रहता है। तुम लोगों ने भिक्षा की एक मुठ्ठी के लिए फैली उसकी हथेली देखी है; किंतु उसके द्वारा जीवन के सुखों का त्याग नहीं देखा। नरेन्द्र के मुंह से ऐसी बातें सुनकर सब आश्चर्यचकित हो जाते हैं। उसे तो बचपन से ही सन्यास ने आकर्षित किया था। वह कक्षा के हर लड़के से पूछता था कि क्या उसके पूर्वजों में से किसी ने कभी सन्यास धारण किया था। यदि कोई लड़का यह कहता था कि उसके वंश में कभी कोई सन्यासी हो गया था तो उसे वह लड़का अत्यन्त प्रिय लगने लगता था। सन्यास के प्रति इस सम्मोहन का कारण तो नरेन्द्र भी नहीं जानता था; किंतु उसकी आत्मा को जितना सुख और संतोष सन्यास की बात सोचकर मिलता था उतना और किसी बात से नहीं मिलता था। आंरभ से ही नरेन्द्र के चरित्र में आदर्श की प्रधानता थी।

बचपन से दूसरों की सहायता तथा परोपकार का भाव नरेन्द्र के मन में थाा। एक बार अपने एक कार्य में नरेन्द्र तथा उसके मित्रों ने एक गोरे सैनिक की सहायता मांगी। नरेन्द्र तथा उसके मित्र व्यायामशाला में झूला खड़ा कर रहे थे। सैनिक भी उनकी सहायता करने लगा। तभी संतुलन डगमगाने के कारण झूला गिर पड़ा। उसके सारे मित्र उसे छोड़कर भाग गए किंतु नरेन्द्र के लिए इस प्रकार भाग जाने का कोई कारण नहीं था और न कोई औचित्य। ये तो एक दुर्घटना थी जो किसी और लड़के के साथ भी हो सकती थी। अचेतावस्था में उस घायल सैनिक को चिकित्सा न मिलने के कारण मृत्यु भी हो सकती थी। ऐसे में तो किसी शत्रु की भी सहायता करनी चाहिए, यह तो मैत्री–भाव से उनकी ओर बढ़ा था।नरेन्द्र ने उसकी प्राथमिक चिकित्सा करके उसे डाक्टर को दिखाकर मानवीय आदर्श का परिचय दिया था। अपने पिता की मृत्यु के बाद नरेन्द्र के घर की आर्थिक स्थिति दिन–प्रतिदिन ,खराब होती जा रही थी। कभी–कभी ऐसा होता था कि घर में न अनाज होता था न रूपये। थोड़ा–बहुत जो अनाज होता था, वो उसकी माँ व भाई भरपेट भोजन कर लें, इतना ही बहुत था। ऐसी स्थिति में नरेन्द्र बाहर निमंत्रण का बहाना बनाकर घर से निकल जाता था, जिससे उसके परिजन भरपेट भोजन कर सके। और खुद भू खा–प्यासा गली–गली घूमता रहता था।

स्वामी जी विदेश पहुंच जाते हैं तो वहाँ भी उनका आकर्षक व्यक्तित्व उनके अनगिनत शिष्य बना लेता है। खासकर विदेशी महिलाएं तो स्वामी के ऊपर जान छिड़कने लगी थीं। कुछ तो उन्हें अपने पुत्र का सा प्यार देती थीं। वह भारत की नारियों के बारे में अधिक से अधिक जानना चाहती थीं। स्वामी उनको बताते हैं कि भारत में नारीत्व का आदर्श है– पूर्ण स्वाधीनता। और उसका गंतव्य है– सतीत्व। पत्नी भारतीय परिवार की धुरी है। उसकी स्थिरता और दृढ़ता उसके सतीत्व पर ही निर्भर करती है। स्वामी ने विदेश में भी अपने देश की स्त्रियों को सम्मान प्रस्तुत किया था। स्वामी स्त्री में केवल माँ को देखते थे। उनके निकट रहकर लोग मानवनिर्मित वर्गों और संप्रदायों से परे देखने लगते थे और अपने धार्मिक विश्वासों के बावजूद स्वामी के साथ तादात्म्य का अन. भव करते थे। धर्मसंसद में तो स्वामी को बोलते हुए सुनकर अमेरिका जनता अवाक रह गई थी। स्वामी ने अपने ओजस्वी भाषण से सबको अपने मोहपाश में बांध लिया था। उस समय सारा परिवेश सात्विक हो गया था। कुछ तो विशिष्ट था ही। प्रभाव तो शब्दों का ही था; किंतु उन शब्दों में विद्युत भरी थी। आचार्य रामचन्द्र शुक्ल ने भी अपनी पुस्तक में स्वामी जी के शिकागो धर्म–संसद के भाषणों का रोचक विवरण प्रस्तुत किया है।धर्मसंसद के बाद स्वामी विदेश में कई शहरों में भ्रमण करते हुए वहाँ की जनता को भारतीय संस्कृति का नित–नया ज्ञान प्रदान करते हैं। वह अमेरिका जनता को भक्ति के संबंध में बताते हैं। ईसा के श्रीचरणों में यदि तुम स्वयं को समर्पित कर दोगे, तुम तद्धत् हो जाओगे। ईश्वर से प्रेम करो। दिन–रात उसका चिंतन करो। ईश्वर को अर्पित करके खाओ। उसको अर्पित करके पियो। यह सबसे अधिक उपयोगी है। स्वामी विदेशियों के समक्ष नित नया ज्ञान प्रस्तुत कर रहे थे, उनके लिए यह ज्ञान उन्हें हतप्रभ करने वाला था। और स्वामी का व्यक्तित्व उनके लिए दिनो. दिन आकर्षक और आदर्श का प्रेरक बनता जा रहा था। स्वामी अपने चरित्र में आदर्श को उजागर करते हुए अपने लक्ष्य की ओर क्रमशः बढ़ते जा रहे थे।

"न भूतो न भविष्यति" नामक इस उपन्यास में भी स्वामी विवेकानन्द के कर्म व लक्ष्य निहित हैं। स्वामी जी सन्यासी थे, सर्वत्यागी थे। उन्हें कोई मोह नहीं था। वह तो अपनी भारतमाता से प्रेम करते थे, और उसके दुख दूर करना चाहते थे। उनके लिए प्रत्येक स्त्री माँ समान थी। नारी जाति उनके लिए केवल मातृ जाति थी। वह नारी को और किसी दृष्टि से नहीं देख सकते थे। ठाकुर परमहंस देव को संग्रहिणी रोग हो जाता है तब उनके पास जाने वाले लड़के तथा नरेन्द्र सभी उनकी सेवा करते हैं तथा उनका इलाज करवाते हैं। नरेन्द्र ने तो पूर्ण सेवाकर्म ग्रहण किया था। उनकी चिकित्सा करवाने के लिए

एक भी पैसा नहीं दे सकता था, तो उसे सेवा तो करनी ही थी। ठाकुर के इन शिष्यों ने उनकी अपार सेवा करके सेवाभाव का आदर्श प्रस्तुत किया है।

एक बार डाक्टर नरेन्द्र की अनुपस्थिति में ठाकुर के अन्य शिष्यों को बता जाते हैं कि ठाकुर का रोग छूत का रोग है। उनकी सेवा करने वालों को भी यह रोग हो सकता था। इसलिए सबको सावधान रहना चाहिए। नरेन्द्र को जब यह बात पता चलती है तो वह तड़प उठता है। उसे लगता है कि अगर उसके दोस्तों को इस बात का यकीन हो गया तो यह उचित नहीं है। ठाकुर का जन्म तो दूसरों के कष्ट हरने को हुआ है। वो किसी को कष्ट नहीं दे सकते। वह तो दूसरों के कष्ट स्वंय झेल सकते हैं।

नरेन्द्र उसी समय ठाकुर के कमरे की ओर चल पड़ा। सारे मित्र उसकी यह दुस्साहसी मुद्रा जानते थे। वे सब उसके पीछे कमरे में पहुंच गए। कमरे में ठाकुर का उच्छिष्ट दलिया का प्याला रखा था। जिसे ठाकुर ने खाने की कोशिश की थी किंतु खांसी आ जाने के कारण वह कितना खा पाए और कितना प्याले में रह गया कोई नहीं जानता। नरेन्द्र ने सबके सामने वो प्याला उठाकर पी लिया। और उसे अपने मित्रों से कहा कि अब हममें ठाकुर के रोग की छुआछूत की कोई चर्चा नहीं करेगा। उसने एक आदर्श शिष्य तथा भक्ति की पराकाष्ठा का परिचय देते हुए अपने मित्रों को भी सेवा का अर्थ समझाया था। अब तो सारे शिष्य मिलकर समय रहते, उनकी सेवा और ध्यान–भजन करके, जहां तक हो सकता था, आध्यात्मिक उन्नति कर लेना चाहते थे। ठाकुर के शरीर त्यागने के बाद नरेन्द्र तथा उनके मित्रों ने सन्यास तो ले ही लिया था। सारे गुरूभाइयों को एक मठ में एकत्रित करके नरेन्द्र साधना के लिए निकल जाता है। वह भ्रमण करते हुए अपनी साधना पूर्ण करना चाहता था। जाति, वर्ण का अब उसके लिए कोई महत्व नहीं था। वह तो सन्यासी था। मार्ग में चलते हुए एक बार भंगी के हाथ की चिलम पीकर नरेन्द्र ने जाति का आदर्श सामने रखा था। अब उसके लिए प्रत्येक जीव में ईश्वर ही था, अतः वह ईश्वर की उपेक्षा नहीं कर सकता था।

स्वामी भ्रमण करते हुए जब मडगाँव के रेलवे स्टेशन पहुंचे थे तो उनके स्वागत के लिए सैकड़ों लोग आए हुए थे। स्वामी जी का वहाँ भव्य स्वागत हुआ था। उनको एक सुसज्जित बग्घी में बैठाकर शोभायात्रा के रूप में सुब्राय नायक के घर तक लाया गया था। वहाँ उनके ठहराये जाने की व्यवस्था थी। परंतु जब स्वामी ने अपने मडगाँव पहुंज जाने की सूचना अपने मित्रों को पत्र से दी थी तो उसमें इसका कोई वर्णन नहीं था। स्वामी की जगह कोई और होता तो अपनी आत्मप्रशंसा करते हुए फूला ना समाता। किंतु यह तो स्वामी की महानता का प्रमाणपत्र था। स्वामी तो भारतमाता के दुख को दूर करना चाहते थे। कभी–कभी वह अपने देश की दुर्दशा का स्मरण करके घंटों आंसू बहाया करते थे। श्री शिवपूजन सहाय ने अपनी रचनावली में इस प्रसंग का उल्लेख भी किया है। अपनी मातृ–भूमि के लिए उनके कण–कण में प्रेम था। अपनी मातृभूमि के कष्टों को कम करने के लिए ही वे विदेश जाने का संकल्प करते हैं। भारत के करोड़ों लोगों के नाम पर, उनके प्रतिनिधि ा बनकर वे अमरीका जाना चाहते थे। अपने मस्तिष्क की शक्ति से वे वहाँ संपत्ति अर्जित करेगें। भारत लौटकर वे अपने देशवासियों के उत्थान का प्रयत्न करेगें। अब उनका जीवन अपने देश की सेवा को सम. र्पित था। उनके जीवन का लक्ष्य था– सेवा। उनका असीम प्रेम कोई भेदभाव नहीं करता– कोई ऊँच–नीच नहीं है, शुद्ध और अशुद्ध, धनी और निर्धन, पुण्यात्मा और पापी– किसी में कोई भेद नहीं करते थे। स्वामी जी का चरित्र पूर्ण आदर्श चरित्र है। जिसको कोहली जी ने कुशलता से चित्रित किया है।

उपसंहार –

जीवन के यथार्थ संघर्ष में जूझता हुआ मनुष्य एक आदर्श लोक की कल्पना से सुख शांति का अनुभव करता हुआ अपने यथार्थ जीवन को गतिशील रखता है। नरेन्द्र कोहली के उपन्यास साहित्य में भी वस्तुतः मानव के सम्पूर्ण जीवन अर्थात् बाह्य एवं अभ्यंतर में चलने वाले संघर्ष का प्रतिनिधित्व है।निष्कर्षतः हम कह सकते है कि नरेन्द्र कोहली ने समकालीन हिन्दी लेखन को गहराई के साथ प्रभावित किया है यह भी पता चलता है कि नरेन्द्र कोहली के साहित्य मे अपने युग जीवन की यथार्थ व आदर्श की अभिव्यंजना है, जो उनके उपन्यास साहित्य को यथार्थ जीवन के निकट ला खड़ा कर सकती है। यह बात उनके उपन्यासों के समीक्षात्मक अध्ययन से पूर्णतः सत्य सिद्ध होती है।

संदर्भ ग्रंथ –

'तोड़ो कारा तोड़ो' –1 निर्माण : डॉ नरेन्द्र कोहली पृष्ठ संख्या 78

'तोड़ो कारा तोड़ो' –1 निर्माण : डॉ नरेन्द्र कोहली पृष्ठ संख्या 146

'तोड़ो कारा तोड़ो' –2 : साधना डॉ नरेन्द्र कोहली पृष्ठ संख्या 129

न भूतो न भविष्यति : डॉ नरेन्द्र कोहली पृष्ठ संख्या 141

5 न भूतो न भविष्यति : डॉ नरेन्द्र कोहली पृष्ठ संख्या 477

महादेवी वर्मा की गीतसृष्टिः संक्षिप्त परिचय

डॉ. विजयलक्ष्मी बाजपेयी, विभागाध्यक्ष, हिन्दी
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सारांश

राग–रागिनी के अनुकूल जिन पदों की रचना होती है, वे विशेषतः गेय होने के कारण गीत कहलाते है। गीतों का प्रचलन बहुत प्राचीन समय से है। इनके दो भाव स्पष्ट दिखाई देते है,एक लौकित दूसरा साहित्यिक। "इनके सभी गीतों का स्वर एक जैसा है पर मार्ग भिन्न–भिन्न हैं। लोक से अनेक रूप रंग की पीठीका लेकर आध्यात्म के आकाश मे स्वछन्द विचरण किया गया है।"1

प्रस्तावना–

गीतिकाव्य के प्रमुख तत्व माने जाते हैं–

- संगीतात्मकता (गेयता)
- व्यक्ति प्रधानकाव्य (व्यक्ति तत्व)
- भाव प्रधान
- रागात्मक अन्विति
- सहज आंतरिकता
- प्रवाहमयशैली

महादेवी वर्मा ने न केवल गीति काव्य का विवेचन और विशलेषण ही किया है, अपितु सुंदर शैली की रचना भी की है, इनके सभी गीतों का स्वर एक सा है, पर उनके मार्ग भिन्न–भिन्न हैं। महादेवी वर्मा के गीतों में साहित्यिक गीतों की विशेषताओं के साथ लोकगीतों की भी विशेषतायें पायी जाती है।

विभिन्न विद्धानों ने गीतीकाव्य लक्षण विभिन्न प्रकार से निर्धारित किया है–

"गीतकाव्य की रचना आत्माभिव्यक्ति के दृष्टिकोण से होती है। उसमें विचारों की एक रूपता रहती है। आराध्य के प्रति आत्मनिवेदन के उल्लास में रचना गेय हो जाती है। अतःसफल गीकाव्य मे चार बातें होनी आवश्यक है– आत्माभिव्यक्ति, विचारों की एकरूपता, संगीत, संक्षिप्तता।"3

डॉ. माता प्रसाद गुप्त ने गीता काव्य के लक्ष्ण बताये हैं–आंतिरक प्रेरण, आवेग प्रसाधन की उपेक्षा, आत्माभिव्यक्ति की प्रमुखता।

गीतिकाव्य के लक्षणों के संदर्भ में विचार करने से स्पष्ट होता है कि सभी विद्वानों की राय में गीति–काव्य के लक्ष्ण प्रायःसमान ही हैं।

गीतिकाव्य के भेदः–गीति काव्य के अनेक भेदोपभेद किये गये हैं।

वस्तुतःगीत दो प्रकार के माने गये हैं–

भावगीत और विचारगीत, भावगीत में भाव की प्रधानता होती है, यद्यपि विचार–तत्व एक हो सकता है। विचार गीत में गंभीर विचार एवं तत्वदर्शन का प्राधान्य होता है,भावना यहां गौण होती है। "पश्चिम में भाव गीतों के पुनः अनेक भेद किये गये हैं जो निम्नांकित हैं–चतुदशपदी, सम्बोधन गीत, व्यंग्य गीत, शिशुगीत।"4

गीतकाव्य की परम्पराः–

"गीत काव्य वेद मूल के है। यह परम्परा अत्यन्त प्राचीन काल से चली आ रही है। हमको सर्वप्रथम सामवेद मे दर्शन होते हैं। ये गीत यज्ञ के अवसर पर गाये जाते थे। धार्मिक कृत्यों के अतिरिक्त हमको सामाजिक पर्वों और उत्सवों में गीतों का प्रचार मिलता है।"5

हिन्दी गीता काव्य की परम्परा–हिन्दी साहित्य के इतिहास के वीरगाथा काल से ही हिन्दी गीतकावय की परम्परा प्रारंभ हो गई थी।यह परम्परा मुख्यतः दो रूपों में दिखाई देती है

चारणों एवं भाटों के वीरगीत में

सि़द्धों एवं नाथ पंथियों के गीत।

"भारत के साहित्यिक गीतों की परम्परा संस्कृत के पीयूषवर्णी कवि जयदेव से मानी गयी है। इन्होंने "गीत गोविन्द"की रचना करके यह परम्परा बांधी। यह निश्चित है कि लौकित गीतों के माधुर्य से ही आकृष्ट होकर जयदेव ने 'गीत गोविन्द' की रचना की है। संस्कृत के पंडित कवि तो वर्णवृत्तों में ही रचना करते आये हैं।

लोक माधुर्य की सच्ची पहचान जयदेव को थी। कहते है हिन्दी मे उन्हीं के अनुगमन पर कोकिलकंट विद्यापति ने गीतों की रचना की। उन्होंने स्पष्ट कहा है कि देशी रचना बड़ी ही मधुर होती है,और सबको प्रिय लगती है। कहते हैं,उन्हीं के अनुकरण पर सूरदास ने 'सूरसागर' गीतों में ही गाया। उनके अनन्तर गीत की रचना करने वाले अनगिनत कृष्ण–भक्त कवि हुये। सूर के अनुकरण पर तुलसीदास ने भी 'रामगीतावली' और 'विनयपत्रिका की रचना की।"6

रीतिकाल में गीतकाव्य की परम्परा को विकास रूक गया है। कुछ फुटकल रचनायें अवश्य हैं।

आधुनिक काल में भारतेन्दु हरिचंद्र के गीतों के साथ पुनः परम्परा आगे बढ़ी।

सत्यनारायण कविरत्न, वियोगी हरि प्रभृति कवियों ने सुंदर व मार्मिक गीत लिखे और छायावाद के युग में इनका पूर्ण विकास हुआ। मैथिलीशरण गुप्त के प्रबंध काव्य में बिखरे गीतो को संधिकाल की विधि के नाम से जाना जाता है। छायावादी युग में गीत–काव्य पूर्ण

प्रकर्ष को प्राप्त हुआ। जयशंकर प्रसाद, सुमित्रानंदन पंथ, महादेवी वर्मा और सूर्यकांत त्रिपाठी निराला इस युग के प्रमुख गीतकार कवि हैं।

महादेवी वर्मा की गीत सृष्टि–

एक सफल गीत काव्य में जिन गुणों की आवश्कयता होती है वे सभी गुण महादेवी वर्मा के गीत काव्य में विद्यमान हैं।

भावात्मकता–गीतिकाव्य की आत्मा ही भाव है। गीतिकाव्य हृदय के उस गम्भीर तीव्र भावों का परिणाम है जो सहज उद्वेग व प्राकृतिक वेग के साथ फुट पड़ता है। महादेवी वर्मा के गीतिकाव्य में अलौकिक प्रणय भाव, करूणा और निर्वेद की अभिव्यक्ति हुयी है, महादेवी के गीतों की पंक्तियां। ऐसी ही है जो उनकी मूल अनुभूति या भावना को शब्दबद्ध करती है।

"बिछाती थी सपनों के जाल,
तुम्हारी वह करूण की कोर,
गयी वह अधरों की मुस्कान,
मुझे मधुमय पीड़ा में बोर,
नहीं अब गाया जाता देव।
थकी अंगुली, हैं ढीले तार,
विश्व वीणा में अपनी आज
मिला लो यह अस्फुट झंकार।"7

इनके गीतों में अतिशय भाव–प्रवणता की कमी होने के बावजूद उनमें संवेदनशीलता,संवेदना,और रागात्मकता अधिक है।

संगीतात्कता–उत्तम गीतकाव्य संगीतमय होती है। महादेवी वर्मा–काव्य, चित्र एवं संगीत कला तीनों में निपुण हैं।

उनके गीतों में संगीत फूट–फूट कर भरा है। छन्द, लय, ध्वनि,स्वर योजना पूर्ण रूप से कविता में द्रष्टव्य है।

"वे मुस्काते फूल नहीं–
जिनको आता है मुरझाना
वे तारों के दीप नहीं
जिनको भाता है बुझ जाना।"8

3. वैयक्तिकता–गीतिकविता व्यक्ति प्रधान काव्य के अन्तर्गत आती है। इसका रचयिता अपने सुख–दुःख, लज्जा–ग्लानि, क्षोभ आदि को व्यक्त करता है। अपने तीव्र मानोभावों का अंकन करता है। अतः इसमें व्यक्ति तत्व की प्रधानता रहती है–

महादेवी का सारा गीतिकाव्य अनुभूतियों पर आधारित होने के कारण वैयक्तिकता प्रधान है। सर्वत्र ही मनोदशाओं और भावानुभुतियों का स्वर सुनाई पड़ता है–'

"पर शेष नहीं होगी यह,
मेरे प्राणों की क्रीड़ा,
तुमको पीड़ा में ढूंढा,
तुम मे ढूढुंगी पीड़ा।"9

वैयक्तिकता उनके गीतों में सम्पुर्ण वैभव के साथ विद्यमान है। फलतः महादेवी का गीतिकाव्य हिन्दी का सर्वश्रेष्ठ गीतकाव्य हैा

4. **संक्षिप्तता**– महादेवी वर्मा के गीतों में संक्षिपतता का गुण बढ़ता गया।

महादेवी साहित्य– 'नीरजा' का 'क्या पूजन क्या अर्चन रे ?' मात्र नौ पंक्तियों का होने के बाद भी किसी किसी प्रकार की रोचकता सरलता में कमी नहीं आने पाई है। यही इनकी विशेषता है। यह भी पूर्णतः सत्य है कि उनके गीतिकाव्य में संक्षिप्तता का सर्वत्र नहीं है, फिर भी पूर्णता को प्राप्त है।

5. **भावानूकूल भाषा** – महादेवी जी का शब्द चयन अप्रतिम है। उन्होंने शब्द चयन सर्वथा भावाभिव्यंजना के अनुकूल ही किया है। जैसे हौले–हौले, धीरे–धीरे, कजरारे, अलबेला, मतवारे, रोम–रोम आदि के प्रयोग से भावात्मक स्थिति ध्वनित हो उठती है।

''नयन श्रवणमय श्रवण नयनमय हो रहे आज कैसी उलझन
रोम–रोम में होता री सखी एक नया का सा स्पंदन''10

''महादेवी में गीति काव्य के उत्कर्ष की सुंदर भावनायें हैं, लेकिन यह रहस्यात्मकता आवरण उनके प्रभाव की तीव्रता को कुछ कंठित कर देता है। कवयित्री के पास सीमित संवेदनायें हैं, इन्हें वह भिन्न–भिन्न प्रतीकों और रूपकों से व्यक्त करती हैं।''11

निष्कर्षः– उपर्युक्त विवेचनोपरान्त हम कह सकते हैं कि भारतीय गीत परम्परा में भावपूर्ण तथ्य, काव्य और संगीत का मिलन, साहित्यिकता का पूर्ण निर्वाह, औदात्य भावना के संयम, कल्पना व सौन्दर्य के साथ–साथ शैली के सामन्जस्य का संतुलन महादेवी जी के गीति काव्य में द्रष्टव्य हैं, जो उनके गीति काव्य को चरमोत्कर्ष पर ले जाने में सक्षम है।

सहायक संदर्भग्रंथो की सूचीः–

1.मिश्र, विश्वनाथ प्रसाद–वांग्मय विमर्श पृष्ठ 440
2.वर्मा, महादेवी–दीपशिखा पृष्ठ 63
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Factors Affecting Nutritional Status among the Kinnaura in Himalayan Region

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Abstract

This study assesses the nutritional status of Kinnaura preschool children, identified the influencing factors and estimated the degree of nutritional status index. Conducted in nine villages selected from three different tehsils of Kinnaur district, Himachal Pradesh, the study used data from selected rural households and anthropometric measurements of preschool children. Household data were collected using structured questionnaire. The MS Excel software was used to calculate nutritional status indexes in which height-for-age was conducted to assess the influence of the explanatory variables on nutritional status. Results revealed that the proportions of children with either moderate or severe nutritional problems, about 45 percent boys and 39 percent girls suffer from mild to moderate forms of malnutrition according to weight for height where as 43 percent of boys and 47 percent of girls suffer from mild to moderate forms of under nutrition with respect to height for age. Similarly, 62 percent of girls 68 percent of boys suffer from mild to moderate forms of malnutrition with respect to weight for age. In the present study boys are found to be more vulnerable as compare to girls in weight for age. Dietary consumption, mother's education, mother's position among housewives and child's height were positively related to the child's nutritional status. Also, mother's age, child's age and dependency ratio had negative influence on nutritional status. Policy options that would promote formal education for women, home use of nutritional diet and reduction in dependency ratio are recommended.

Introduction

Malnutrition is associated with a great deal of morbidity. Children are most vulnerable to malnutrition due to low dietary intakes, inequitable distribution of food within the household, improper food storage and preparation, dietary taboos, infectious diseases and care. Prevalence of malnutrition has remained a problem of considerable magnitude in most developing countries (Devi and Geervani, 1994). Malnutrition causes both emotional and physical suffering (Smith and Haddad, 2000) and is responsible for more than one-half of all children's deaths worldwide (Pelletier *et al.*, 1995). Adults who survive malnutrition as children are less physically and intellectually productive and suffer from higher levels of chronic illness and disability (Smith and Haddad, 2000). Among the Kinnaura prevalence of malnutrition among rural preschool children of Himalayan region are remarkable. Empirical investigations have identified the problems of poverty and food insecurity which have prevailed among the low income population as well as high costs of living and dearth of animal protein among the causes of malnutrition.

This study is to measure the nutritional status of preschool children, determine the factors that influence nutritional and estimate the degree of nutritional status. It is expected that the findings from the study would serve as a guide to policy makers, extension staff, food nutritionists and households seeking to achieve some meaningful improvement in Kinnaura children's nutritional status in Himachal Pradesh.

Material and Method

Data Collection

The population of Himachal Pradesh in 2001 Census has been 60, 77,248. Of this 15, 02,170 persons are the Scheduled Tribes (STs) constituting 4.02 per cent of the total population of the state. In 2011 Census, Kinnaur had population of 84,298 of which male and female were 46,364 and 37,934 respectively. There was change of 7.61 percent in the population compared to population as per 2001. In the previous census of India 2001, Kinnaur District recorded increase of 9.91 percent to its population compared to 1991. The initial provisional data suggest a density of 13 in 2011 compared to 12 of 2001. Total area under Kinnaur district is of about 6,401 sq.km. With regards to Sex Ratio in Kinnaur, it stood at 818 per 1000 male compared to 2001 census figure of 857. The average national sex ratio in India is 940 as per latest reports of census 2011 Directorate. The percentage of SC population to total population was 9.73 and that of ST 71.83. Together they constitute 82 percent of the total population of the

district. In the Himalayan region of Kinnaur district with largest concentration of tribal groups. Among the tribal population groups, Kinnaura constitute the largest population (55,973) of all tribal groups in Kinnaur (Census of India, 2001) and Bhot and Jad with each having strength of 130 and 74 respectively. Kinnaura were, therefore a logical choice as it was the largest Himalayan tribe of district Kinnaur. The research work on Kinnaura of Kinnaur has brought important information nutrition and their bio-cultural determinants. The quantum of qualitative and quantitative anthropometric and other data is presented in Table 1.

Table 1: Qualitative, quantitative, anthropometric and other data collected during field work

District/ State/ Population	Qualitative (Sample Size)	Quantitative (No. of subjects)	Anthropometric (No. of subjects)
Kinnaur, Himachal Pradesh (Kinnaura)	FGD= 16 Case studies= 28	Household Schedule= 450	326 Subjects

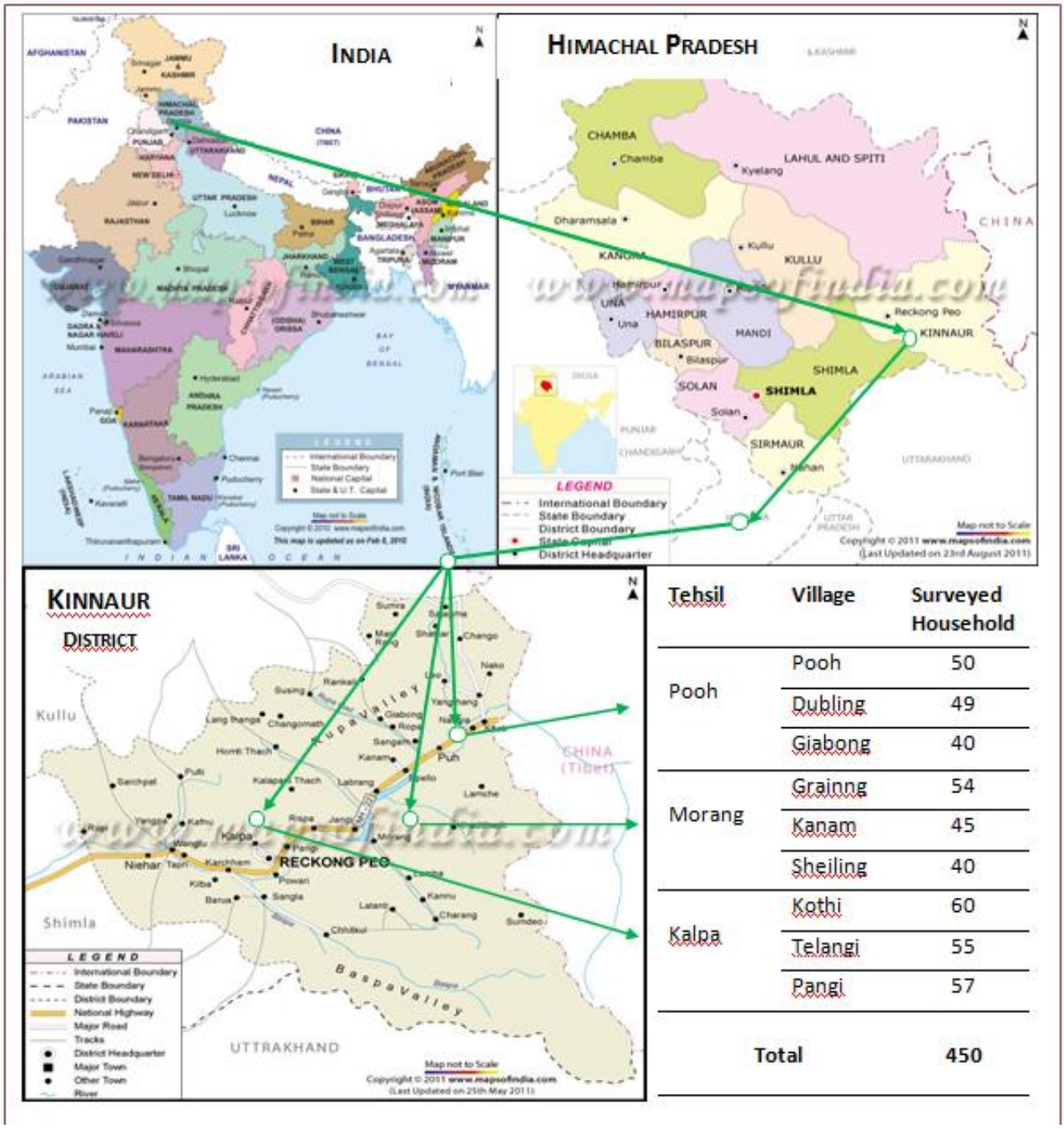
Study Area

Kinnaur district is bounded on north by Spiti on the east by the Tibetan territory; on the south by Uttar Kashi district of Uttar pradesh and on the west by Simla district (earlier Mahasu district). It is lies on both sides of Sutlej. It is situated between 31°05' - 55' and 32°05' - 20' north latitude and between 77°45' - 0' and 79°- 0'-50' east longitude. It is stretched over 80 kms. in length and about 64 kms. in breadth. (Fig.1) The total area of the district is 6401 sq. kms., which comprise of 11.5 percent of the total area of the state of Himachal Pradesh. The district head quarter is located at Recong Peo. There are three administrative sub-division in the district namely, Nichar, Kalpa, and Pooh. Kalpa sub-division has two tehsils i.e. Kalpa and Sangla, Nichar sub-division has only one tehsil namely Nichar and Pooh sub-division has two tehsils namely Pooh and Morang. Information on 450 households have been collected from 9 villages from three tehsils namely Kalpa, Morang and Pooh. The list of these villages along with tehsils name is given in Fig. 1.

Assessment of Nutritional Status through Anthropometric Measurements

Nutrition assessment is important in clinical medicine because acute and chronic malnutrition are common clinical findings. Malnutrition is defined as the sub-optimal supply of a nutrient that interferes with an individual's growth, development or maintenance of health. Over nutrition is excessive intake of nutrients, mostly macronutrients and calories which increase risk of many chronic diseases. For assessing the nutritional status of the children less than or equal to six years old belonging to Kinnaura tribal population group Kinnaur district in Himachal Pradesh, a set of anthropometric measurements was under taken on them. Anthropometric data were collected from the Anganwadi centers of different villages, the households and primary schools. The data were based on the cross-sectional sample of 326 children ages less than one through six years. Out of these 326 subjects, 177 were males and 149 females. Salient findings of the present study are reported in the text below. In all, 12 body measurements were taken, viz. Crown hell length (up to two years)/ standing height, body weight, skin folds (skin fold at biceps, triceps, subscapular, supra iliac and calf sites), Waist circumference, Hip circumference, Head circumference, Chest circumference and Mid upper arm circumference.

The results of each of the 12 measurements mentioned above for both boys and girls are presented in table 2 through 15. The statistical values are provided for each variable include mean, standard deviation and standard error of mean and the range. It is clearly evident from the tables that irrespective of sex, there is even growth in each of the body measurements at successive ages. The t- values calculated for estimating the significance of the bisexual differences at different ages among Kinnaura are presented in 16. It can be seen from the table that the bisexual differences, in general, are statistically non significance for most of the measurement below 3 years. The differences become significant only after 3 years of age for various measurements. However, body weight, standing



Tehsil	Village	Surveyed Household
Pooh	Pooh	50
	Dubling	49
	Giabong	40
Morang	Grainng	54
	Kanam	45
	Sheiling	40
Kalpa	Kothi	60
	Telangi	55
	Pangi	57
	Total	**450**

Fig. 1: Location of Study Area

height, and mid- upper arm circumference are the measurements, which do not show bisexual differences by and large. It can thus be inferred that Kinnaura boys and girls under six years of age, in general, reveal similar pattern of growth for various body measurements in the present study. Besides numerous other contributory factors, cultural practices among Kinnauris are also responsible for these similarities. A girl child is never looked down upon in the society. Since Kinnauries practice fraternal polyandry, therefore in the matter of sexuality women have enough freedom. There is no oppression and incidence of domestic violence is almost non-exist. As far as diet is concerned, both sons and daughters get equal preference. Kinnauri women enjoy respectable status in the society.

Data on Indian population is available for six measurements on boys and girls of various ages an ICMR Technical Report Series No. 18 (1994) of which only four measurements, viz. body weight, standing height, crown heel length, chest circumference and head circumference are comparable to the present study. Similarly, Ghosh (1992) provides data on additional measurements i.e. mid upper arm circumfer-

ence for the children belonging to better socio-economic class. Thus, a comparison of Kinnaura boys and girls has been made with the data available on boys and girls of rural India and of better socio-economic class. It can be seen that the pattern of growth of Kinnaura children (boys and girls) in the five measurements taken for comparison with rural Indian children and children of better socio-economic class.

Protein calorie malnutrition (PCM) has been identified as a major health and nutritional problem in India. It appears among children in the early childhood, generally below six years. It is an important cause of morbidity and mortality in children and leads to impairment of physical and mental growth of the individuals who survive. The incidence of PCM in India in preschool age children is 1 to 2 percent. A great majority of cases of around 80 percent are in the category of mild to moderate form, which frequently go unnoticed. To identify children requiring nutritional and health intervention, a number of classifications have been proposed. Gomez classification which is weight for age percentage is based on weight retardation. Water lows classification defines two groups for PCM. Malnutrition with retarded growth, which is height for age percentage indicating stunting and malnutrition with low weight, which is weight for height indicating wasting. Another indication of PCM is mid upper arm circumference, which is a reliable estimate of body's muscle mass. Between age one and five years, mid upper arm circumference hardly varies. Any arm circumference exceeding 13.5 cm. is sign of a satisfactory nutritional status, between 12.5 and 13.5 cm. it indicates mild to moderate malnutrition and below 12.5 severe malnutrition. Table 14 and 15 shows frequency of under nutrition according to various classifications. It can be seen from the tables that about 45 percent boys and 39 percent girls suffer from mild to moderate forms of malnutrition according to weight for height where as 43 percent of boys and 47 of girls suffer from mild to moderate forms of under nutrition with respect to height for age. Similarly, 62 percent of girls 68 percent of boys suffer from mild to moderate forms of malnutrition with respect to weight for age. Thus weight loss is less pronounced as compare to stunting in girls.

Moreover, mean mid upper arm circumference among boys and girls are invariable above 13.5 cms. in age groups two and above indicating their satisfactory nutritional status. We can estimate the prevalence of under nutrition in terms of weight for age and height for age and weight for height following the methodology proposed by the World Health Organisation. For each child z scores for weight for age, height for age and weight for height were calculated. For estimating z scores, the Anthro software package developed by the World Health Organisation was used and the WHO standard was adopted (WHO, 2010). A child having a z score less than -2 was classified as under nourished in terms of either weight for age or height for age or weight for height. Finally, the prevalence of under nutrition was calculated as the proportion of children under 3 years of age who were classified as under nourished in terms of either weight for age or height for age or weight for height. Subsequently, the proportion of children who were stunted and wasted (SW), only stunted (S), only wasted (W) and the proportion of children who were neither stunted nor wasted was also calculated. As per the recommendation of the World Health Organisation that the nutritional status of the child should be assessed after taking into consideration both the height for age and the weight for height and not on the basis of the weight for age or weight for height alone. Following the recommendations put forwarded by the World Health Organisation, a child can be classified in any of the following four categories:

The entire ratios and mean upper arm circumference in the present study do not indicate any extra ordinary situation regarding malnutrition. These children are apparently small but not unhealthy. One must also consider that this group of tribal children belongs to Himalayan populations, Which has a special biological adaptation to its environment. Further no severe cases of clinical signs of malnutrition like marasmus and kwaskorhiorkor were observed in the present study. The prevalence of high frequency of mild to moderate forms of malnutrition can be attributed to infection like diarrhea,

respiratory infections besides poor maternal health during and at the time of delivery and utilization of health services among many. Cultural practices relating to environmental sanitation, personal hygiene, food habits and their attitudes towards modern medical care go a long way in elevating their sufferings.

Factors Affecting Nutrition

Location of Residence

Three tehsils of Kinnaur district were studied under present investigation namely Pooh, Morang and Kalpa. Among these three tehsils, Kalpa tahsil is the center place of the district and is the administrative center. The Zilla panchayat Bhavan houses all the important administrative offices. The distance of different village under study form tehsils headquarters is given in table 17. The average distance of different villages from tehsil headquarters in Kalpa is 7 kms., while in Morang it is 19 kms. and in Pooh it is 22 kms. It can be observed from the table 18. that the villages of Kalpa tehsil are nearer to the tehsil headquarters while in Morang and Pooh tehsil villages are situated far off and in remote area. A comparative study showed that rural children are more likely to suffer from chronic energy deficiency than children in urban areas. These higher rates of rural malnutrition were also reported by local District Hospital, Recongpeo, Kinnaur district, Himachal Pradesh.

Box: 1

Major Observation

Bisexual differences for 12 body measurements were not statistically significant for most of the measurements, revealing similar pattern of growth among boys and girls.

At least 51 percent of boys and girls were normal form of nutrition according to weight for height and height for age.

Table 17: Distance of Villages from Tehsil Headquarters

Name of tehsil	Distance Villages from tehsil headquarter (in Kms)		
	Average	*Maximum*	*Minimum*
Pooh	22	30	0
Morang	19	47	1
Kalpa	7	13	1

Socio-economic Status

The pattern of annual household income obtained from different households on the present study is presented in table 18. It can be clearly seen that about 57 percent of the total population of Kinnauras are middle income group. A significant percentage (30.24) Kinnaura population is considered as prosperous and only around 13 percent Kinnauras are relatively poor. As in the case of women, the economic status of a household is also one of the most important determinants of child nutritional status (UNICEF, 1990). Comparative studies on child nutrition for more than 15 countries (Sommerfelt et al., 1994) and Kinnaura studies in showed that the higher the level of economic status of the household, the lower the level of child stunting. In short, the socio-economic profile and life style of Kinnauras are not much of the concern. Traditions of long history have bonded them to rigid cultural behavior, but, gradually they are opening up and are not average to changes that are brought in by government through various developmental and health schemes.

Mother Education

Literacy rate, as evident from table 19 turns out to be 79.94 percent among Kinnauras, which is very significant observation among present study. Female literacy was found to be 68.08 percent. Out of those who are literate 33.51 percent age primary school educate, 16.56 percent high school educated, 9.84 percent higher secondary educated and another 13.24 percent are graduates. Literacy rate among Kinnauras is much higher than its corresponding figure of 26 percent in Indian tribal groups, 77.13 percent for Himachal Pradesh and 65.38 percent for Indian National Population. Thus, literacy is a very good social

indicator, which goes a long way in molding the attitude of people towards modern medical practices and decision-making. Education is one of the most important resources that enable women to provide appropriate care for their children, which is an important determinant of children's growth and development (Engle and Menon, 1996). As per study shows a decreased incidence of malnutrition among young children with an increase in the level of mothers' education. The significance and direct relationship of the child's mother's education concurs with the assertion that maternal schooling is strongly associated with good child care and good health (Maxwell *et al.,* 2000). More education for women is associated with higher levels of household food availability, higher quality diets, better care practices and behaviours and better nutritional outcomes. This finding makes a good case for the use of educational empowerment and capacity building of women as a means of promoting food and nutritional status of children in particular and household members in general.

Mothers Employment Status

Table 20 presents the pattern of occupation among Kinnauras. It can be seen that there is a great degree of variability in the occupational pattern. Besides being primarily agriculturists (66.55 percent), they have taken up to private and government jobs. Although women's employment enhances the household's accessibility to income, it may also have negative effects on the nutritional status of children, as it reduces a mother's time for childcare. Some studies have revealed that mothers of the most malnourished children work outside their home (Popkin, 1980; Abbi et al., 1991). Another study argued that there is no association between maternal employment and children's nutritional status (Leslie, 1988).

Table 18: Annual Household Income	
Category	**Percentage of Household (n= 450)**
<Rs. 25,000 (Poor)	12.81
Rs. 25,000- 60,000 (Lowe middle)	27.44
Rs.60,000-1,50,000 (Moderate)	29.51
> Rs. 1,50,000 (Prosperous)	30.24

Table 19: Literacy rate among Kinnauras	
Literacy	**Percentage (n=1721; < 6yrs excluded)**
Illiterate	20.06
Literate	79.94
Education Level	
Primary	33.51
Middle	26.85
High School	16.56
Higher Secondary	9.84
Graduate & Other	13.24

Source of Water and Toilet Availability

In the present investigation it was found that 51 percent of the household (Table 21) use natural source of water for drinking purposes from "Chasma". And in 74 percent of cases, the source of water was located within villages but outside the house.

Similarly, 43 percent of the (n= 450) houses do not have their own toilets and defecate outside. In the present study among Kinnauras it can be seen (table 22) that 55.12 percent of the houses have no drainage which is a perpetual source of poor environmental hygiene and 44.64 percent of the houses have open drainage. Unfavorable health environment

caused by inadequate water and sanitation can increase the probability of infectious diseases and indirectly cause certain types of malnutrition (UNICEF, 1990; Engle, 1992). This study showed that unprotected water source and non-availability of latrine were associated with low child stature.

Child Morbidity

Diarrhea and other infectious diseases manifested in the form of fever affect both dietary intake and utilization, which may have a negative effect on improved child nutritional status. Crude Death Rate (CDR) ate has been estimated to be 8.7 for Indian National Population and 7.7 for the population of Himachal Pradesh. CDR for Kinnauras has been estimated to be 10, which is higher than the figure of Himachal Pradesh and Indian National Population.

Table 20: Types of Occupation among Kinnauras

Type	Percentage (n= 450)
Labour	3.06
Pvt. Job	1.56
Agriculture	66.55
Govt. Job	22.66
Business	6.17

Table 21: Sources of Drinking Water

Source	Percentage of families users (n= 450)
Chasma	22.92
Tap shared	51.09
Tap owned	25.99

Table 22: Disposal of Waste Water in Kinnauras

Disposal Category	Percentage of Houses (n= 450)
Closed drainage	0.24
Open drainage	44.64
No- drainage	55.12

Infant Mortality Rate (IMR) is a very sensitive indicator of mortality indicating a prenatal and post natal care of mother and infants. IMR has been estimated to be 70/1000 live births for Indian National population and 72/1000 live birth for Himachal Pradesh. IMR for Kinnauras was estimated to be 74/1000 live births, which is comparable to both Indian National Population and Himachal Pradesh. A comparative study on children's nutritional status (Sommerfelt et al., 1994) indicated that stunting was highest among children with recent diarrhea.

Child Care Practices

Table 24 presents child care practices among Kinnauras. It can be seen from the table that 77.18 percent of the infants get their first feed as mothers milk with colostrums. Thus, infants gets essential nutrition in the form colostrums. As far as initiation of supplementary diet is concerned, 75.75 percent of infants get their supplementary diet before 6 months of age. Similarly, 64.33 percent of Kinnauras new born are breast fed up to two years. 20.98 percent of Kinnaura new born leave their mothers milk by the end of first year of life. In the present context two years of breast feeding is a long duration and can be reasoned out from the fact that most of the Kinnaura women are involved in household activities and in those income generation activities, which do not require them to leave their kids at home.

Age of Child

Children's nutritional status is also more sensitive to factors such as feeding/weaning practices, care, and exposure to infection at specific ages. A cumulative indicator of growth retardation (height-for-age) in children is positively associated with age (Anderson, 1995 as cited in Aschalew, 2000). Kinnaura Children have also shown an increase in malnutrition with increase in age of the child.

Immunization Status

Table 25 presents status of child immunization among Kinnauras. It is clear from the table that Kinnauras are highly motivated for immunization. In this regard efforts of the government have been vaccinated for DPT & Polio and more than 95 percent for BCG performance administration of vaccination for measles (75.45

percent) and vit. A prophylaxis (82.92 percent) needs further strengthening of efforts in this direction. Incidentally government institution is the primary source of vaccination in more than 95 percent of cases. By and large immunization coverage is very high in Kinnauras of Kinnaur district. Lack of awareness and slackness among Kinnauras were the main reasons for not immunizing their child.

Birth Order

Table 23: Status of Child Immunisation among Kinnauras

Type of Vaccination	Percentage of Responses	
	Yes	No
DPT (n= 108)	97.45	2.55
Polio (n= 106)	98.29	1.71
BCG (n= 108)	94.92	5.08
Measles (n= 99)	75.45	24.55
Vit. A (n= 101)	82.82	17.18

It has been found that Kinnaura parents give less attention to older children when they give birth to a new child who needs much attention and care. One study showed that stunting is rare in birth order 2-3 (Sommerfelt et al., 1994), and higher birth order (5+) is positively associated with child malnutrition (Jeyaseelan, 1997).

Birth Interval of the Child

Closely spaced pregnancies are often associated with the mother having little time to regain lost fat and nutrient stores (ACC/SCN, 1990). Higher birth spacing is also likely to improve child nutrition, since the mother gets enough time for proper childcare and feeding. Studies in developing countries showed that children born after a short birth interval (less than 24 months) have higher levels of stunting.

Interrelationship between Maternal and Child Nutrition

Birth weight, child growth, and adolescent growth determine nutritional status before and during pregnancy (maternal nutrition). Maternal nutrition also influences fetal growth and birth weight (ACC/SCN, 1992). The presence of an intergenerational link between maternal and child nutrition means a small mother will have small babies who in turn grow to become small mothers. Some findings on the relationship between maternal and child nutrition (Loaiza, 1997; Teller et al., 2000; Genebo et al., 1999) showed that a high proportion of low-birth-weight and stunted children were observed among malnourished mothers.

Conclusion

From the study, it was found that household economic status, education of parents, prenatal care, visits of the mother (for access to health services), child's age, birth order and preceding birth interval are important determinants of child stunting. This study arrives at the following conclusions to improve women and children nutritional status. Most of the socio-economic variables affecting the nutritional status of children. It was also found that there exists a strong association between maternal and child nutritional status and maternal nutritional status and birth weight. This indicates that actions towards improving women and child nutrition should always be integrated for effective utilization of scarce resources and to reduce the link (mother-child) of under nutrition.

Table 24: Child Care Practices among Kinnauras

Child care practices	Percentage
I. First feed given to infant (n= 111)	
a. Mothers milk with colostrums	77.18
b. Mothers milk without colostrums	19.93
c. Jaggery water	0.41
d. Any other	2.48
II. Age at first supplementary diet (n= 97)	
a. 6 months	75.75
b. 6- 12 months	24.24
c. After one year	-
III. Duration of breast feed (n= 69)	
a. 1 years	20.98
b. 2 years	64.33
c. 3 years	9.80
d. More than 3 years	4.89

It is revealed that children of very poor or low economic status households have the highest rates of malnutrition. This may be due to food insecurity in these households that negatively impacts the nutritional status of children in particular and the other household members in general. Therefore measures should include government action to support the very poor, and to bring about rapid economic growth

at the national level. It is important to develop community-based interventions giving priority to very poor households as a short-term solution. Urgent implementation of poverty reduction strategies and programs designed by the Government could also serve as a long-term solution to the problem. It should be noted that over 32 percent of Kinnauries women reported having no education. It is therefore necessary to promote universal education of girls and women. The results showed that education of parents is one of the important determinants of children's nutritional status. Children of educated parents are at a lower risk of malnutrition, if the risks observed for other variables are eliminated. This indicates that parents who receive even a minimal basic education (even in the poor households) are generally more aware than those who are not educated of the need to utilize available resources for the improvement of the nutritional status of their children. It is therefore imperative that young girls and boys be enrolled in compulsory primary school education and opportunities should also be given to adult women and men to take part in non-formal education. Health and nutrition education should also be an integral part of the education process.

Birth interval of less than 24 months, showed a significant nutritional deficit in the younger children, particularly in the rural areas of Kinnaur district of Himachal Pradesh. This may be associated with risk factors such as mothers' inadequate capacity for caring for her children. The mother herself may be biologically depleted from too frequent births, and this could also negatively affect the nutritional status of the newborn baby. Therefore, access to services for child spacing could benefit the youngest child and the mother. Prolonging the intervals between births, through increasing demand for family planning and/or fulfilling unmet need for family planning, could be important elements of strategies to improve child nutrition. This study has also indicated that exclusive breastfeeding up to 6 months of age is not widely practiced nor is the timely introduction of weaning foods at about 6 months. Therefore, education with this regard is also important intervention. So, further research on socio-cultural practices, intra-household food distribution, women's workload, seasonal food insecurity, and other related factors is recommended.

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Table 2: The Statistical Values for Standing Height/ Crown Heel Length Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Cm.)		S.D.		S.E.M. (Cm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	64.86	61.88	6.11	6.65	1.30	1.78	52.7	51.4	75.2	72.1
2	1–2	15	8	73.94	75.10	3.30	3.40	0.85	1.20	69.0	70.5	80.3	82.3
3	2–3	16	21	86.42	80.06	3.15	10.38	0.79	2.26	81.5	62.0	94.7	92.7
4	3–4	48	39	97.65	96.32	5.93	6.17	0.85	0.99	85.8	78.5	111.2	106.5
5	4–5	40	40	103.65	100.88	6.62	6.18	1.05	0.98	92.2	90.3	121.1	114.1
6	5–6	36	27	108.18	107.51	5.26	6.20	0.88	1.19	95.3	95.1	118.2	119.3

Table 3: The Statistical Values for Body Weight Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Kg)		S.D.		S.E.M. (Kg)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	7.48	6.28	1.23	2.29	0.26	0.61	4.0	3.0	9.0	10.0
2	1–2	15	8	9.1	8.75	1.40	0.65	0.37	0.23	7.0	7.5	12.0	9.5
3	2–3	16	21	11.56	11.21	1.33	1.71	0.33	0.37	10.0	8.0	14.0	14.0
4	3–4	48	39	13.93	13.27	1.76	1.48	0.25	0.24	7.0	10.0	17.5	16.5
5	4–5	40	40	15.04	14.19	2.01	1.94	0.32	0.31	11.5	10.0	22.0	18.0
6	5–6	36	27	16.43	16.24	1.73	2.50	0.29	0.48	13.0	11.0	20.0	23.0

Table4: The Statistical Values for Skin Fold at Biceps Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (mm.)		S.D.		S.E.M. (mm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	6.78	7.19	2.07	1.73	0.44	0.46	3.7	4.3	10.4	11.3
2	1–2	15	8	5.65	6.40	1.80	0.77	0.46	0.27	2.5	5.0	9.8	7.1
3	2–3	16	21	5.36	5.38	1.12	1.26	0.28	0.27	3.2	3.0	7.4	9.0
4	3–4	48	39	5.18	5.52	1.55	1.63	0.22	0.26	2.7	2.7	8.5	8.9
5	4–5	40	40	4.33	4.69	1.08	1.29	0.17	0.20	2.5	2.4	7.6	7.7
6	5–6	36	27	3.94	5.12	0.80	2.56	0.13	0.49	2.5	2.4	5.8	16.5

Table 5: The Statistical Values for Skin Fold at Triceps Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (mm.)		S.D.		S.E.M. (mm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	10.84	11.81	1.90	2.19	0.40	0.58	6.5	9.1	14.0	16.4
2	1–2	15	8	9.11	9.14	2.13	1.87	0.55	0.66	5.7	7.5	13.2	12.6
3	2–3	16	21	9.22	9.64	1.45	1.80	0.36	0.39	6.5	6.2	12.0	13.9
4	3–4	48	39	9.44	10.31	1.69	2.15	0.24	0.34	5.8	6.9	12.8	15.5
5	4–5	40	40	8.14	8.74	1.50	1.58	0.24	0.25	4.6	5.9	11.7	13.2
6	5–6	36	27	7.60	8.62	1.41	1.56	0.23	0.30	4.9	4.6	10.7	11.5

Table 6: The Statistical Values for Sub-Scapular Skin Fold Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (mm.)		S.D.		S.E.M. (mm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	8.08	9.07	1.91	3.28	0.41	0.88	4.4	5.7	11.2	18.8
2	1–2	15	8	5.71	5.76	1.36	0.69	0.36	0.24	3.2	4.8	7.8	6.9
3	2–3	16	21	6.41	6.24	2.88	0.92	0.72	0.20	3.5	4.4	16.2	8.2
4	3–4	48	39	5.20	6.03	1.18	1.29	0.17	0.21	3.5	3.7	8.9	10.0
5	4–5	40	40	4.64	5.21	1.05	0.99	0.17	0.16	2.9	3.4	7.8	8.1
6	5–6	36	27	4.30	5.37	0.85	2.50	0.14	0.48	2.7	3.1	6.9	16.3

Table7: The Statistical Values for Supra-Iliac Skin Fold Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (mm.)		S.D.		S.E.M. (mm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	11.8	13.75	3.25	3.70	0.69	0.99	6.5	8.5	17.2	22.5
2	1–2	15	8	7.83	10.37	2.50	3.27	0.65	1.16	4.3	7.0	11.8	17.5
3	2–3	16	21	8.07	8.98	3.40	2.02	0.85	0.44	3.8	6.0	17.2	13.4
4	3–4	48	39	6.12	8.03	2.14	2.26	0.31	0.36	2.3	4.2	10.9	12.2
5	4–5	40	40	5.38	6.26	1.61	1.53	0.25	0.24	2.1	3.1	8.9	9.9
6	5–6	36	27	4.59	6.26	11.14	2.10	0.19	0.40	2.7	3.0	8.2	11.2

Table 8: The Statistical Values for the Skin Fold at Calf Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (mm.)		S.D.		S.E.M. (mm.)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	12.96	12.96	2.30	3.42	0.49	0.91	9.3	6.5	17.2	20.6
2	1–2	15	8	9.35	10.58	2.59	2.54	0.66	0.90	2.5	6.8	12.9	15.3
3	2–3	16	21	9.31	9.77	2.81	2.02	0.70	0.44	6.4	6.8	18.4	15.5
4	3–4	48	39	8.87	9.74	2.30	2.28	0.33	0.36	5.2	5.9	15.6	15.5
5	4–5	40	40	7.87	8.54	1.71	1.84	0.27	0.29	5.1	4.5	12.8	13.5
6	5–6	36	27	7.61	9.11	1.78	2.14	0.30	0.41	4.6	3.0	11.6	13.3

Table 9: The Statistical Values for Waist Circumference Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Cm.)		S.D.		S.E.M. (Cm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	41.54	39.43	2.56	4.16	0.54	1.11	36.4	33.9	46.0	48.5
2	1–2	15	8	44.26	42.80	2.77	3.43	0.71	1.21	38.9	38.5	48.5	46.2
3	2–3	16	21	46.37	47.49	2.77	3.84	0.69	0.84	42.3	36.5	51.0	53.5
4	3–4	48	39	48.24	46.90	2.79	2.28	0.40	0.36	43.0	41.8	55.5	51.0
5	4–5	40	40	48.00	46.88	3.04	3.04	0.48	0.48	41.5	41.0	55.3	53.6
6	5–6	36	27	48.38	48.73	2.25	3.16	0.37	0.61	44.0	41.4	53.9	56.3

Table 10: The Statistical Values for Hip Circumference Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Cm.)		S.D.		S.E.M. (Cm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	48.89	38.82	2.99	5.77	0.64	1.54	32.0	32.8	46.5	51.8
2	1–2	15	8	42.69	41.30	2.97	1.18	0.77	0.42	39.2	39.0	48.5	43.0
3	2–3	16	21	45.86	45.82	2.09	3.06	0.52	0.67	42.3	39.0	50.5	51.4
4	3–4	48	39	49.78	50.15	2.45	2.82	0.35	0.45	45.0	43.3	54.5	55.4
5	4–5	40	40	51.31	50.30	3.34	3.40	0.53	0.54	44.8	42.3	61.0	57.5
6	5–6	36	27	52.71	53.79	2.46	3.66	0.41	0.70	47.2	45.0	58.0	63.0

Table11: The Statistical Values for Head Circumference Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Cm.)		S.D.		S.E.M. (Cm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	42.99	40.74	2.52	3.59	0.54	0.96	37.0	36.6	46.8	45.0
2	1–2	15	8	46.48	46.49	1.87	0.54	0.48	0.19	43.4	45.5	49.5	47.0
3	2–3	16	21	48.07	46.75	1.74	1.32	0.43	0.29	45.9	44.0	53.0	49.5
4	3–4	48	39	48.84	47.95	1.29	1.33	0.19	0.21	45.0	45.4	51.0	52.0
5	4–5	40	40	49.08	48.44	2.13	2.40	0.34	0.38	40.5	45.0	53.7	60.1
6	5–6	36	27	49.50	48.60	2.05	1.48	0.34	0.28	40.0	45.4	53.3	51.5

Table12: The Statistical Values for Chest Circumference Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Cm.)		S.D.		S.E.M. (Cm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	42.45	39.87	2.32	3.90	049	1.04	36.7	34.0	46.4	44.8
2	1–2	15	8	44.80	43.77	2.18	1.24	0.56	0.44	40.4	42.8	48.3	46.3
3	2–3	16	21	47.61	47.61	2.90	2.82	0.72	0.61	40.4	43.0	52.5	54.1
4	3–4	48	39	50.49	49.11	1.90	1.77	0.27	0.28	45.8	45.6	55.2	53.0
5	4–5	40	40	51.45	49.67	2.52	2.24	0.40	0.35	46.2	44.3	58.4	54.6
6	5–6	36	27	53.14	52.26	2.34	3.32	0.39	0.64	47.9	44.0	59.2	61.0

Table 13: The Statistical Values for Mid-Upper Arm Circumference Among the Kinnaura of Himachal Pradesh

S. No.	Age Group (Year)	Sample Size		Mean (Cm.)		S.D.		S.E.M. (Cm)		Range			
										Min.		Max.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	0–1	22	14	13.31	12.65	0.85	1.51	0.18	0.40	11.8	10.8	14.8	16.2
2	1–2	15	8	13.27	12.74	1.29	0.46	0.33	0.16	11.0	12.1	15.0	13.4
3	2–3	16	21	14.10	13.76	0.94	1.06	0.24	0.23	12.4	11.5	15.6	15.3
4	3–4	48	39	14.25	14.19	1.03	1.02	0.15	0.16	12.0	12.4	16.6	17.0
5	4–5	40	40	14.30	14.24	1.03	1.01	0.16	0.16	12.3	12.3	16.9	16.1
6	5–6	36	27	14.53	14.67	0.90	1.60	0.15	0.31	13.0	11.5	16.5	18.0

Table 14: Nutritional Status of Kinnaura Children According to Weight for Height and Height for Age

Nutritional Status	% of Weight / Height			% of Height for Age**		
	Boys (n= 177)	Girls (n= 149)	Total (n= 326)	Boys (n= 177)	Girls (n= 149)	Total (n= 326)
Normal	54.24	60.40	57.06	55.37	47.65	51.84
Mild	40.68	32.22	36.81	35.59	38.93	37.12
Moderate	4.52	6.71	5.52	7.91	8.72	8.28
Severe	0.56	0.67	0.61	1.13	4.70	2.76

**Normal >90 Mild 80-90 Moderate 70 – 80 Severe < 80*

<95 87.5 – 95 80 – 87.5 < 80

Table 15: Assessment of Degree of Malnutrition of Kinnaura Children to Weight for Age

Nutritional Status	% of Weight / Age*		
	Boys (n= 177)	Girls (n= 149)	Total (n= 326)
Normal	30.51	33.56	31.90
Mild	55.93	47.65	52.15
Moderate	11.86	14.09	12.88
Severe	1.70	4.70	3.07

**Normal Mild Moderate Severe*

90 – 110 75 – 89 60 – 74 < 60

Table 16: Test of Significance (t-test) for Estimating Bi-Sexual Differences in Various Body Measurements at Different Ages Among The Kinnaura of Himachal Pradesh

S. No.	Name of the Body Measurement		Age Group 0-1	1-2	2-3	3-4	4-5	5-6
1	Standing Height/ Crown Heel Length	t- value	1.35	0.79	2.66*	1.02	1.93	0.48
2	Body Weight	t- value	1.81	0.80	0.70	1.91	1.91	0.34
3	SF at Biceps	t- value	0.64	1.41	0.05	1.0	1.37	2.3*
4	SF at Triceps	t- value	1.38	0.03	0.79	2.09	1.73	2.7*
5	SF at Sub-Scapular Region	t- value	1.02	0.11	0.23	3.07	2.4*	2.1*
6	SF at Supra-Iliac Region	t- value	1.55	1.91	0.95	4.02*	2.5*	3.7*
7	SF at Calf	t- value	0	0.91	0.56	1.78	1.69	2.9*
8	Waist Circumference	t- value	1.71	1.04	0.94	2.49	1.65	0.49
9	Hip Circumference	t- value	1.84	1.58	0.05	0.65	1.33	1.33
10	Head Circumference	t- value	2.04*	0.02	2.54*	3.14*	1.25	2.0*
11	Chest Circumference	t- value	2.24*	1.45	0	3.55*	3.35*	1.17
12	Mid-Upper Arm Circumference	t- value	1.51	1.44	1.02	0.27	0.26	0.44

**T- values are significant at 5% level*

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An Analytical Study on Relationship between Factors Contributing towards Employee's Satisfaction Level with Reference to Telecom Industry in India.

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ABSTRACT
The objective of the study done here is to provide an analytical research on the relationship between employee's job satisfaction and the factors attributing towards it with main emphasis on ***work culture, supervisor's attributes and job attributes****. Job satisfaction depends on employee's expectations regarding working environment, work culture, relationship with colleagues, and motivation through promotional practices etc. Supervisor's attributes explain the leadership style of the firm as it shows the firm's ability to implement plans and providing motivation to the employees. Job attributes again plays an important role in contributing towards job satisfaction.*
The research paper attempts to investigate the level of contribution that various factors have towards job satisfaction level and for the same SPSS has been used to apply various statistical tools. Correlation analysis is being used in order to show degree and direction of relationship between various factors. A linear regression model has been developed to show the impact of various factors on employee's satisfaction level. ANOVA technique has been used to check the hypothesis regarding association between the factors.

INTRODUCTION

Indian telecom industry is world's second largest industry in terms of number of telephone users (both fixed as well as mobile phones). The industry comprises of total revenue of approximately USD 33350 million with around 915 million subscribers which constitutes 29 million of fixed line subscribers and 886 million of mobile phone users.
Even being the fastest growing industry employee turnover has been the most serious issue in telecom industry. Earlier studies showed that employee turnover is primarily affected by the satisfaction level of employees and in order to find out the reasons for the same, various organizations are now involved in conducting Exit Interviews. Analysis of the exit interviews showed various reasons responsible for generating level of satisfaction as well as dissatisfaction among employees.
In the present study the three major constituents has been used in order to examine the level of satisfaction and its inter-dependability with other factors. These are:

Job Attributes.
Work Culture.
Supervisory Attributes.

Basic parameters used in order to establish **job attributes** are:

Meaningfulness of the work given.(JA1)
Challenging nature of the job. (JA2)
Level of stress during job completion. (JA3)
Job compensation in the form of remuneration. (JA4)

Supervisory attributes mainly comprised of:

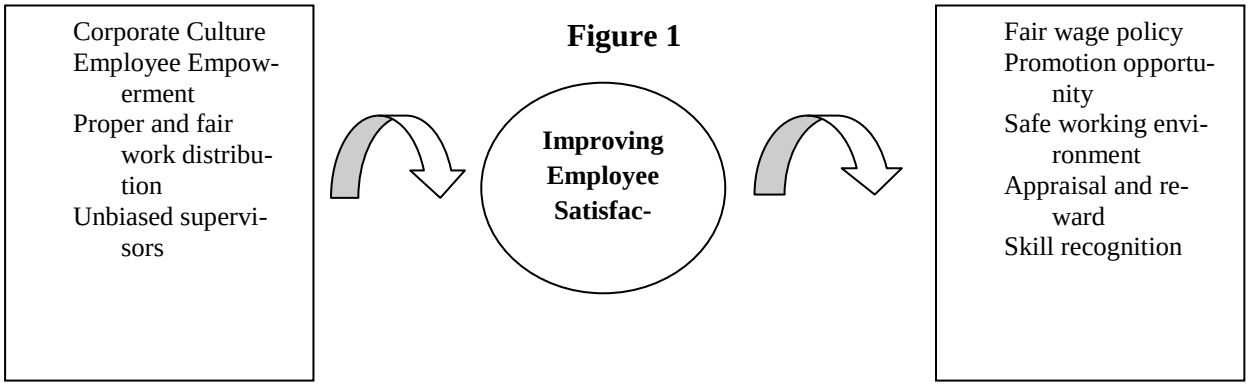
Supervisory mechanism of the leaders.(SA1)
Employee engagement in a particular job. (SA2)
Realistic and achievable targets. (SA3)
Skill and task relatedness during job distribution. (SA4)

Various constituents of **work culture** are:

Work ethics are followed or not.(WC1)
Leave policies of the firm. (WC2)
Employee benefit schemes of the firm. (WC3)
Promotional policies of the organization. (WC4)

The success of an organization depends on their assets and human resource is one of the major assets for organization. The organization is successful if it considers even an average employee as a primary source for productivity gains and hence the satisfaction level of these employees plays a very crucial role.
Satisfaction refers to the level of fulfillment of one's needs, wants and desires. Satisfaction depends basically on what individual wants and

Figure 1



Objectives of the study:

The major objectives of the study are as follows:

- To analyze the satisfaction level of employees in telecom industry.
- To identify the factors that influences the level of job satisfaction of employees.
- To identify the relationship among factors that affects the satisfaction level of employees.

Limitations of the study:

- The survey is subjected to the bias and prejudices of the respondents. Hence 100% accuracy can't be assured.
- The research has been carried out for one type of industry only so the results may not apply as a whole and the results are specific not generalized.
- The study has been done with various resource constraints like time and funds.

Review Literature:

Study for analyzing various factors for employee job satisfaction has been of wide interest as it helps organization to find out various causes of satisfaction as well as employee's expectations from the organization. It also helps to study factors requires for employee's overall appraisal.

Study done by Spector (1997) refers to job satisfaction in terms of how people feel about their jobs and different aspects of their jobs while Ellickson and Logsdon (2002) support this view by defining job satisfaction as the extent to which employees like their work. Schermerhorn (1993) found that job satisfaction is an affective or emotional response towards various aspects of an employee's work.

C.R.Reilly (1991) defines job satisfaction as the feeling that a worker has about his job or a general attitude towards work or a job and it is influenced by the perception of one's job. Abraham Maslow (1954) suggested that human needs form a five-level hierarchy ranging from physiological needs, safety, belongingness, love, esteem to self-actualization.

According to the study done by Friedlander and Margulies (1969), it was found that management & friendly staff relationships contribute to the level of job satisfaction. However, this result contradicts with study of Herzberg (1966) who supported the view that supervision is irrelevant to the level of job satisfaction.

Different people interpreted compensation differently; Salary was found to be the prime factor for the motivation and job satisfaction of salaried employees of the automobile industry from the results of the survey by Kathawala, Moore and Elmuti (1990).

The mentoring and leadership is also associated with job satisfaction, a supervisor provides mentoring, and the relationship affects the protégés skill development and intentions to remain with the employer (McManus and Russell, 1997). On the other hand non-supervisory mentor may increase mentee's confidence by providing access to outside organization (Scanduraa and Williams, 2004).

Research Methodology

Research Design:

Experimental research design has been used in order to establish a causal relationship among various variables where certain

variables act as causes (independent) and other act as effect (dependent). The relationship model is being developed and the analysis is done with the help of hypothesis testing.

Sampling Design:

Sample Size:

150 respondents selected from the sample of employees from various telecom companies in India.

Sampling Technique:

Random convenience sampling technique is used, where telecom industry is conveniently selected but each and every respondent has equal chances of selection into the sample.

Data Collection:

The data is collected from both primary as well as secondary sources. For analysis purpose, specifically primary data is used which is collected by survey method with the help of structured questionnaire with closed ended questions.

Hypothesis Used:

A hypothesis is drawn in order to check association between satisfaction level and other factors; which is as follows:

H_0: There is no association between satisfaction level and other factors.

H_1: There is an association between satisfaction level and other factors.

Analysis and Interpretation:

Variables Used for Analysis:

SL- Satisfaction Level.

WC-Work Culture; AWC- Average of factors used for Work Culture.

SA-Supervisor's Attributes; ASA- Average of factors used for Supervisor's Attributes.

JA-Job Attributes; AJA- Average of factors used for Job Attributes.

Testing of Hypothesis:

H_0: There is no association between satisfaction level and other factors.

H_1: There is an association between satisfaction level and other factors.

From the above figure it is clear that at 5% level of significance; calculated value of F is 97.761 whereas the table value of F is approx 2.60.

Hence the null hypothesis is **rejected; which shows that there is an association between satisfaction level and the other factors.**

Correlation Analysis:

Further in order to show the degree and direction of relationship between satisfaction level and remaining factors correlation analysis has been used:

Figure 2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122.846	3	40.949	97.761	.05[b]
	Residual	61.154	146	.419		
	Total	184.000	149			

a. Dependent Variable: SL

b. Predictors: (Constant), AWC, ASA, AJA

Figure 3

Correlations

		JA1	JA2	JA3	JA4	SA1	SA2	SA3	SA4	WC1	WC2	WC3	WC4	SL
JA1	Pearson Correlation	1	-.308**	-.110	-.329**	.138	.395**	.201*	.271**	.776**	.594**	.740**	.592**	.692**
	Sig. (2-tailed)		.000	.181	.000	.092	.000	.014	.001	.000	.000	.000	.000	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
JA2	Pearson Correlation	-.308**	1	.460**	.097	.463**	-.598**	-.030	-.142	-.116	-.089	-.050	-.132	-.172*
	Sig. (2-tailed)	.000		.000	.238	.000	.000	.715	.082	.157	.279	.540	.108	.036
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
JA3	Pearson Correlation	-.110	.460**	1	-.514**	.627**	-.357**	.021	.149	-.028	.118	.132	.000	.362**
	Sig. (2-tailed)	.181	.000		.000	.000	.000	.795	.068	.738	.152	.108	1.000	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
JA4	Pearson Correlation	-.329**	.097	-.514**	1	-.255**	-.410**	-.006	-.652**	-.060	-.017	-.431**	.054	-.860**
	Sig. (2-tailed)	.000	.238	.000		.002	.000	.943	.000	.464	.834	.000	.515	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
SA1	Pearson Correlation	.138	.463**	.627**	-.255**	1	-.497**	.004	.016	.350**	.341**	.319**	.223**	.260**
	Sig. (2-tailed)	.092	.000	.000	.002		.000	.960	.844	.000	.000	.000	.006	.001
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
SA2	Pearson Correlation	.395**	-.598**	-.357**	-.410**	-.497**	1	.093	.550**	-.057	-.135	.174*	-.065	.518**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.257	.000	.485	.099	.033	.429	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
SA3	Pearson Correlation	.201*	-.030	.021	-.006	.004	.093	1	.271**	.122	-.265**	-.137	-.269**	.121
	Sig. (2-tailed)	.014	.715	.795	.943	.960	.257		.001	.135	.001	.094	.001	.139
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
SA4	Pearson Correlation	.271**	-.142	.149	-.652**	.016	.550**	.271**	1	-.062	-.232**	.381**	-.274**	.654**
	Sig. (2-tailed)	.001	.082	.068	.000	.844	.000	.001		.450	.004	.000	.001	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
WC1	Pearson Correlation	.776**	-.116	-.028	-.060	.350**	-.057	.122	-.062	1	.698**	.664**	.667**	.325**
	Sig. (2-tailed)	.000	.157	.738	.464	.000	.485	.135	.450		.000	.000	.000	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
WC2	Pearson Correlation	.594**	-.089	.118	-.017	.341**	-.135	-.265**	-.232**	.698**	1	.683**	.965**	.274**
	Sig. (2-tailed)	.000	.279	.152	.834	.000	.099	.001	.004	.000		.000	.000	.001
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
WC3	Pearson Correlation	.740**	-.050	.132	-.431**	.319**	.174*	-.137	.381**	.664**	.683**	1	.657**	.609**
	Sig. (2-tailed)	.000	.540	.108	.000	.000	.033	.094	.000	.000	.000		.000	.000
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
WC4	Pearson Correlation	.592**	-.132	.000	.054	.223**	-.065	-.269**	-.274**	.667**	.965**	.657**	1	.227**
	Sig. (2-tailed)	.000	.108	1.000	.515	.006	.429	.001	.001	.000	.000	.000		.005
	N	150	150	150	150	150	150	150	150	150	150	150	150	150
SL	Pearson Correlation	.692**	-.172*	.362**	-.860**	.260**	.518**	.121	.654**	.325**	.274**	.609**	.227**	1
	Sig. (2-tailed)	.000	.036	.000	.000	.001	.000	.139	.000	.000	.001	.000	.005	
	N	150	150	150	150	150	150	150	150	150	150	150	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The above table shows positive and high degree of relationship between satisfaction level and JA1(meaningful jobs), SA2(employee engagement), SA4(skill relatedness),WC3(employee benefit schemes) whereas positive and low degree of relationship between satisfaction level and JA3(stress level),SA1(supervisory mechanism),SA3(realistic targets),WC1(ethical work),WC2(leave policy),WC4(promotional policy) whereas only two variables have negative and low degree of relationship with satisfaction level i.e. JA2(challenging job) and JA4 (job compensation).Hence it is clear that employee benefit schemes affect job satisfaction but not job compensation.

Now averaged factors are used to check overall correlation between Satisfaction Level (SL) and the three factors Job Attributes (AJA), Supervisor's Attributes (ASA), Work Culture (AWC) and it is found that all the three factors have positive relationship with variant degree of correlation towards satisfaction level.

Supervisory attributes has very high degree of relationship with value of r as 0.74 however Work culture has low degree of relationship with r as 0.401. Job attributes are least responsible for generating satisfaction level as the value of r is 0.082.

Figure 4

Correlations

		SL	AJA	ASA	AWC
SL	Pearson Correlation	1	.082	.740**	.401**
	Sig. (2-tailed)		.316	.000	.000
	N	150	150	150	150
AJA	Pearson Correlation	.082	1	-.020	.325**
	Sig. (2-tailed)	.316		.811	.000
	N	150	150	150	150
ASA	Pearson Correlation	.740**	-.020	1	.077
	Sig. (2-tailed)	.000	.811		.351
	N	150	150	150	150
AWC	Pearson Correlation	.401**	.325**	.077	1
	Sig. (2-tailed)	.000	.000	.351	
	N	150	150	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

Regression Analysis:

Further in order to study the contribution of factors on satisfaction level a linear regression model is developed.

From the above figure a linear regression line is drawn as follows:

Figure 5

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.770	.365		-4.852	.000
	AJA	-.050	.139	-.018	-.359	.720
	ASA	1.321	.089	.713	14.880	.000
	AWC	.404	.058	.353	6.960	.000

a. Dependent Variable: SL

Degree of Correction:

Degree of correction shows the level of contribution given independent factors have as a whole on the dependent factor under study. From the given figure it is clear that value of R square is 0.668 which means that independent variables under study (i.e. work culture, supervisor's attribute and job attributes) have approx 67% contribution towards satisfaction level and hence there is a need to study some more factors in order to check dependability of satisfaction

level of employees.

Figure 6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.817[a]	.668	.661	.647

a. Predictors: (Constant), AWC, ASA, AJA

(Satisfaction Level) = (-1.77) + (-0.05) **Job Attributes** + (1.321) **Supervisor Attributes** + (0.404) **Work Culture**)

CONCLUSION:

From the above study it can be concluded that employee job satisfaction plays a crucial role in deciding the total turnover of employees and it is dependent on various factors which need to be studied in order to have managerial control over human resource in a particular organization. However the study focused on only three basic factors that contribute to job satisfaction as job attributes, supervisory role, and work culture but it was found that the highest dependability is on the role of supervisor and then the work culture, least is job attributes.

Therefore it is very clear that leadership style plays the most important role in deciding the employee job satisfaction. The supervisor or the manager needs to analyze the particular skills and capability of every employee in order to create total satisfaction as well as resolve the conflicts among employees.

The concept of "Boss is always right" exists nowhere in this era, the supervisor has to justify his or her decisions among all subordinates to create satisfaction and a healthy environment. There must a practical check after a regular interval in order to ensure the same.

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STUDY OF DIABETIC EMPLOYEES, THEIR AGONIES & ADJUSTMENTAL PROBLEMS IN A.C.C COMPANY, DURG

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Abstract

Diabetes Mellitus commonly known as diabetes is a disorder of carbohydrate metabolism characterized by high blood sugar level and high level of sugar in urine.

The latest estimate from the IDF-Diabetes Atlas indicates that there are 382 million people living with diabetes worldwide, by 2035,592 million people will have the disease.

The sample of 80 diabetic employees of ACC LTD, Durg was identified via convenience sampling method. They were interviewed using 'interview schedules', covering all the influential aspects of the disease.

Major findings depicted that 90% of respondents' lives and lifestyles had changed due to the disease. 65% of respondents were facing physical problems due to diabetes.

Keywords *Diabetes, Employees, A.C.C (Associate Cement Company)*

Introduction

Diabetes Mellitus is one of the most common serious metabolic diseases. In Diabetes the level of glucose gets increased as normal values of blood (fasting 80 mg/100 ml and post meal, 140 -180mg/100ml). Hence when blood sugar increases due to more calories intake and if the secretion of insulin is less / if the function of the pancreas gets disturbed, the person is Diabetic.

The important reasons of diabetes are:

- generic causes
- Opancreas causes
- Endocrine causes
- Castrogenic causes (due to drugs).

The main symptoms of maturity onset of diabetes as diabetic urinates very often, leading to Glycosuria, i.e. excretion of large amount of glucose in urine and the patient feels very thirsty constantly.

Diabetes affects almost all the organs of the body which lead to symptoms like frequent urination, aggravated eyes, wounds getting worsened / takes more time to heal. Giddiness is another symptom experienced by the respondents.

November 14th is considered as World Diabetes Day. According to Ayurveda, Madhumeha is of 20 various types.

Statement Of The Problem

Descriptive as well as Diagnostic Study of Diabetic Employees, their Agonies and Adjustmental Problems of A.C.C Company, Durg

Objectives

To study the psychological problems faced by the respondents due to diabetes.

To study the problems faced by the respondents in their daily activities.

To study about the agonies of the respondents after the detection of diabetes.

Hypothesis

High the work pressure among the respondents, severity of the disease exists.

Restriction on diet leads to irritability among the respondents.

Severity of diabetes leads to worries about children's future among the respondents.

Methodology

Research Design

Descriptive approach as well as diagnostic approach had been used for the study as description of problems & other related aspects had been covered.

Area of Study

Geographical area of A.C.C Company, Durg.

Sampling Technique

Non probability convenient sampling technique was adopted in this study.

Tools and Techniques

The study was carried out by using interview schedules and personal interviews of employees with diabetes and doctors who treated them.

Data Collection Procedure

The data was collected at Durg A.C.C ltd in the month of May 2015. A sample size of 80 diabetic employees was selected by non probability convenient sampling technique. The investigator informed the schedule of data collection procedure and collected the entire interview schedule within ten days. All the employees were cooperative.

TABULATIONS

It is very crucial from researcher's viewpoint to note the resemblance between duration of illness & worry among the respondent about their children future.

Major Findings of the Study

It was noted by researcher that maximum respondents were taking "allopathic medicine" as treatment as least number of respondents were marked by "Home remedies category &"Ayurvedic medicine" category.

It was noted that maximum number of respondents actively checked blood & urine for sugar test regularly against few not doing it regularly.

It was clear from the data that maximum numbers of respondents go for regular check-up as recommended against some respondents not caring to do so.

It was noted that maximum respondent suffered from the complication of *"Frequent Urination"* followed on by *"Giddiness Category"* as least number of respondents were marked by *"Eye Aggravated Category"* followed by *"Wound Get Worsened Category"*.

It was churned out fact that maximum number of respondents visited to restaurant for meals *"Only on certain occasions"* as followed on by *"Don't eat out at all"* category as least number of respondents marked by *"very often" &"Prefer only home food"* category.

It was clearly noted that no respondent ever came across any psychological and economic problems due to their diabetes as company bare their medical expenses.

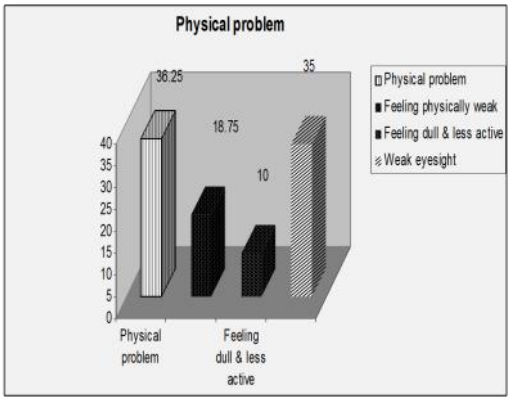
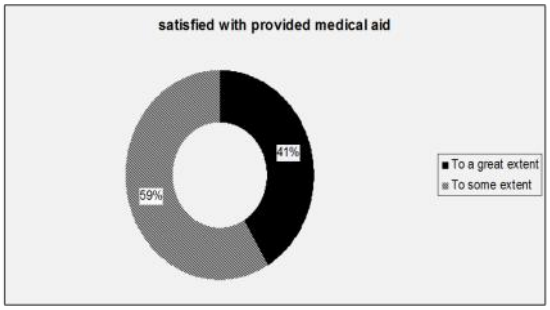


Table No 1 : *Respondents feeling towards the restriction on their diet*

Table No 2 : Physical Problems



Sr. No	Duration of Illness	Worry about children future			Total
		Always	Sometimes	Never	
1	Less than 5 years	1(10)	6(60)	3(30)	10(12.5)
2	5-10 years	6(17.14)	14(40)	15(18.75)	5(43.73)
3	10-15 years	2(7.40)	2(7.40)	23(85.18)	27(33.75)
4	15-20 years	2(25)	1(12.5)	5(62.5)	8(10)
Total		11	23	46	80/100

Table No 3 : Satisfied with free check-ups & medicines provided by A.C.C

Table No 4 : Duration of illness & worry about children's future

It was churned out fact that according to maximum number of respondents, diabetes had changed their lifestyle & in maximum case major change in their lifestyle is *"daily medication"* as least number of respondents got marked by *"frequent check-ups"* and had to control one's taste-buds for sweets during festive occasions like Diwali, Eid and Christmas.

It was highlighted that maximum number of respondents were *"To some extent"* satisfied with free check-ups and medicines provided by A.C.C hospital whereas less numbers were *"To great extent"* satisfied with previous mentioned treatment.

It was reflected that according to maximum number of respondents were *"never"* afraid / get

insecure about their future with their diabetes got detected as followed on by *"Sometimes worried"* category whereas least number of respondents marked by *"Always Worried"* category.

It was noted that according to majority number of respondents their demanding job exhausted them,"*to a great extent"* as followed by *"to some extent"* category whereas few respondents were not at all exhausted.

Conclusion

Researcher emphasized that employees/ respondents adjusted to their new lifestyle after being diabetic & they took in healthy spirit & performing their tasks as well as roles brilliantly without any loopholes respectively, hence a researcher salutes their never dying attitude & their unquestionable dedication for their set priorities for the company and their family members.

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Network Security and Soft Computing Based Tools

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Abstract

Network security is defined as the protection of computing systems against threats to confidentiality, integrity and availability in a network. Firewalls are vulnerable to errors in configuration and ambiguous or undefined security policies. They are generally unable to protect against malicious mobile code, insider attacks and unsecured modems. Programming errors cannot be avoided as the complexity of the system and application software is changing rapidly, leaving behind some exploitable weaknesses. Intrusion detection is therefore required as an additional wall for protecting systems. Intrusion detection is useful not only in detecting successful intrusions bus also provides important information for timely countermeasures. An intrusion is defined as any set of actions that attempt to compromise the integrity, confidentiality or availability of a resource. An attacker gain access because of an error in the configuration of a system. In some cases it is possible to fool a system into giving access by misrepresenting oneself.

An example is sending a TCP packet that has a forged source address that makes the packet appear to come from a trusted host. Intrusions may be classified into several types –

Attempted break-ins, which are detected by typical behavior profiles or violations of security constraints,
Masquerade attacks which are detected by a typical behavior profiles or violations of security constraints,
Penetration of security control system which are detected by monitoring for specific patterns of activity,
Leakage which is detected by atypical use of system resources,
Denial of service which is detected by atypical behavior profiles, violations of security constraints, or use of special privileges.

The process of monitoring the events occurring in a computer system or network and analyzing them for sign of intrusion is known as intrusion detection. Intrusion detection is classified into two types : misuse detection an anomaly intrusion detection.

Soft Computing

Soft Computing (SC) is an innovative approach to construct computationally intelligent systems consisting of artificial neural networks, fuzzy inference systems, approximate reasoning and derivative free optimization methods such as evolutionary computation etc. In contrast with conventional artificial intelligence techniques which only deal with precision, certainty and rigor the guiding principle of soft computing is to exploit the tolerance for imprecision, uncertainty, low solution cost, robustness, partial truth to achieve tractability and better rapport with reality.

Different Soft Computing Tools

At this juncture the principal components of soft computing are Fuzzy Logic, Neural Networking, Evolutionary Computation Machine Language and Probabilistic Reasoning with the latter surmising belief networks, chaos theory and parts of leaning theory. Soft computing may be viewed as a foundation component for the emerging field of conceptual intelligence.

Soft computing is an innovative approach to construct computationally intelligent systems consisting of artificial neural networks, fuzzy inference systems, approximate reasoning and derivative free optimization methods such as evolutionary computation etc. On the other hand in contrast with conventional artificial intelligence techniques which only deal with precision, certainty and rigor the guiding principle of soft computing is to exploit the tolerance for imprecision, uncertainty, low resolution cost, robustness, partial truth to achieve tractability and better rapport with reality.

1. Fuzzy Rule Based Systems

Fuzzy logic has proved to be a powerful tool for decision making to handle and manipulate imprecise and noisy data. The notion central to fuzzy system is that truth values (in fuzzy logic) or membership (in fuzzy sets) are indicated by a value on the range [0.0, 1.0], with 0.0 representing absolute falseness and 1.0 representing absolute truth. A fuzzy system is characterized by a set of linguistic statements based on expert knowledge. The expert knowledge is usually in the form of if-then rules.

2. Neural Learning of Fuzzy Rules

The derivation of if-then rules and corresponding membership functions depends heavily on a priori knowledge about the system under consideration. However there is o systematic way to transform experiences of knowledge of human experts to the knowledge base of a Fuzzy Inference System (FS. In fused neuro-fuzzy architecture, neural network learning algorithms are used to determine the parameters of fuzzy inference system (membership functions and number of rules). Fused neuro-fuzzy systems share data structures and knowledge representations.

A common way to apply a learning algorithms to a Fuzzy system is to represent it in a special neural network-like architecture. An evolving Fuzzy Neural Network (EFuNN) implements a Mamdani type Fuzzy Inference System (FIS) and all nodes are created during learning. The nodes representing membership functions (MF) can be modified during learning. Each input variable is represented by a group of spatially arranged neurons to represent a fuzzy quantization of this variable. New neurons can evolve in this layer if, for a given input vector, the corresponding variable value does not belong to any of the existing MF to a greater than a membership threshold.

3. Linear Genetic Programming (LGP)

Linear genetic programming is a variant of the GP technique that acts on linear genomes. Its main characteristics in comparison to tree-based GP are that the evolvable units are not expressions of a functional programming language (like LISP but the programs of an imperative language (like C/C++). An aternate approach is to evolve a computer program at machine code level using lower level representations for the individuals. This can hasten the evolution process as, no matter how an individual is initially represented, finally it always has to be represented as a piece of machine code, as fitness evaluation requires physical execution of the individuals.

4. Decision Trees

Intrusion detection can be considered as classification problem where each connection or user is identified either as one of the attack types or normal based on some existing data. Decision tress work well with large data sets. This is important as large amounts of data flow across computer networks. This higher performance of decision tress makes them useful in real-time intrusion detection. Decision trees construct easily interpretable models, which is useful for a security officer to inspect and edit. These models can also be used in the rule based models with minimum processing. Generalization accuracy of decision trees is another useful property for intrusion detection model. There will always be a new attack on the system, which is a small variation of known attacks after the intrusion detection models are built.

5. Support Vector Machines (SVM)

Support Vector Machines have been proposed as a novel technique for intrusion detection. SVM maps input (real-valued) feature vectors into a higher dimensional feature space through some nonlinear mapping. SVMs are powerful tools for providing solutions to classification, regression and density estimation problems. These are developed on the principle of structural risk minimization. Structural risk minimization seeks to find a hypothesis for which one can find the lowest probabilistic of error. The structural risk minimization can be achieved by finding the hyper plane with maximum separable margin for the data. Computing the hyper plane to separate the data points, i.e. training a SVM, leads to a quadratic optimization problem. SVM uses a feature called a kernel to solve this problem. A kernel transforms linear algorithms into a nonlinear ones via a map into feature spaces. SVMs classify data by using these support vectors, which are members of the set of training inputs that outline a hyper plane in feature space.

Conclusion

As per study on above tools Fuzzy Logic has proved itself to be a robust tool for decision making to handle and manipulate imprecise and noisy data and a common way to apply a learning algorithms to a Fuzzy system is to represent it in a special neural network-like architecture. An evolving Fuzzy Neural Network (EFuNN) and Fuzzy Inference System (FIS) are created during learning. The nodes representing membership functions (MF) can be modified

during learning.

The main characteristics of Liner Genetic Programming is in comparison to tree-based genetic programming. Decision tress work well with large data sets whereas Support Vector Machines have been proposed as a novel technique for intrusion detection. SVM maps input (real-valued) feature vectors into a higher dimensional feature space through some nonlinear mapping. SVMs are powerful tools for providing solutions to classification, regression and density estimation problems.

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"A Detailed Study of Recruitment Process followed in MNYL"

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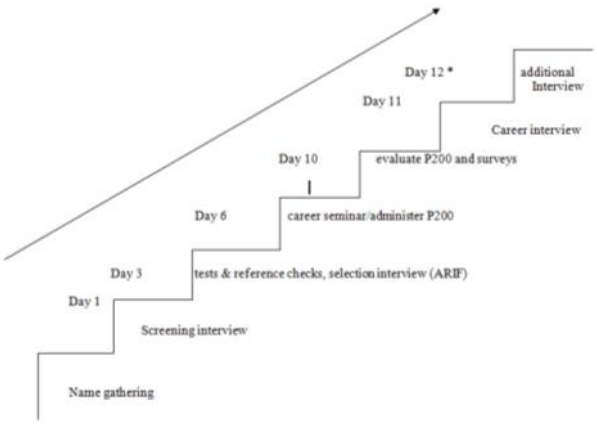
Abstract

Recruitment in any organization is an important part of its human resource planning. Right person at the right positions in the organization are a vital resource, and can prove to be a core competency as well as a strategic advantage in the long run Administrative Recruitment is a process comprising of attracting, job analysis, sourcing, screening, and selecting qualified individuals for the required job in an organization. Many firms and business houses often retain recruitment agencies or professional executive recruiters and thereby outsource a part of the administrative recruitment process. However, such recruitment can well be carried out by normal in-house recruitment procedures and individuals can be selected by the same process carried out by an executive team usually comprising of board of directors, specialized professionals and executive recruiters. The basic objective is to select employees based on the specifications of their clients that can help the organization to achieve its goals successfully. In this research paper I have used descriptive and explanatory research. However ob-servations and information's are also used. Recruitment also helps to create a database of qualified and prospective employees for different organizations so that the management can select the right candidate for the right job according to their specifications. Administrative recruiters act as a matchmaker between eligible employees and organizations seeking to fill up their executive positions by skilled professionals. In the Administration Recruitment process, different methods are used during the recruitment process to screen and select potential candidates for positions in the organization. Advertising, networking and search engines are popularly used throughout the various stages in the recruitment process to screen and select the individuals before tests and interviews are carried out. In this competitive global market world, recruitment has become indispensable in every business. Therefore, recruitment is considered as the first step in fulfilling the needs of organizations for a strategic, flexible and competitive human resource that can help achieve its objectives.

Keywords- *Recruitment, Sources of Recruitment.*

Introduction to Recruitment Process

Recruitment involves attracting and obtaining as many applicants as possible from eligible job seekers. It is the discovering of potential of applicants for actual or anticipated organizational



vacancies. **Flippo's definition:"It is a process of searching for prospective employees and stimulating and encouraging them to apply for jobs in an organization".** Thus, the **purpose of recruitment** is to locate sources of manpower to meet job requirements and job specifications.

Recruitment Process Followed In MNYL

Recruitment process overview

Name gathering is the first step in the recruitment process. The process involves gathering names of individuals who can be prospective agent advisors. As a recruiter we generate names and also select suitable agent advisors who meet the standards.

Sources of recruitment are classified as controlled or uncontrolled based on whether the sales manager has control or does not have control over the source. Controlled sources are the sources in which a sales manager can be proactive in gathering names of the prospective candidates. **Some Controlled sources are** Centers of influence (COI), Nominators, Magic question, Agent advisor referrals, Personal observation, Policy holders, Friends and family.

Uncontrolled sources require some external event or action to begin name gathering. It pro-

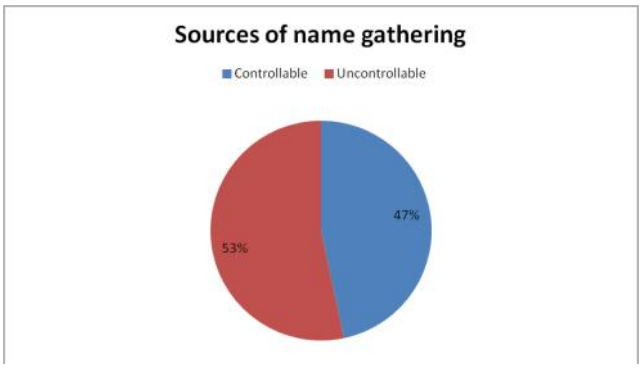
vides a consistent name flow and once established, they can become "automatic" parts of the recruiting process of a sales manager. They can be discussed as Newspaper advertising, Agent Advisor marketing tools, Direct mail and pre-approach letters, Employment agencies, Seminars, Campus recruiting, HR Managers, Job Fairs, The Internet.

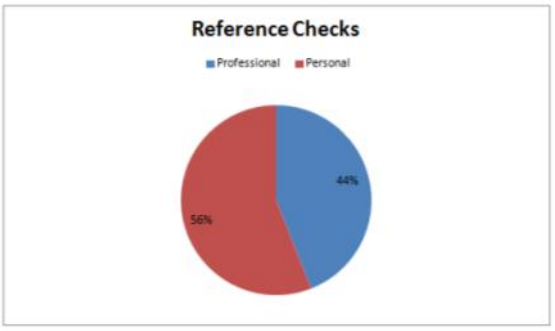
After gathering names, the next step is to conduct the **screening interview**. This is the first interview with the prospective candidate. It consists of **Initial screening interview** and **Competency - based interview**.

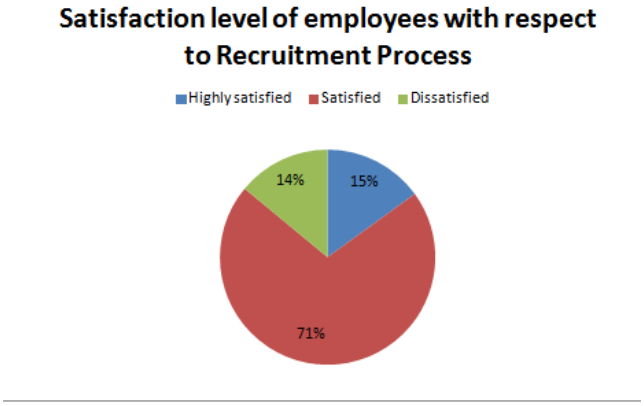
After the screening interview, the next step is to perform the **reference checks**. Two types of reference checks should be performed at this stage, Professional Reference Check and Personal Reference Check. The next step is **Career Seminar.** Office head discusses the opportunities of the agent advisors and explains the trainings and the compensations offered. The next step is to **identify** if whether the prospective candidate will be able to survive in the insurance business. Then Career Interview is conducted**.** Here the Office Head explains the prospective candidate about the opportunities of the career and motivates him or her to become an Agent Advisor.

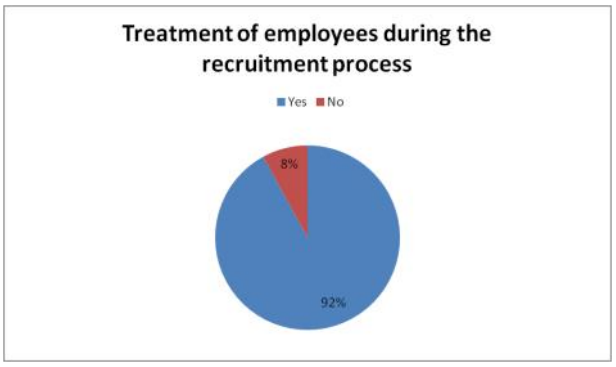
An additional interview can be conducted if there is a doubt about the prospective candidate. Besides the Office Head, the associate partner and Training Manager can also be involved in the interview.

The recruitment process is structured to ensure that we get the best team. The process functions like a funnel that filters out the most suitable candidates and hence, allows the best to join our team.









Objectives of the Study

1) To study the aspect of selecting the quality employees so as to achieve the goals and objectives of the organization.
2) To gather the information about the process of Recruitment.
3) To study the practical implementation of the concepts of Recruitment process.
4) To determine present and future man-power requirements of the organization.
5) To find out the necessary qualifications sought by the employers in the perspective candidates.

Research Methodology

Sources of data collection

Primary source of data collection: - In my re-

search the main sources of primary data includes interview, filling questionnaires, observation, etc.

Secondary source of data collection: - In my research the various sources of secondary data for the study include websites, books, news papers, database companies etc.

Universe-Max New York Life Insurance (MNYL)
Sampling unit -Employees of MNYL
Source of data -Primary and Secondary data
Data collection tool-Questionnaires

Analysis and Findings of the Study

Sources of name gathering- In MNYL both controllable and uncontrollable sources of name gathering are used.

Reference Checks- There are two types of reference checks used in MNYL. One of them is Professional reference check and the other is Personal reference check

Treatment of employees during recruitment process- Most of the Employees are of the view that they are treated fairly during the recruitment process conducted in MNYL.

Effectiveness of the recruitment process- Recruitment process conducted in MNYL is effective but their is a scope for improvement.

Conclusion

*The essence of recruitment can be summed up as **'the philosophy of attracting as many applicants as possible for given jobs'**. The face value of this definition is what guided recruitment activities in the past. These days, however, the emphasis is on aligning the organization's objectives with that of the individual's. By making this a priority, an organization safeguards its interests and standing. After all, a satisfied workforce is a stable workforce which also ensures that an organization has credible and reliable performance. In a bid to underscore this subtle point, the project examines the various processes and nuances one of the most critical activities of an organization.*

*The **end result** of the recruitment process is essentially a pool of applicants. Next to recruitment, the logical step in the HR process is the selection of qualified and competent people. As such, this process concentrates on differentiating between applicants in order to identify – and hire- those individuals whose abilities are consistent with the organization's requirements.*

In the end, this project endeavors to present a comprehensive picture of Recruitment and hopes to enable the reader to appreciate the various intricacies involved.

Suggestions/Recommendations

As Recruitment represents the first contact that a company makes with potential employee's, so the company's should be more concerned in conducting the recruitment process.

In MNYL, the recruitment process is very lengthy and time consuming. So more modern techniques of recruitment can be used like e-recruitment.

HR department should be more focused so that the recruitment process can be more effective.

The database of applicants should be properly maintained to be used in future.

HR department should try to make recruitment process more reliable.

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EXPERIMENTAL DESIGN AND DYNAMIC ANALYSIS FOR MAPPING PROGRAMMING LANGUAGES TO SOLVE PROGRAMMING PROBLEMS

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Abstract

Several algorithms that solve different types of problems are implemented, tested, and compared by applying a set of metrics. The results are analyzed using Principal Components Analysis to calculate a Relative Complexity Metric. The results of the study reveal that a programming language does have an effect on the simplicity, speed and other attributes of an implementation. The results of the study also reveal which languages are best suited for a particular type of programming technique, such as recursion.

1.1 Introduction

Following is a description of each of the elements of the experiment. These are the independent variables, the dependent variables, the subjects, and the method of operation, each of which is an important piece that needs to be defined. Since the experiment described below requires funding, manpower, and resources beyond the scope of this study, the experiment actually conducted is a subset.

1.2 Independent Variables

In first describing this experiment, it is important to understand the independent variables in the study, those factors in which outside influence has no effect. These are actually very simple. The first is the programming languages themselves. All languages that are commonly used among students and industry professionals would be measured and studied.

The second variable is the algorithms. Nine different algorithms, each performing different programming tasks, have been implemented in each language. Several problem spaces have been chosen for simulation in this research. The selection criteria for the languages and their compilers will come from market share reports from industry sources and the market share percentage must add to 70% of the general code writing population. The algorithms chosen are frequently used and represent a cross section of problem domains.

1.3 Dependent Variables

For the design of this experiment, it is important to discuss the dependent variables that are associated with the above independent variables. Each language will need to be measured and compared, and these measurements depend on both the algorithm, and the programming language in which it was written. These measurements can also be individually looked at as their own variables, but regardless, in order for measurement to take place, it is necessary to have something to measure. Therefore, it is only possible for the measurements to be the dependent variables in this experiment. The most commonly used metrics among students and industry professionals will be used to describe the performance of each program. It is important to find metrics that can be reproducible, that are accepted by the general software engineering community, and that are valid and have meaning (Munson, 2003). There is, however, a second dependent variable: the statistical analysis that is performed on each set of measurements. In a way, this analysis is dependent on the measurements themselves, but transitively is still dependent on the programming languages, and the algorithms. Once again, only the most common statistical tools would be used.

1.4 Subjects

As with almost all research studies, there must be a set of subjects that will be involved in conducting the experiment. In the case of this study, we have two very important subjects that must be discussed. The first is the programmers who write, test, and execute the code to ensure valid program execution. These programmers may each see a programming problem differently and therefore coding style might be a factor in measurement results. In order to account for the different types of coding styles that can appear a group of programmers is selected randomly at different levels. These levels include experienced professionals, graduate students, and undergraduate students, each with their own understanding of programming concepts. With this large range of skill level, it is possible to see how

many different ways an algorithm can be coded, illustrating much of the way a particular programming language works.

The second subject is the set of compilers used. These are selected from the most commonly used sources both by students and in industry. Also, the compiler set includes work from both commercial development organizations as well as open source non-profit resources. The reason for several compilers is to compare the optimization techniques within each, as these may have an effect on dynamic measurement.

1.5 Operation of Experiment

1.5.1 Producing the Programs

Once compilers and developers have been chosen, programming can now begin. Developers will write each algorithm in each language given. Throughout the writing process, each program must be tested for correctness, ensuring that each program produces the correct output. A program that is incorrect will introduce noise into the measurement data so it is important that each produce the intended results. Once all of the programs have been written, each is submitted to a set of measurement specialists that will produce all of the measurement data necessary for analysis. Once measurement has been completed, analysis can begin.

1.5.2 Performing Measurement

Each program is measured statically and dynamically, and with respect to the size and complexity of the resulting executable program (.NET metadata). Once all of these data has been gathered, it can be put through an intense statistical process. One thing must be clear, however, before beginning this analysis. This is a comparison of languages, not algorithms, and therefore, only programs written for one algorithm will be compared, rather than against all of the programs as a whole. It does not make sense, for example, to compare programs written to perform a string matching process and a sort.

These are different problems and can therefore not be directly comparable. The measurements that are used must be chosen from research on the subject. So too must the statistical processes follow these same concepts. Since measurements are simply only raw data and have no meaning in and of themselves, statistics and analysis must be applied. The analysis must also be taken from research sources and must be generally accepted by the software engineering community.

1.5.3 Conducting Measurement Analysis

The first step in the analysis is to take all of the data on each program, and create simple averages of like units. This means that, for example, all of the Lines of Code measurements on each of the C language programs written to perform a string-matching algorithm will be made into a simple average as all of the individual measurements are a single value. This simple average will from this point forward represent the single measurement of Lines of Code, on C implementations of a string-matching algorithm.

Now the statistical analysis can formally begin. Several statistical tools will be used. These include finding the standard deviation, z-scores, and many other calculations. Also, a useful tool is Principal Components Analysis (PCA), in which a Relative Complexity Metric (RCM) can be found, a one number representation of all of the measurements taken on each language as applied to each algorithm (Munson, 2003). With all of this analysis data available, it is possible to determine that languages have an effect on algorithm performance, and which languages perform better given the problems presented to the developer writing the code. The higher the RCM value, the more complex and difficult writing the program becomes (Munson & Khoshgoftaar, 1990).

1.6 Threats to Validity

As with any experimental study, it is important to discuss any possible threats to validity. Following are definitions of the types of validity in question and a discussion of the possible threats.

1.6.1 External Validity

External validity refers to the degree to which the findings of the study can be replicated outside the context of the experiment. A research study is said to have external validity if the claims made from the results of the study can be generalized in other situations. The first threat to external validity is with regard to the choice of programmer, one of the subjects in this study. As discussed in the next section of this chapter, only one programmer will be writing the programs, testing, and performing the analysis. It is diffi-

cult to generalize any claims about programming languages from the abilities of one programmer. With only one programmer available, the variables of coding style and problem comprehension are over simplified. If several programmers completed the tasks of the experiment, it is likely that the results of this study may change and therefore be more general.

Another threat to external validity is with the choice of operating system. All of the programs of this study were run using Microsoft Windows 7. Each was executed several times under as close to the same conditions as possible to reduce measurement error. Since operating systems each have different specifications, requiring various amounts of background processes and memory usage, this can affect the dynamic attributes of the results. The choice of operating system also affects the method chosen to measure the complexity of the actual executable program itself. The use of .NET metadata, as one of the measurement categories, is only available from within the .NET environment and this is only found on Microsoft platforms. By changing operating system, .NET metadata is eliminated as a measurement category forcing the implementation of some other method. Another measurement method for executable program measurement may allow for better generalization of the study's results. The choice of operating system is seen as a threat to external validity since the operating system is part of the environment in which the programs execute. To address this threat, additional operating systems might be considered for a fuller test of each program.

The choice of compiler also presents a threat to external validity. Compilers can have possibly unseen influence on the dynamic run-time attributes of a program. This is seen as a threat to external validity since the compiler is also seen as part of the programs' development environment. A different compiler might change the final results of the experiment's analysis. In order to better generalize the claims made from this study, additional compilers might be needed in order to test the programs more completely.

One last threat to external validity is with the choice of computer. Only one computer system was used to execute the programs. Computer systems each have different hardware specifications with different processor speeds and memory availability. Like the operating system, the actual hardware system is considered for this study as part of the execution environment. It is difficult to generalize claims having tested the programs on only one system. As with the operating system, to address this threat, additional computer systems would need to be used in order to more fully test each program.

1.6.2 Internal Validity

Internal validity refers to the relationships between the independent and dependent variables. A research study is said to have internal validity if there is evidence to support that the independent variables cause the effects seen in the dependent variables. One threat to internal validity is with regard to measurement collection and analysis. It is possible that errors may have appeared in the general measurement collection process. This is seen as a threat to internal validity since errors can have an unwanted effect on the dependent variables, and should be as accurate as possible. To ensure proper accurate measurement data, tools were used with clear definitions for each metric.

A second threat to internal validity is concerned with dynamic measurement data. It is possible that errors may appear on the dynamic, run-time attributes of a program if something unexpected happens in the background processes of a given operating system. It is possible that these background activities within the operating system can have an effect on the final results. This is seen as a threat to internal validity since the measurement data should depend on the choice of algorithm and language, not the operations in the background of an operating system. To address this threat, each program was run several times and the measurements were taken on each run and then averaged together. This ensures that any values seen as outliers are removed before analysis begins.

Another threat to internal validity is with regard to algorithm implementation. It is possible that faults may be present in the source code itself. This is seen as a threat to internal validity given that unwanted noise can be introduced into the measurement data, and subsequently the analysis if incorrect output is discovered. Again, only the language and algorithm choices should have an effect on the measurements taken in this experiment. To address this threat, randomized test cases were used and the output of each program

was validated for correctness. By ensuring that each program returns correct output, errors in measurement data can be reduced.

1.6.3 Construct Validity

A study is said to have construct validity if what is measured actually supports or refutes the hypothesis. It is also concerned with ensuring what is measured is what actually should be measured in order to conduct a successful experiment. In order to remove threats to construct validity, measurements must be appropriate to the experiment itself. Since this is a study on programming languages, it is necessary to ensure that what is actually measured is the language and not its compiler. This is why static attributes on the source code itself are taken into account as part of the analysis of this experiment. Compilers do not affect the printed source code since a language has some form of standard syntax.

1.7 Project Scope

The first of several major components for this research project is the programming languages themselves. Each algorithm chosen has been implemented in C, C++, C#, Java, and Visual BASIC. To ensure consistent results for later analysis, each program is written using the Microsoft Visual Studio .NET Enterprise Edition environment. This gives the project a single tool, providing a common environment. Using compilers created in the open source software world might introduce variability into the measurement results since each of these compilers are engineered using different methods. The Microsoft tool offers one suite of compilers in which executable assemblies are created in the same format, a feature boasted by .NET developers (Petzold, 2001).

In addition, accompanying this project is a discussion on each of the languages and how they evolved into what they are designed for today (Sebesta, 1999). Each programming language in this study has its own set of strengths and drawbacks causing differences in software performance (Pratt & Zelkowitz, 2001).

The second component to this project is the algorithms. Algorithms have been coded that do sorting, searching, mathematical calculation, string processing, and order statistic evaluations. For every algorithm implemented there is a discussion on why the algorithm was chosen, its important features, and a description of its time complexity. The algorithm and language discussions together will give the full scope of this research, providing the reasons why algorithms would perform differently from one language to another.

The third component for this project is the set of metrics and statistical analysis. Several metrics have been carefully chosen and defined using suggestions from Munson (2003). On each of the implementations, measurements have been taken and formatted so that the necessary statistical analysis can be performed. From this analysis, it can be determined which implementations had the best success (least complex measurement results) for each of the algorithms, giving programmers a useful tool for choosing the best programming language for the implementations of various algorithms.

Each algorithm will be implemented by one developer using a specific coding style (Sedgewick, 1983) in each of the five .NET languages, and only the programs for a particular algorithm will be compared. There will not be a case where a program written that solves one algorithm will be compared to a program written in the same language, or any other language, that solves a second algorithm. This is not the purpose of this study.

The purpose instead is to see how a particular algorithm behaves when a specific programming language is applied. The statistical tool used in this study to show the differences in behavior is PCA, producing the RCM value described earlier. The RCM values only relate to a single algorithm. Munson (2003) uses this approach in that he compares program modules by taking the same set of metrics on several program modules and compares them based on the RCM produced when PCA is used. The difference in this study is that languages are compared, not modules, and therefore it does not make sense to compare the programs written for different algorithms. The higher the RCM value, the more complex the program has become, and therefore, each program written to implement the same algorithm can be compared based on this value (Munson, 2003: Munson & Khoshgoftaar, 1990).

1.8 Understanding .NET Metadata

Microsoft has created an innovative approach to software development by allowing programs

compiled in different languages to understand each other. While other areas of software development have utilitzed multiple languages in the same project, the difference that Microsoft has introduced is that regardless of the language, the .NET Framework is available and uses the same function calls and the same set of classes creating a common inferface. This common interface is contained in a set of dynamically linked libraries developed by Microsoft and these libraries are available for use on most Microsoft platforms. This cross language integration is done through the use of metadata (Petzold, 2001). The structure of .NET metadata is much like a database, containing tables of data that programs can search through and obtain information from regarding the way a program module functions. Each .NET assembly, be it an executable (EXE) or dynamically linked library (DLL), is compiled in the metadata format, allowing a module written in one language to be run from another language in the same suite. As an example, a portion of code or a class implementation written in C# may be used by Visual BASIC. This allows developers the choice of using a specific language better suited to the given problem with the ease of integration into a larger software project (Petzold, 2001). This project will serve to help developers take the best advantage of the languages offered for Windows platforms.

With the understanding of metadata within the .NET environment, measurements can be taken on the assemblies themselves. Assemblies in this context are defined as either dynamically linked libraries (DLL) or executable (EXE) files. These measurements will be independent of both the static and dynamic measurements that will be discussed later in this project. Understanding the complexities of .NET metadata will give a greater understanding of the performance of a specific algorithm when implemented in a particular language, although this can only be achieved when using .NET compilers found in the Microsoft tool set.

2. DYNAMIC MEASUREMENT ANALYSIS

2.1 Introduction

The second part of the measurement analysis is the study of the dynamic metrics that have been obtained on all of the programs written for this study. As has been discussed, the dynamic measurements refer to the actual performance of the programs rather than the complexity of the source code (Munson, 2003). Here the speed, efficiency, and memory management of each language can be seen through the measurements of each algorithm program. With this information, developers will be able to best understand how programs will behave under specific language environments. The two principal components singled out are the qualitative and quantitative variations. After Principal Components Analysis was performed on each algorithm's measurements, the results that were found tended to be consistent with the language descriptions. In most cases, each language performed as expected with the exception of Visual BASIC, which had the most variable measurement data. This affected the outcome of the Principal Components Analysis process to some degree as it introduced some new sources of variation. Understanding this source of variation will be the most important factor in making sense of the raw data.

2.2 Individual Algorithm Results

2.2.1 Linear Search

The C# implementation of Liner Search was the best performer over all. It was strong in the areas of declared routines, routine calls, and routines executed. Also, the run-times were better here than with the other programs. The C program had the second highest RCM value. Its strengths lied in memory size, routines executed, and total objects created. Visual BASIC was next and had some interesting results. While performing better in some areas than the other languages, its memory size became a weakness since this measurement value was the second highest. Also, execution times for Visual BASIC were among the highest. C++ was fourth and had some weak areas. The C++ implementation produced high measurements in the areas of total routines defined, routines executed, and total routine calls. Finally, Java was the worst performer producing the highest RCM value. The weakness in Java was found in its large size in memory, its slow execution times, and its large number of objects created. Each of these measurements was highest in the Java implementation.

2.2.2 Bubblesort

For the second time the C# implementation was

the best performer, posting an RCM value of under 40. The implementation's strongest areas were found in objects created, executions times, and the metrics concerning routines. It was weak, however, in memory size. The second best performer was the C implementation with strengths in memory size, objects created, and execution times. C# and C were separated only by a point in their RCM values. Third in this algorithm was C++, which had strengths in objects

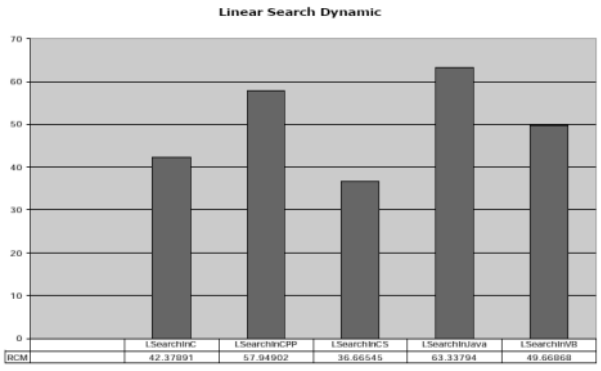

Figure 2.1 Linear Search Dynamic Measurement RCM Results.

created, execution times, and routines executed when compared to the other languages. It was weak, however, in memory size. Java was next although it was weak in many areas. The memory size was large, it had slow execution times, and the total routine calls were the highest. Visual BASIC was this time the worst performer with large size in memory, executions times and total routine calls. The main problem area for

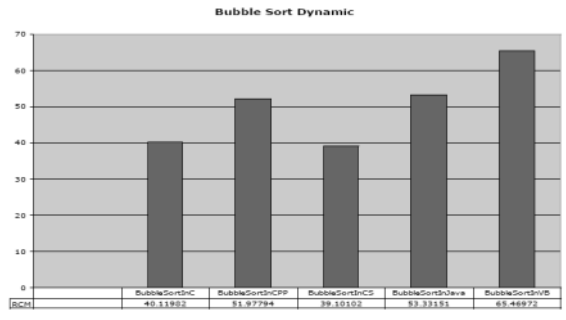

Figure 2.2 Bubblesort Dynamic Measurement RCM Results.

Visual BASIC was its total objects created measurement which was significantly higher when compared to the other implementations. The results for Visual BASIC make sense since the algorithm was not designed for programs with the amount of operations that Bubblesort has (Cormen et al., 2001: Sebesta, 1999).

2.2.3 Quicksort

C was, for the first time, the best performing algorithm. The C implementation produced the smallest measurement values for routines executed, objects created, and was strong in execution times. The introduction of recursion may have been the reason since this application is often used in systems programming (Cormen et al., 2001: Pratt & Zelkowitz, 2001: Sebesta, 1999). C# was a close second producing the best execution time values and a small measurement for the number of routines executed. Also, the total number of objects created was among the smallest. C++ was third again, producing small values for the measurements of execution time and objects created. C++ was weak, however, in the memory size metric. Visual BASIC was fourth with weaknesses in memory size, objects created, and total routine calls. Quicksort is a complex algorithm and Visual BASIC may not have been well suited for this implementation (Cormen et al., 2001: Sebesta, 1999). Java was again last, posting an RCM of over 60. The main weakness for Java once again was in its memory size, where it was the highest. Also, the executions times once again hurt the Java performance. An interesting result is that the Quicksort routine offered in the environment and used in each language did not change the results.

2.2.4 Naive String Matching

For Naïve String Matching, C was the best performer. The C implementation had the strongest values in memory size, objects created, and routines executed. The C# implementation was second from C with less than one point difference in the RCM values. C# showed strength in execution times, routines executed, and total routines. It was weak, however, in the objects created measurement. C++ was third again with strong measurements for execution times and objects created. It had weakness, however, in the total number of routine calls. Java was fourth with a major weakness in its memory size. Also, since Java needed an additional String object for the data processing, higher numbers were found in the total objects created measurement (Sebesta, 1999). Visual BASIC was again the worst performer. It was weak in memory size and was worst in execution time. The algorithm was run a

second time in the worst-case (no pattern match) and the results did not change, an interesting fact to observe.

2.2.5 KMP String Matching

C# produced the best performing implementation for KMP String Matching. Its areas of strength

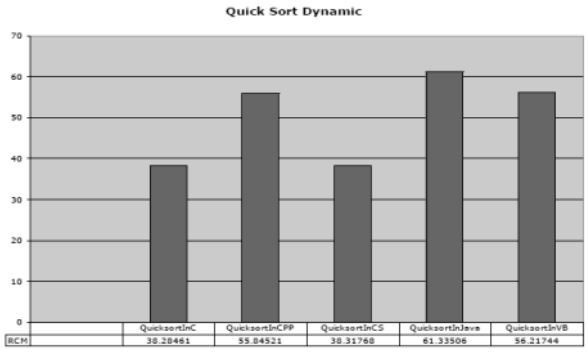

Figure 2.3 Quicksort Dynamic Measurement RCM Results.

were found in execution times, size in memory, and the measurements concerning the numbers of routines involved in the program. C was second with strengths in memory size and objects created. C was a little weaker for this algorithm with respect to execution times. This may have

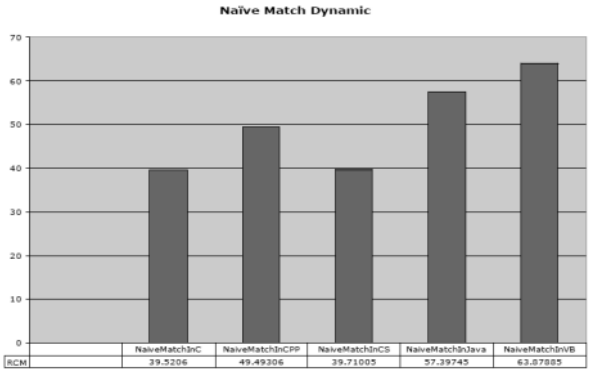

Figure 2.4 Naïve String Matching Dynamic Measurement RCM Results.

been caused by not having a specific object related to strings, since C uses arrays of characters that must be parsed (Pratt & Zelkowitz, 2001: Sebesta, 1999). Visual BASIC was third this time, performing well in the areas of execution time and total routines. This was surprising since Visual BASIC was not designed for an algorithm with this much complexity (Cormen et al., 2001: Sebesta, 1999). C++ was fourth and tended to be weaker in memory size and execution times. Java was the worst performer producing high measurements in memory size, execution time, and total routine calls.

2.2.6 Polynomial Addition

The C# implementation produced the only RCM value under 40. C# was once again strong in execution time, routines executed, and objects created. C was second with an RCM value only two points higher. C was strong in memory size, objects created, execution times, and routines executed. Visual BASIC was third with an RCM value over 45. Although strong in execution time, Visual BASIC was weak in memory size and total routine calls. C++ was fourth with a clear weakness in the total routine calls, memory size, and in execution times. Since Polynomial Addition is a simpler mathematic algorithm, C++ may have been too complex (Cormen et al., 2001: Sebesta, 1999). Java was once again the worst performer and again the weakness lies in memory size, execution times, and the total number of routine calls.

2.2.7 Gaussian Elimination

The results for this algorithm were surprising in that Gaussian Elimination is a much more complex algorithm than the others in this study (Cormen et al., 2001). C# proved the best performer with fast execution times and strong measurements in objects created, total routines defined, and total routine calls. C was second, and this makes sense since C was developed to be a language for complex use (Pratt & Zelkowitz, 2001: Sebesta, 1999). C was strong in memory size, objects created, and execution times but was one of the worst in total routine calls. The most surprising result for this algorithm is that Visual BASIC was third. Visual BASIC was not designed for high-level operations such as this and yet had strong values for execution time, memory size, and routines executed (Pratt & Zelkowitz, 2001: Sebesta, 1999). C++ was fourth with respect to this algorithm. This implementation was strong in memory size but weak in most other areas. Java was once again the worst performer with extreme weakness in memory size and total routines called.

2.2.8 Minimum and Maximum

The results were also a little surprising for this

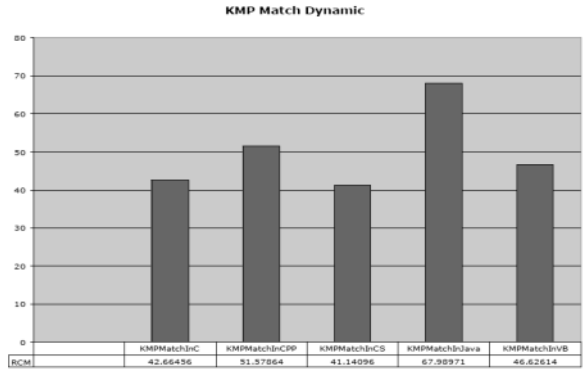

Figure 2.5 KMP String Matching Dynamic Measurement RCM Results.

algorithm as well. C# was once again the best

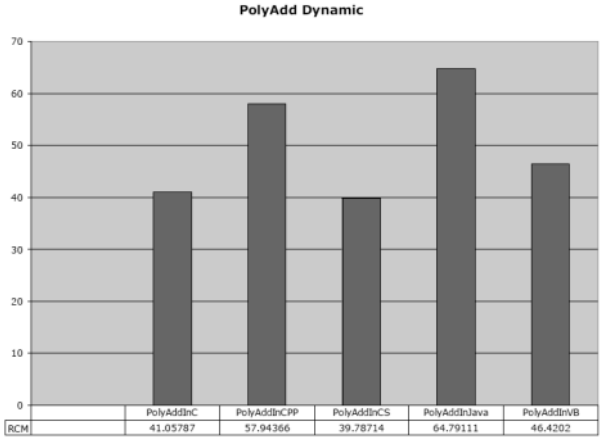

Figure 2.6 Polynomial Addition Dynamic Measurement RCM Results.

performer. While weak in memory size, the execution time was the best among the others. C was again second with strong areas in memory size and total objects created. C again was one of the best in execution times. Visual BASIC per-

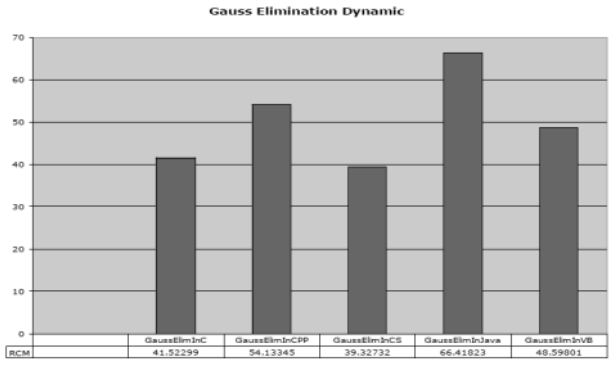

Figure 2.7 Gaussian Elimination Dynamic Measurement RCM Results.

formed well considering that this algorithm is intended to be in worst-case time (Cormen et al., 2001). The strengths for Visual BASIC lie in execution time and in the number of routines executed while running the program. Java was fourth for this algorithm with weakness again in memory size, objects created, and execution times. The most surprising of all of the results for this algorithm was that C++ was the worst performer. With its diverse application, C++ was thought to have performed better given that this algorithm is intended for worst-case time analysis (Cormen et al., 2001: Sebesta, 1999). The major weakness in this implementation was in the area of total routine calls. C++ was the worst in this area. Also, execution time was a factor.

2.2.9 Random Selection

The results for this algorithm were as expected. Random Selection is complex, in worst-case time, and involves recursion (Cormen et al., 2001). As a result, C# was the best performer overall but by just less than one point over C. C# once again excelled in execution time, total routine calls, and memory size. C was second with memory size its greatest strength. C was a little weaker in this algorithm for execution times, however. C++ was third with strengths in memory size, and execution time, but weak in the areas of total routine calls, routines executed, and total routines. Java was fourth with weakness in memory size and objects created. Java performed better in this algorithm for the routines executed metric. The worst performer was Visual BASIC. While Visual BASIC produced the smallest memory size, it was the weakest in almost every area. Its execution times were the worst of any language across all algorithms.

2.3 Evaluation of Results

Since the dynamic metrics are a measure of the performance of each program, as with the static metrics, it is important to discuss a few trends. The C and C# implementations were always the best performers. This makes sense since C was designed for systems programming, which tends to take many operations that must be done in short amounts of time. In programming operating systems, resource management and efficiency were key areas in the C language design (Pratt & Zelkowitz, 2001: Sebesta, 1999). C consistently had the best results for memory size and was always strong in execution times. It seems

that C performs under its design considerations. C# performed well since it is very closely tied with the Microsoft Windows operating system (Petzold, 2001). C# might not perform as well when built to compile under other environments. The three remaining languages were somewhat

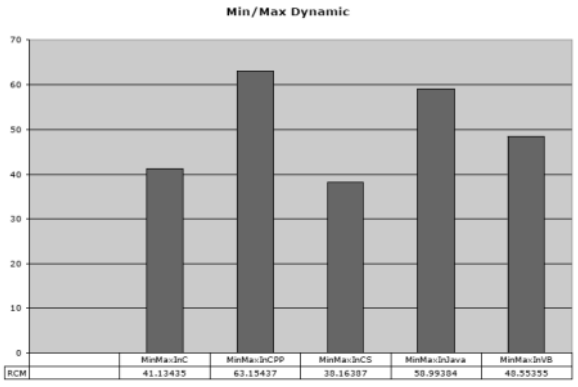

Figure 2.8 Minimum and Maximum Dynamic Measurement RCM Results.

more variable. C++, while efficient and fast, seemed to always produce high values for the total number of routines defined. This is not surprising since the code written for each algorithm was intended to take advantage of the object-oriented features of C++. The libraries needed to run these programs all included data and operations that were not always necessary for each program but are available to the programmer. This is why smaller numbers were found in the measurements for routines executed.

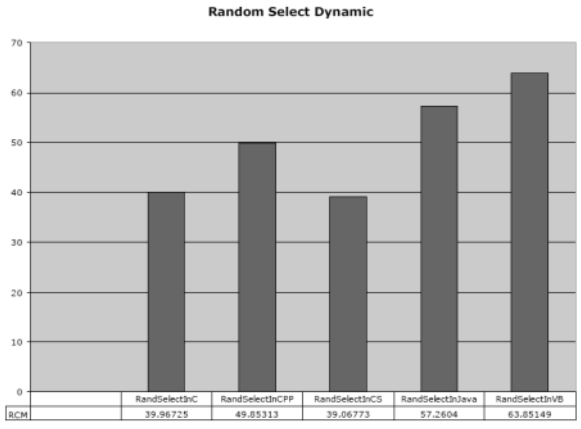

Figure 2.9 Random Selection Dynamic Measurement RCM Results.

Java, whose developers normally boast of the language's memory management capability, always seemed to fall short in this area (Sebesta, 1999). The largest values for memory size were found using Java. This may be because garbage collection is found to occur after the program terminates and since the profiler takes its memory snapshot at peak memory usage levels. If garbage collection were to be handled more frequently, the language may have performed better in this area.

Visual BASIC had the most variable results for its memory usage. In many cases it was the worst performer, but there were instances where memory usages were small. Another highly variable area was in the number of objects created. The Random Selection algorithm produced an odd result in that the total objects created was very large while the memory usage was small. Each object created for this algorithm may not have been very large but many still needed to be processed causing execution times to suffer as a result. While Visual BASIC generally did well in the static measurement portion of this analysis, clearly the variability found in this language's implementations were as a result of the poor structure mentioned in Chapter 4 (Sebesta, 1999). Visual BASIC is not strongly typed and therefore memory is created dynamically. The programmer does not have full control over this memory allocation and so unpredictable results tend to occur (Sebesta, 1999).

3. Conclusions

Each language seemed to perform as the designers intended. C and C# were the most efficient languages while C++, Java, and Visual BASIC were not. The designs of the latter three development environments centered on code writing ease and data structuring rather than on performance (Pratt & Zelkowitz, 2001: Sebesta, 1999). Again the important thing about studying metrics is what can be learned (Munson, 2003). As with the static metrics, with the trends presented here, developers will have a more educated outlook on how well languages perform for given programming problems allowing for better decisions throughout the software life cycle.

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A Detailed Study of Labour Welfare Measures at BSP :Bhilai Steel Plant (SAIL)

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Abstract

With the rapid growth in the Indian Industry it has been seen that labour welfare measures provided to employees has played an important role in the effectiveness and efficiency of the Employees at work. In my research paper "A Detailed Study Of Labour Welfare Measures" at Bhilai Steel Plant, Bhilai (C.G.). I have tried to touch upon most of the labour welfare ac-tivities which is beneficial both for employees and for the company. meaning and implications of labour welfare measures differ widely with times, regions, industries, countries, social values and customs, the general economic development of the people and the political ideologies prevailing at particular moments. As a researcher in my research paper I have given my best to make it simple, clear, systematic, and a meaningful research paper. In this research paper I have used descriptive and explanatory research. However empirical references, ob-servations and information's are also used. The efforts of this research paper have been aimed to find out employees satisfaction, analyze and maintain welfare activities and for further improve-ments, so as to give morale boost to the employees as well as, to make easier to employers to attract and hire competent personnel which helps build a posi-tive image of the organization. In an overall study I have emphasized "A Study On Labour Welfare Measures at Bhilai Steel Plant" ,Bhilai.

Keywords

Labour, Welfare, Facilities

Objectives of the study

- To understand the importance of labour welfare measures in a company.
- To know that whether welfare facilities play an important role on the working of the employees.
- To know when the employees are dissatisfied welfare facilities will help them to get motivated.
- To know the employees opinion about the present welfare facilities at BSP.
- To study the satisfaction of workers towards the present welfare facilities.
- To give certain suggestion based on findings for improvement in the labour welfare facilities provided by the management.
- To determine the satisfaction level of the employess.
- To suggest the measures to increase the labour Welfare Services at BSP.

Research Methodology

Statement of The Problem

A study of labour welfare measures at Bhilai Steel Plant (BSP).

Sources of Data Collection

Primary source of data collection-in my research paper For the purpose of study here, Questionnaire method is used to elicit information from employees of various hierarchy departments. The data was collected through personal visit to respondents during office hours and their suggestions and responses regarding the facility were taken**.**

Secondary source of data collection: - The various sources of secondary data for the study include periodicals, encyclopedias, database companies etc.

Data Collection

Research Methodology

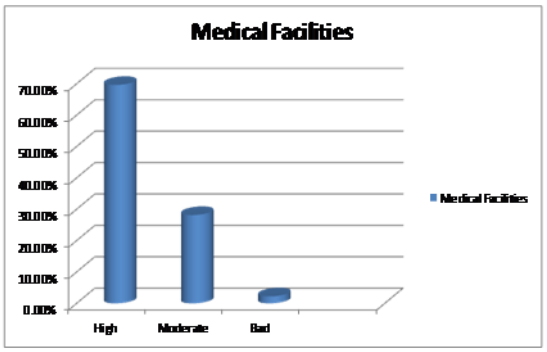
Universe	-	Bhilai Steel Plant
Sampling Method	-	Random Sampling
Sampling unit	-	Employees of BSP
Source of data	-	Primary and Secondary data
Data collection tool	-	Questionnaires

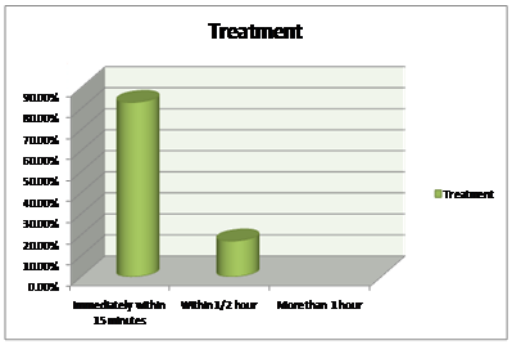
Analysis and Findings of The Study

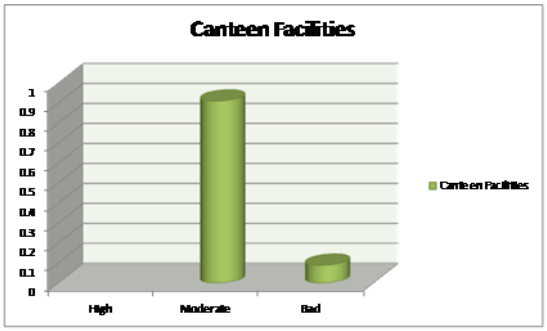
Regarding the labour Welfare measures question almost every employee know about all the labour welfare facilities given by BSP.

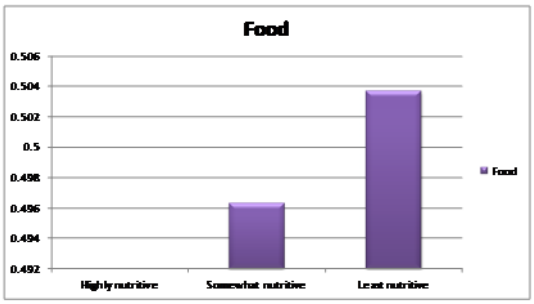
1. Medical Facility.

1. There is need to give special care to every patient by the doctors and nurses.
2. There is discrimination among the patients.
3. There are some patients who do not trust on BSP hospital treatment and go to private hospitals.









2. Canteen Facility.

1. The quality of tea and snacks is very poor.
2. Food is not available as per the need of employees.
3. The overall level of customer satisfaction on canteen facilities is very poor.

3. Housing Facility.

1. The employees are not satisfied with the house facility provided by BSP. Yet there is scope of improvement.
2. Employees are not satisfied with quarter allotment system, they think that there is a lot of discrimination in this system.
3. The employees are satisfied with the water and electric supply provided by BSP.
4. Maintenance of BSP quarters is poor.
5. The employees are not satisfied with the drainage/cleaning system in the quarters.
6. Most of the employees prefer their own house rather than company quarters.

4. Work Environment.

1. The employees of BSP are fully aware that the good environment is helpful for better production and productivity.
2. The employees are provided pure drinking water at their work places but it is not provided equally in all the places.
3. The employees have been provided rest room with sufficient lights and fans.
4. The first aid box is available at every shop with necessary items for treatment. But yet there is scope for improvement.
5. The washroom facilities have been provided to the employees, but improvement can be done.
6. The employees are satisfied with the lighting facility at their work places.

Conclusion

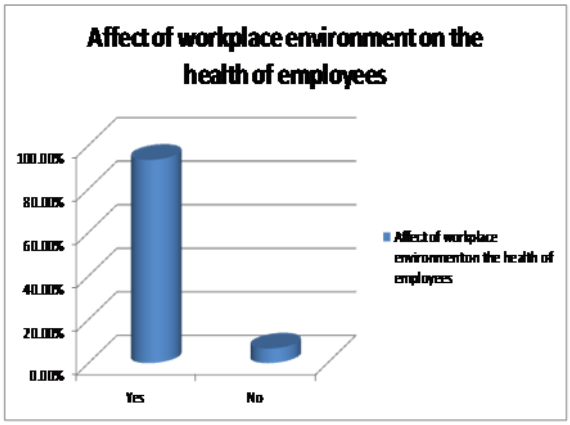
I came to the conclusion that the employees of the BSP are satisfied with the labour welfare measures but dissatisfied in few other areas of development. Regarding the labour welfare measures question almost every employee know about all the labour welfare facilities given by BSP.

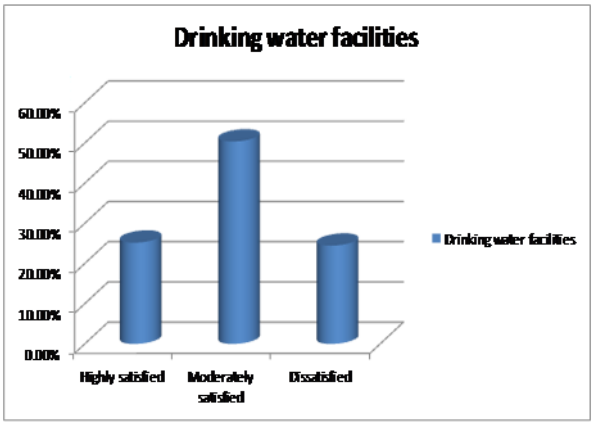
This study has been carried out to evaluate the Labour Welfare Measures in a massive organization like Bhilai steel Plant. As we know that any big organization provides housing, education, medical and other fringe benefit to the employees to maintain consistently high levels of production & productivity. Providing the facilities in the better way is very essential to enhance the moral, production and productivity of the plant and to keep the employees happy so that the objectives of the organization are fulfilled within its own parameters.

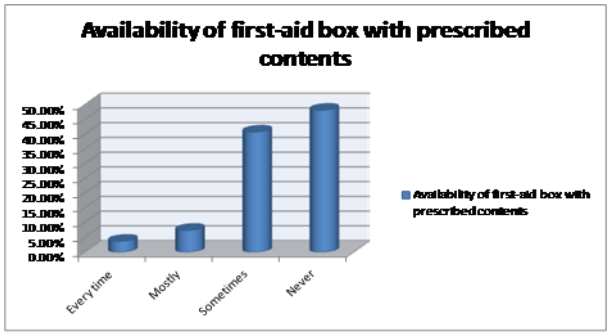
Bhilai Steel Plant is very serious in providing all these facilities to each of the employee as well as to the family members of the employees by providing better infrastructure facilities, education facilities, and medical facilities etc equally to all the employees.

To some extent there may result some discrimination on these issues or employee's perception can be different but the basic principle or key element is to provide excellent welfare facilities to the employees.

In conclusion it can be said that the overall Labour Wel-







fare Measures provided to the employees have given direct impact on enhancing employee's motivation and to improve the skill, knowledge, productivity, capacity of employees. Finally, I may conclude that the employee's perception in all segments which has been thoroughly studied, there are some areas which are to be perfectly examined some structural, administrative or modular reform can be brought to facilitate the welfare facilities to the employees up to the optimum level to the satisfaction of the employees.

Suggestions/Recommendations

1. There should be improvement in the quality of food and services in the canteen, and items should be increased, cold drinks should be made available and most of the respondents have suggested that the repetition of items should not be there and stale food should be avoided.
2. There should be stronger administration in the medical facility so that irresponsibility of staff can be improved, medicines should be made available at time, and clean surroundings should be there.
3. There should be proper allotments of the quarter to every employees and roads should be made concreted so that in rainy season they should not face any problems, drainage system should be improved it should be made underground.
4. Besides all this suggestions some of the respondents have suggested the introduction of city buses for the BSP employees, more Park's & better working and harmonious environment.
5. As the employees are unable to have a safe drinking water facility so there should be an aqua guard facility for the workers or employees.
6. First-aid box facility should be provided with the prescribed contents.
7. To control noise pollution modern equipments should be used.
8. To solve family or work related grievances employees or workers requires relax working hours.

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Higher Education and Research in India: A Review

Sohan Kumar Mishra. Assistant Professor (Teacher Education)

Abstract

If we were to follow the path leading to the history of education in India, it's surely one of the most fascinating stories to tell. Systematic and organized education has its roots to the ancient days in the subcontinent. Take a thorough study of the different periods and we can trace the way that lead to education in modern day India. This article briefly presents education as it was during the different ages in India. The ages have been categorized into ancient, medieval and modern India.

Education in Ancient India

Education in ancient India has always been believed to be very disciplined and well-organized, dating back to sometime during 3rd century B.C when traditional and religious knowledge used to be the main subject of learning. Palm leaves and tree barks were the writing pads and most of the teaching was oral by sages and scholars. Education in India became more relevant with the Gurukul System of learning that required students and teachers boarding together, passing on knowledge generations after generations. Religion, philosophy, warfare, medicine, astrology were the main subjects of teaching. Another unique aspect of this education was its free availability for all but was allowed a voluntary contribution called 'Guru Dakshina' which could mostly be afforded by few well-to-do families at the end of the courses.

Education in the First Millenium or Medieval India

The beginning of the first millenium and some years preceding saw the starting of universities like the Takshashila University, Nalanda University, Vikramshila University and Ujjain. Concrete subjects of study came into being like Astronomy, Grammar, Logic, Philosophy, Literature, Law, Medicine, Hinduism, Buddhism and Arthashastra (Politics and Economics), Mathematics and Logic. Each of the university specialized in a subject, with Takshashila focusing on medicine, the university in Ujjain on astronomy, whereas, Nalanda dealt with almost all the branches of study. Education was widely spread with the availability of schools in most of the villages in India, during the 18th century. Medieval times also saw the establishment of Madrasas and setting up of libraries and literary societies.

The Academic Situation in Modern India

Education in modern India started with the British era and thus, came the study of English language which was given more emphasis than other language learning. The recent form of education in India was an idea proposed by Lord Macaulay in the 20th century who believed that Indians should attain modern education to come out of their traditional thoughts, interests, intelligence and morals. The western education in India witnessed the setting up of several missionary colleges in various parts of the country. Post independence, the education sector was largely controlled by the central government but slowly became a joint effort by the central and the state governments through a constitutional amendment in 1976. By the start of 21st century, came education policies and planning like the free and compulsory education for children till 14 years of age policy and the plan to spend 6% of GDP in education, focusing primary education more.

Even though, India has a rich past when it comes to education, the country is still afflicted by high percentage of illiteracy and high rate of school dropouts.

Table 1

Types of Higher Educational Institutions in India

Central Open University 1
Central Universities 46
State funded universities 281
Deemed universities 40
Private deemed universities 91

Private universities under state 87
State Open University 13
Institution of National Importance 59
Institution Established Under State Legislature Act 5

CENTRAL UNIVERSITIES AND CENTRAL OPEN UNIVERSITY

Usually, a university is established under the act of a State legislature. The State Government maintains control of the universities in many respects, although a central agency, the University Grants Commission provides bulk of the funding. Central Government has established *46* universities and *1* Open University (IGNOU) that are funded and controlled by it.

Table 2
Lists the Central Universities and Central Open University.

State	Central universities	State	Central universities
Arunachal Pradesh	1	Madhya Pradesh	2
Assam	2	Maharashtra	1
Bihar	3	Manipur	2
Chhattisgarh	1	Meghalaya	1
Delhi	5	Mizoram	1
Gujarat	1	Nagaland	1
Haryana	1	Odisha	1
Himachal Pradesh	1	Puducherry	1
Jammu and Kashmir	2	Punjab	1
Jharkhand	1	Rajasthan	1
Karnataka	1	Sikkim	1
Kerala	1	Tamil Nadu	2
Uttarakhand	1	Telangana	3
West Bengal	1	Tripura	1
Uttar Pradesh	5	IGNOU*(Central Open University)	1

TOTAL=46+1*=47

DEEMED UNIVERSITIES

Deemed universities are unique in India. Prior to independence, several private autonomous institutions of higher education and learning were developed in India. The Education Commission headed by Dr Radhakrishnan (a noted philosopher and the second President of India) recommended in 1948 that these institutions should be recognized appropriately. Accordingly, the Government of India made a provision under the UGC Act of 1956, Section 3, to recognize some deemed institutions to be universities. The objective was as follows: "If institutions which for historical or other reasons were not universities, yet were doing the work of high standard in specialized academic fields comparable to that done at a university then the granting to these institutions the status of universities would enable them to further contribute to the cause of higher education thereby mutually enriching the institution and the university system." To qualify for being a deemed university it was required that, "the institution should generally be engaged in teaching programs and conducting research in chosen fields of specialization which were innovative and of very high academic standards at the Master's and research levels. It should also have a greater interface with society through extramural extension and field action related programs." In recent years there has been a significant growth of deemed universities. Only 29 deemed universities were recognized from 1956 to 1990. But after 1990, there have been 131 new deemed universities (including Govt. and private), excluding the regional engineering colleges that were given the degree granting powers.

STATE UNIVERSITIES

Universities charted under the state legislatures have been founded at various times. The number of universities in a state depends on the population as well as resources available to the states.

Table 2.
State & Specialisation WiseNumber of Universities

State	General	Agriculture	Medical	Law	Technical	Veterinary	Others	Total
Andhra Pradesh	26	2	2	2	6	1	6	45
Arunachal Pradesh	3							3
Assam	6	1			2			9
Bihar	12	2	1	1	1		3	20
Chandigarh	1				1			2
Chhatisgarh	7	1	1	1	2		3	15
Delhi	9	1	1	2	3		5	21
Goa	1				1			2
Gujarat	22	3	1	1	3		6	36
Haryana	11	2	1		4	1	2	21
Himachal Pradesh	11	2			3		1	17
Jammu and Kashmir	5	1			2			8
Jharkhand	5			1			3	9
Karnataka	21	3	6	2	3	1	7	43
Kerala	6	1		1	1	1	6	16
Madhya Pradesh	8	1		1	6		9	25
Maharashtra	19	4	6		4		11	44
Manipur	1	1			1			3
Meghalaya	3				2			5
Mizoram	3							3
Nagaland	3				1			4
Odisha	10	1		1	3		3	18
Puducherry	1				1			2
Punjab	5	1	1	1	5	1	2	16
Rajasthan	19		2		5	1	1	28
Sikkim	2			1			1	4
Tamil Nadu	29	1	1	1	14	1	8	55
Tripura	2			1				3
Uttar Pradesh	27	3		1	5	2	3	41
Uttrakhand	9	1	1		2		1	14
West Bengal	13	2	1	1	3		2	22
All India	300	34	25	19	84	9	83	554

Most of the state universities have colleges affiliated with them. Colleges provide Undergraduate education. Universities manage and conduct the undergraduate qualifying examinations and the granting of degrees. Universities conduct courses at post-graduate level awarding Masters Degrees. The doctoral program in a typi-

cal university is very much like that in the United Kingdom where little emphasis is put on course work and is based solely on the dissertation written under the guidance of an approved "guide" or professor.

INSTITUTES OF NATIONAL IMPORTANCE

Institutes of national importance are the crown jewels of higher education and research in India. These are autonomous bodies outside the control of the University Grants Commission that controls the governance of universities. These institutions have different funding structures, and their own curricula, academic calendar and compensation system for the faculty. Admission to these institutions is highly competitive. All the IITs (Indian Institute of Technology) are categorized in this group. Table 5 provides the list of these institutions.

Table 5
List of Institutions of National Importance

Table 5
List of Institutions of National Importance

S. No.	Institutions
1.	School of Planning & Architecture Vijaywada, Andhra Pradesh (Id: U-0627)
2.	National Institute of Technology Arunachal Pradesh (Id: U-0615)
3.	Indian Institute of Technology, Guwahati, Assam (Id: U-0053)
4.	National Institute of Technology, Silchar, Assam (Id: U-0055)
5.	All India Institute of Medical Sciences, Patna, Bihar (Id: U-0686)
6.	Indian Institute of Technology, Patna, Bihar (Id: U-0064)
7.	National Institute of Technology, Patna, Bihar (Id: U-0072)
8.	All India Institute of Medical Sciences, Raipur, Chhattisgarh (Id: U-0690)
9.	National Institute of Technology, Raipur, Chhattisgarh (Id: U-0092)
10.	All India Institute of Medical Sciences, Delhi (Id: U-0096)
11.	Indian Institute of Technology, Delhi (Id: U-0100)
12.	National Institute of Technology, Delhi (Id: U-0622)
13.	School of Planning & Architecture, New Delhi (Id: U-0116)
14.	National Institute of Technology, Goa (Id: U-0620)
15.	Indian Institute of Technology, Gandhinagar, Gujarat (Id: U-0139)
16.	Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat (Id: U-0149)
17.	National Institute of Technology, Kurukshetra, Haryana (Id: U-0172)
18.	Indian Institute of Technology, Mandi,Himachal Pradesh (Id: U-0184)
19.	National Institute of Technology, Hamirpur, Himachal Pradesh (Id: U-0189)
20.	National Institute of Technology, Srinagar, Jammu and Kashmir (Id: U-0197)
21.	National Institute of Technology, Jamshedpur, Jharkhand (Id: U-0207)
22.	National Institute of Technology, Karnataka, Karnataka (Id: U-0237)
23.	Indian Institute of Science Education & Research (IISER), Thiruvananthapuram, Kerala (Id: U-0254)
24.	National Institute of Technology, Calicut, Kerala (Id: U-0263)
25.	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum,Thiruvananthapuram, Kerala (Id: U-0266)
26.	All India Institute of Medical Sciences, Bhopal, Madhya Pradesh (Id: U-0687)
27.	Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior, Madhya Pradesh (Id: U-0267)
28.	Indian Institute of Science Education & Research (IISER), Bhopal, Madhya Pradesh (Id: U-0272)
29.	Indian Institute of Technology, Indore, Madhya Pradesh (Id: U-0273)
30.	Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh (Id: U-0284)
31.	Pandit Dwarka Prasad Mishra Indian Institute of Information Technology & Manufacturing , Jabalpur, Madhya Pradesh (Id: U-0286)
32.	School of Planning & Architecture Bhopal, Madhya Pradesh (Id: U-0626)
33.	Indian Institute of Science Education & Research (IISER), Pune, Maharashtra (Id: U-0305)
34.	Indian Institute of Technology, Mumbai, Maharashtra (Id: U-0306)
35.	Visvesvaraya National Institute of Technology, Nagpur, Maharashtra (Id: U-0334)
36.	National Institute of Technology, Manipur (Id: U-0613)
37.	National Institute of Technology, Meghalaya (Id: U-0619)
38.	National Institute of Technology, Mizoram (Id: U-0617)
39.	National Institute of Technology, Nagaland (Id: U-0618)
40.	All India Institute of Medical Sciences, Bhubaneshwar, Odisha (Id: U-0688)
41.	Indian Institute of Technology, Bhubaneshwar, Odisha (Id: U-0355)
42.	National Institute of Technology, Rourkela, Odisha (Id: U-0357)
43.	Jawaharlal Institute of Post Graduate Medical Education & Research, Puducherry (Id: U-0368)
44.	National Institute of Technology, Puducherry (Id: U-0621)
45.	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab (Id: U-0374)
46.	Indian Institute of Science Education & Research (IISER), Mohali, Punjab (Id: U-0377)
47.	Indian Institute of Technology, Ropar, Punjab (Id: U-0378)
48.	National Institute of Pharmaceutical, Educational and Research, Mohali, Punjab (Id: U-0380)
49.	All India Institute of Medical Sciences, JODHPUR, Rajasthan (Id: U-0689)
50.	Indian Institute of Technology, Jodhpur, Rajasthan (Id: U-0395)
51.	Malviya National Institute of Technology, Jaipur, Rajasthan (Id: U-0410)
52.	National Institute of Technology, Sikkim (Id: U-0614)
53.	Academy of Scientific & Innovative Research, Tamil Nadu (Id: U-0713)
54.	Dakshina Bharat Hindi Prachar Sabha, Tamil Nadu (Id: U-0452)
55.	Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, Tamil Nadu (Id: U-0455)
56.	Indian Institute of Technology, Chennai, Tamil Nadu (Id: U-0456)
57.	National Institute of Technology, Tiruchirapalli, Tamil Nadu (Id: U-0467)
58.	Rajiv Gandhi National Institute of Youth Development, Sriperumbudur, Tamil Nadu (Id: U-0472)
59.	Indian Institute of Technology, Hyderabad, Telangana (Id: U-0013)
60.	National Institute of Technology, Warangal, Telangana (Id: U-0025)
61.	National Institute of Technology, Agartala, Tripura (Id: U-0493)
62.	Indian Institute of Information Technology, Allahabad, Uttar Pradesh (Id: U-0516)
63.	Indian Institute of Technology (Banaras Hindu University), Varanasi, Uttar Pradesh (Id: U-0701)
64.	Indian Institute of Technology, Kanpur, Uttar Pradesh (Id: U-0517)
65.	Motilal Nehru Institute of Technology, Allahabad, Uttar Pradesh (Id: U-0530)
66.	Rajiv Gandhi Institute of Petroleum Technology, Rae Bareli, Uttar Pradesh (Id: U-0535)
67.	All India Institute of Medical Sciences, Rishikesh, Uttrakhand (Id: U-0691)
68.	Indian Institute of Technology, Roorkee, Uttrakhand (Id: U-0560)
69.	National Institute of Technology, Uttarakhand (Id: U-0616)
70.	Indian Institute of Science Education & Research (IISER), Kolkata, West Bengal (Id: U-0572)
71.	Indian Institute of Technology, Kharagpur, West Bengal (Id: U-0573)
72.	Indian Statistical Institute, Kolkata, West Bengal (Id: U-0574)
73.	National Institute of Technology, Durgapur, West Bengal (Id: U-0577)
NOTE	* AISHE Code is provided within ( ) braces

POST- UNIVERSITY GRANTS COMMISSION

The Government of India recognized the need for a central agency for disbursing funds to various universities. Accordingly, the University Grants Commission was constituted in 1952. UGC was made a statutory body of the Central Government by an act of Parliament "for the coordination, determination and maintenance of standards of university education in India." The mandate of the UGC is:

1. Promoting and coordinating university education
2. Determining and maintaining standards of teaching, examination and research in universities
3. Framing regulations on minimum standards of education
4. Monitoring developments in the field of collegiate and university education; disbursing grants to the universities and colleges
5. Serving as a vital link between the Union and state governments and institutions of higher learning
6. Advising the Central and State governments on the measures necessary for improvement of

university education.

THE ALL-INDIA COUNCIL OF TECHNICAL EDUCATION

Technical education in India contributes a major share to the overall education system and plays a vital role in the social and economic development of India. In India, technical education is imparted at various levels such as: craftsmanship, diploma, degree, post-graduate and research in specialized fields, catering to various aspects of technological development and economic progress. The beginning of formal Technical Education in India can be dated back to the mid-19th Century. The major policy initiatives in the pre-independence period included the appointment of the Indian Universities Commission in 1902, the issue of the Indian Education policy resolution in 1904 and the Governor General's policy statement of 1913 stressing the importance of Technical Education. The establishment of the Indian Institute of Science in Bangalore, the Institute for Sugar, Textile and Leather Technology in Kanpur, the National Council of Education in Bengal in 1905 and the Industrial Schools in several Information in this section has been taken from the website of AICTE, accessed in March provinces marks the dawn of the technical education in India in the early twentieth century The All-India Council for Technical Education (AICTE) was set-up by the Government of India in November 1945 as a national level Apex Advisory Body to survey the national facilities for technical education and to promote their development in a coordinated and integrated manner. To ensure this and as stipulated by the National Policy of Education (1986), AICTE was vested with statutory authority for planning, formulation and maintenance of norms and standards, quality assurance through accreditation, funding in priority areas, monitoring and evaluation, maintaining parity of certification and awards and ensuring coordinated and integrated development and management of technical education in the country. The AICTE Bill was introduced in both the Houses of Parliament and passed as the AICTE Act No. 52 of 1987. The Act came into force with effect from 28 March 1988. The statutory All India Council for Technical Education was established on 12 May 1988 with a view to proper planning and coordinated development of technical education system throughout the country, the promotion of qualitative improvement of such education in relation to planned quantitative growth and the regulation and proper maintenance of norms and standards in the technical education system and for matters connected therewith. The purview of AICTE (the Council) covers programs of technical education including training and research in Engineering, Technology, Architecture, Town Planning, Management, Pharmacy, Applied Arts and Crafts, Hotel Management and Catering Technology etc. at different levels.

ACCREDITATION OF ACADEMIC INSTITUTIONS AND PROGRAMS

There are two primary accreditation bodies involved in the accreditation of academic institutions and programs. AICTE has established the autonomous body the National Board of Accreditation. NBA was set up "to periodically conduct evaluation of Technical Institutions or Programs on the basis of guidelines, Norms and Standards specified by it and to make recommendations to it, AICTE or to the Council, or to the Commission or to the other bodies, regarding recognition or de-recognition of the institution or program." All technical programs must be approved by the AICTE, but not all programs are accredited by AICTE. Approval of AICTE for new Institutions or for starting new programs is based on:

1. Credibility of Institutional Management and the Program providers
2. Assurance of Compliance to AICTE Norms and Standards
3 Prior approvals by the State Government and University or other competent authority
4 Market sensitivity of program output, to avoid imbalance in supply of qualified manpower. Accreditation of the Institutional Programs by NBA is based on:
5 Availability of potential for sustaining and improving upon assessment criteria
6. Recognition by all stakeholders like the end-users, institutional products and the community at large
7. Demonstrated capability of the institution and program to adhere to the qualitative criteria of Accreditation

GRADUATE INSTITUTES FOR MANAGEMENT

In the early 1960s, the Central Government started introducing management education in India. Two Indian Institutes of Management (IIM) were established with the collaboration of Harvard University and Massachusetts Institute of Technology in 1962, one in Ahmedabad3 and the other in Calcutta. At present there are six IIMs, one each in Ahmedabad, Bangalore, Calcutta,

Indore, Kozhikode and Lucknow. Admission to these institutes is highly competitive. The successful candidate is 1 among 100 applicants. IIMs do not have the authorization to award degrees. They award postgraduate diplomas. The doctoral programs at IIMs also do not award PhDs, but the graduates are called "Fellows". Since management education has become very popular, most universities offer MBA degrees. There are a large number of post-graduate Institutes that offer a post-graduate diploma in management. Such institutes are recognized by the All India Council of Technical Education. The only exception is the Indian School of Business (ISB) located in Hyderabad. It was recently founded in collaboration with the Kellogg School of Management at the Northwestern University, the Wharton School at the University of Pennsylvania, and the London Business School. ISB is funded by private sources with McKinsey Company being the main champion. The cost of education at ISB is quite high and is equivalent to the cost of an MBA degree in most universities in the US. Now India has 15 IIM's.

Name	Short Name	Established	Location	Website
Indian Institute of Management Calcutta	IIM-C	1961	Kolkata, West Bengal	iimcal.ac.in
Indian Institute of Management Ahmedabad	IIM-A	1961	Ahmedabad, Gujarat	iimahd.ernet.in
Indian Institute of Management Bangalore	IIMB	1973	Bangalore, Karnataka	iimb.ernet.in
Indian Institute of Management Lucknow	IIM-L	1984	Lucknow, Uttar Pradesh	iiml.ac.in
Indian Institute of Management Calicut	IIM-K	1996	Calicut, Kerala	iimk.ac.in
Indian Institute of Management Indore	IIM-I	1996	Indore, Madhya Pradesh	iimidr.ac.in
Indian Institute of Management Shillong	IIM-S	2007	Shillong, Meghalaya	iimshillong.in
Indian Institute of Management Rohtak	IIM-Rohtak	2010	Rohtak, Haryana	iimrohtak.ac.in
Indian Institute of Management Ranchi	IIM-R	2010	Ranchi, Jharkhand	iimranchi.ac.in
Indian Institute of Management Raipur	IIM-Raipur	2010	Raipur, Chhattisgarh	iimraipur.ac.in
Indian Institute of Management Trichy	IIM-T	2011	Trichy, Tamil Nadu	iimtrichy.ac.in
Indian Institute of Management Udaipur	IIM-U	2011	Udaipur, Rajasthan	iimu.ac.in
Indian Institute of Management Kashipur	IIM-Kashipur	2011	Kashipur,Uttarakhand	iimkashipur.ac.in
Indian Institute of Management Nagpur	IIM-N	2015	Nagpur, Maharashtra	iimnagpur.ac.in
Indian Institute of Management Visakhapatnam	IIM-V	2015	Visakhapatnam,Andhra Pradesh	iimv.ac.in

8. Assessment by peer groups of NBA experts through a visit to the institution and making relevant recommendations to the NBA.

The National Assessment and Accreditation Council (NAAC) is an autonomous body established by the University Grants Commission (UGC) of India to assess and accredit institutions of higher education in the country. It is an outcome of the recommendations of the National Policy in Education (1986) that laid special emphasis on upholding the quality of higher education in India. The system of higher education in India has expanded rapidly during the last 50 years. Despite the built-in regulatory mechanisms that ensure satisfactory levels of quality in the functioning of higher education institutions, there have been criticisms that the country has permitted the mushrooming of institutions of higher education with fancy program and substandard facilities and consequent dilution of standards. To address the issues of deterioration in quality, the National Policy on Education (1986) and the Plan of Action (POA-1992) that spelt out the strategic plans for the policies, advocated the establishment of an independent national accreditation body. Consequently, the NAAC was established in 1994 with its headquarters in Bangalore. The vision of the NAAC is to make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion and sustenance initiatives. The mission statements of the NAAC aim at translating the NAAC's vision into reality, defining the following key tasks of the organization:

1. To arrange for the periodic assessment and accreditation of institutions of higher education or units thereof, or specific academic program or projects
2. To stimulate the academic environment for promoting the quality of teaching and learning and research in higher education institutions
3. To encourage self-evaluation, accountability, autonomy and innovations in higher education
4. To undertake quality-related research studies, consultancy and training program
5. To collaborate with other stakeholders of higher education for quality evaluation, promotion and sustenance.

Guided by its vision and striving to achieve its mission, the NAAC primarily assesses the quality of institutions of higher education that volunteer for the process, using an internationally accepted methodology.

THE ASSOCIATION OF INDIAN UNIVERSITIES

The Association of Indian Universities is a voluntary organization of all Indian Universities. The purposes of AIU are:

1. To serve as an Inter-University Organization
2. To act as a bureau of information and to facilitate communication, coordination and mutual consultation among universities
3. To act as a liaison between the universities and the Government (Central as well as the State Governments) and to cooperate with other universities or bodies (national or international) in matters of common interest
4. To act as the representative of universities of India
5. To promote or to undertake such programs as would help to improve standards of instruction, examination, research, textbooks, scholarly publications, library organization and such other programs as may contribute to the growth and propagation of knowledge
6. To help universities to maintain their autonomous character
7. To facilitate the exchange of members of the teaching and research staff
8. To appoint or recommend where necessary a common representative of the Association at any Conference, national or international, on higher education
9. To assist universities in obtaining recognition for their degrees, diplomas and examinations from other universities, Indian as well as foreign
10. To undertake, organize and facilitate conferences, seminars workshops, lectures and research in higher learning
11. To establish and maintain a sports organization for promoting sports among Member-Universities
12. To establish and maintain an organization dealing with youth welfare, student services, cultural programs, adult education and such other activities as are conducive to the betterment and welfare of students or teachers and others connected with universities
13. To act as a service agency to universities in whatever manner it may be required or prescribed
14. To undertake, facilitate and provide for the publication of newsletters, research papers, books and journals. Recognition by AIU is important for many post-graduate autonomous institutions.

Zone	Number of universities
Central Zone	78
East Zone	69
West Zone	70
North Zone	96
South Zone	99

RESEARCH INSTITUTIONS

The institutional framework for research and development in India can be divided into two broad categories: defense and civilian. In the latter category there are five major apex bodies that are responsible for research and development in these fields:

1. Indian Council of Medical Research
2. Indian Council of Agricultural Research
3. Indian Council of Social Science Research
4. Council of Scientific and Industrial Research
5. Tata Institute of Fundamental Research
6. Indian Council of Historical Research
7. Indian Council of Philosophical Research
8. Indian Veterinary research Institute

INDIAN COUNCIL OF MEDICAL RESEARCH

The Indian Council of Medical Research (ICMR), New Delhi, the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest medical research bodies in the world. As early as1911 the Government of India set up the Indian Research Fund Association (IRFA) to sponsor and coordinate medical research in the country.

After independence, several important changes were made in the organization and the activities of the IRFA. It was re-designated in 1949 as the Indian Council of Medical Research (ICMR) with a considerably expanded scope of functions. The ICMR is funded by the Government of India through the Ministry of Health and Family Welfare. The Council's research priorities coincide with the national health priorities, such as the control and management of communicable diseases, fertility Materials are from ICMR website accessed in April 2007. control, maternal and child health, control of nutritional disorders, developing alternative strategies for health care delivery, containment within safety limits of environmental and occupational health problems; research on major noncommunicable diseases

such as cancer, cardiovascular diseases, blindness, diabetes and other metabolic and hematological disorders; mental health research and drug research (including traditional remedies). All these efforts are
undertaken with a view to reduce the total burden of disease and to promote the health and well-being of the population. The Governing Body of the Council is presided over by the Union Health Minister, and is assisted in scientific and technical matters by a Scientific Advisory
Board comprising eminent experts in different biomedical disciplines. The Board is assisted by a series of Scientific Advisory Groups, Scientific Advisory Committees, Expert Groups, Task Forces, Steering Committees etc. which evaluate and monitor different research activities of the Council. The Council promotes biomedical research in the country through intramural as well as extramural research. Over the decades, the Council has expanded the base of extramural research and its strategies. Intramural research is carried out currently through the Council's (a) 21 Permanent Research Institutes/Centers, which are mission-oriented national institutes located in different parts of India and address themselves to research on specific areas such as tuberculosis, leprosy, cholera and gastro-intestinal diseases, viral diseases including AIDS, malaria, kala-azar, vector control, nutrition, food & drug toxicology, reproduction, immuno-hematology, oncology,
medical statistics, etc. and (b) 6 Regional Medical Research Centers which address regional health problems, and also aim to strengthen or generate research capabilities in different geographic areas of the country. Extramural research is promoted by ICMR through (i) Setting up Centers for Advanced Research in different research areas around existing expertise and infrastructure in selected departments of Medical Colleges, Universities and other non-ICMR Research Institutes. (ii) Task force studies, which emphasize a time-bound, goal-oriented approach with clearly defined targets, specific time frames, standardized and uniform methodologies, and often a multicentric structure. (iii) Open-ended research on the basis of applications for grants-inaid received from scientists in non-ICMR Research Institutes, Medical colleges, Universities etc. located in different parts of the country. In addition to research activities, the ICMR encourages human resource development in biomedical research through (i) Research Fellowships (ii) Short-Term Visiting Fellowships. (iii) Short-Term Research Studentships. (iv)Various Training Programs and Workshops conducted by ICMR Institutes and Headquarters. For retired medical scientists and teachers, the Council offers the position of Emeritus Scientist to enable them to continue or take up research on specific biomedical topics. The Council also awards prizes to Indian scientists, in recognition of significant contributions to biomedical research. At present, the Council offers 38 awards, of which 11 are meant exclusively for young scientists (below 40 years). In the context of the changing public health scene, the balancing of research efforts between different competing fields, especially when resources are severely limited, is a typical problem encountered in the management of medical research, particularly in developing countries. Infectious diseases and excessive population growth have continued to constitute the major priorities to be addressed in medical research throughout the last several decades. In addition to tackling these issues, in recent years research has been intensified progressively on emerging health problems such as cardiovascular diseases, metabolic disorders (including diabetes mellitus), mental health problems, neurological disorders, blindness, liver diseases, hearing impairment, cancer, drug abuse, accidents, disabilities etc.. Research on traditional medicine/herbal remedies was revived with a disease-oriented approach. Attempts have been made to strengthen and streamline Medical Informatics and Communication to meet the growing demands and needs of the biomedical community. The
Council is alert to new diseases and new dimensions of existing diseases, as exemplified by the rapid organization of a network of Surveillance Centres for AIDS in different states of India in 1986.

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

The Indian Council of Agricultural Research (ICAR) is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture, Government of India. Formerly known as Imperial Council of Agricultural Research, it

was **established on 16 July 1929** as a registered society under the Societies Registration Act, 1860 in pursuance of the report of the Royal Commission on Agriculture. The ICAR has its headquarters at New Delhi. The Council is the apex body for co-ordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country. With 100 ICAR institutes and **71 agricultural universities** spread across the country this is one of the largest national agricultural systems in the world. The ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology development that has **enabled the country to increase the production of food grains by 5 times, horticultural crops by 9.5 times, fish by 12.5 times , milk 7.8 times** and **eggs 39 times** since 1951 to 2014, thus making a visible impact on the national food and nutritional security. It has played a major role in promoting excellence in higher education in agriculture. It is engaged in cutting edge areas of science and technology development and its scientists are internationally acknowledged in their fields.

Indian Council of Social Science Research

The Indian Council of Social Science Research (ICSSR) was established in 1969 by the Government of India to promote the research of social sciences in the country. The Council aims to:

1. Review the progress of social science research and give advice to its users
2. Sponsor social science research programs and projects and administer grants to institutions and individuals for research in social sciences
3. Institute and administer scholarships and fellowships for research insocial sciences
4. Indicate areas in which social science research is to be promoted andadopt special measures for development of research in neglected or new areas
5. Give financial support to institutions, associations, and journals engaged in social science research
6. Arrange for technical training in research methodology and to provide guidance for research
7 Coordinate research activities and encourage programs for interdisciplinary research
8. Develop and support centers for documentation services and supply of data
9. Organize, sponsor, and finance seminars, workshops and study groups
10. Undertake publication and assist publication of journals and books in social sciences

Advise the Government of India on all matters pertaining to social science research as may be referred to it from time to time, and take such measures generally as may be necessary from time to time to promote social science research and its utilization. The Indian Council of Social Science Research is at present assisting 27 Research Institutes and 6 Regional Centers in different regions in India.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

The Council of Scientific & Industrial Research (CSIR), the premier industrialR&D organization in India, was constituted in 1942 by a resolution of the then Central Legislative Assembly. It is an autonomous body registered under the Registration of Societies Act of 1860.

The Council of Scientific & Industrial Research (CSIR), known for its cutting edge R&D knowledgebase in diverse S&T areas, is a contemporary R&D organization. Having pan-India presence, CSIR has a dynamic network of 38 national laboratories, 39 outreach centres, 3 Innovation Complexes and 5 units. CSIR's R&D expertise and experience is embodied in about 4600 active scientists supported by about 8000 scientific and technical personnel. CSIR covers a wide spectrum of science and technology – from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology. It provides significant technological intervention in many areas with regard to societal efforts which include environment, health, drinking water, food, housing, energy, farm and non-farm sectors. Further, CSIR's role in S&T human resource development is noteworthy. Pioneer of India's intellectual property movement, CSIR today is strengthening its patent portfolio to carve out global niches for the country in select technology domains. CSIR is granted 90% of US patents granted to any Indian publicly funded R&D organization. On an average CSIR files about 200

Indian patents and 250 foreign patents per year. About 13.86% of CSIR patents are licensed - a number which is above the global average. Amongst its peers in publicly funded research organizations in the world, CSIR is a leader in terms of filing and securing patents worldwide. CSIR has pursued cutting edge science and advanced knowledge frontiers. The scientific staff of CSIR only constitute about 3-4% of India's scientific manpower but they contribute to 10% of India's scientific outputs. In 2012, CSIR published 5007 papers in SCI Journals with an average impact factor per paper as 2.673. In 2013, CSIR published 5086 papers in SCI journals with an average impact factor per paper as 2.868. CSIR has operationalized desired mechanisms to boost entrepreneurship, which could lead to enhanced creation and commercialization of radical and disruptive innovations, underpinning the development of new economic sectors. CSIR has put in place CSIR@80: Vision & Strategy 2022 – New CSIR for New India. CSIR's mission is "to build a new CSIR for a new India" and CSIR's vision is to "Pursue science which strives for global impact, technology that enables innovation-driven industry and nurture trans-disciplinary leadership thereby catalysing inclusive economic development for the people of India". CSIR is ranked at 84th among 4851 institutions worldwide and is the only Indian organization among the top 100 global institutions, according to the Scimago Institutions Ranking World Report 2014. CSIR holds the 17th rank in Asia and leads the country at the first position.

AUTONOMOUS SCIENCE AND TECHNOLOGY INSTITUTIONS

Department of Science & Technology (DST) was established in May 1971, with the objective of promoting new areas of Science & Technology and to play the role of a nodal department for organising, coordinating and promoting S&T activities in the country. The Department has major responsibilities for specific projects and programmes as listed below:

1. Formulation of policies relating to Science and Technology.

2.Matters relating to the Scientific Advisory Committee of the Cabinet (SACC).

3.Promotion of new areas of Science and Technology with special emphasis on emerging areas.

(i) Research and Development through its research institutions or laboratories for development of indigenous technologies concerning bio-fuel production, processing, standardization and applications, in co-ordination with the concerned Ministry or Department;

(ii) Research and Development activities to promote utilization of by-products to development value added chemicals.

4.Futurology.

5.Coordination and integration of areas of Science & Technology having cross-sectoral linkages in which a number of institutions and departments have interest and capabilities.

6.Undertaking or financially sponsoring scientific and technological surveys, research design and development, where necessary.

7.Support and Grants-in-aid to Scientific Research Institutions, Scientific Associations and Bodies.

8.All matters concerning:

(a) Science and Engineering Research Council;

(b) Technology Development Board and related Acts such as the Research and Development Cess Act,1986 (32 of 1986) and the Technology Development Board Act,1995 (44 of 1995);

(c) National Council for Science and Technology Communication;

(d) National Science and Technology Entrepreneurship Development Board;

(e) International Science and Technology Cooperation including appointment of scientific attaches abroad (These functions shall be exercised in close cooperation with the Ministry of External Affairs);

(f) Autonomous Science and Technology Institutions relating to the subject under the Department of Science and Technology including Institute of Astro-physics, and Institute of Geo-magnetism;

(g) Professional Science Academies promoted and funded by Department of Science and Technology;

(h) The Survey of India, and National Atlas and Thematic Mapping Organisation;

(i) National Spatial Data Infrastructure and promotion of G.I.S;

(j) The National Innovation Foundation, Ahmedabad.

9.Matters commonly affecting Scientific and

technological departments/organisations/ institutions e.g. financial, personnel, purchase and import policies and practices.
10.Management Information Systems for Science and Technology and coordination thereof.
11.Matters regarding Inter-Agency/Inter-Departmental coordination for evolving science and technology missions.
12.Matters concerning domestic technology particularly the promotion of ventures involving the commercialization of such technology other than those under the Department of Scientific and Industrial Research.
13.All other measures needed for the promotion of science and technology and their application to the development and security of the nation.
14.Matters relating to institutional Science and Technology capacity building including setting up of new institutions and institutional infrastructure.
15.Promotion of Science and Technology at the State, District, and Village levels for grass- roots development through State Science and Technology Councils and other mechanisms.
16.Application of Science and Technology for weaker sections, women and other disadvantaged sections of Society.

IMPLICATION FOR FINNISH UNIVERSITIES AND RESEARCH INSTITUTES

India provides considerable opportunities for collaboration with the universities and research institutes in Finland. Institutions in the UK and Australia are actively seeking stronger linkage with Indian institutions for participating in the education sector. Anglo-American institutes have a longer history of working with India and thus are the favorite destinations for many Indians. In this respect Finnish institutions may face some challenges in building relationships. Based on discussions with the academic leaders in Finland, it seems that Finnish universities have two objectives in collaborating with Indian institutes. One is to access the pool of talented Indian students and to attract them to join Finnish universities. Institutes in the US and UK depend heavily on foreign students in their doctoral programs. The second objective is to pursue joint or collaborative research with Indian scientists and technical personnel. The most logical places to look are the National Institutes of Technology for recruitment of students from India. There are seventeen such Institutes in different parts of India. These institutes were established originally as Regional Engineering Colleges along the lines of IIT and then were upgraded to the status of National Institutes of Technology. Although NITs are less prestigious than IITs, they are excellent technical institutions and are excellent institutions from where the Finnish Universities can recruit potential graduate students. Companies such as IBM have formed collaborative centers in some of the NITs. IITs and NITs have uniformity of standards in their curricula and admission processes. Universities can also be good sources for talented students. However, the problem is the major variations in the quality of the universities. The accreditation processes used by the various agencies are not based on the assessment of the output. Moreover, the standards of the admission processes vary. Finally, the quota system imposed by the government creates another level of ambiguity in judging the quality of a graduate from a university. It would be good idea to use some internationally recognized tests such as GRE or GMAT as well as TOEFL for admission purposes. By using proactive measures Finnish universities may be able to attract students from the IITs and Indian Institute of Science. Graduates from these institutes are generally in high demand both in the corporate sectors as well as in prestigious universities in the US. IIT graduates have fared very well in the US in the corporate and the academic sectors. Some guidelines in evaluating an institution, other than IITs, the Indian Institute of Science, and NITs, for developing collaborative relationship for recruitment of students are as follows:
1. NAAC ranking: for Higher Education Institutions
2. Research record of the faculty should be examined
3. Admission processes used for admitting students should also be considered.
4. NBA ranking: for AICTE approved institutions

For developing research relationships, one should look into the capability of the institution. IITs and IISC are, of course, among the best institutions to have research collaboration. However, these institutes are also sought by other universities in the US and UK. The best way to develop the linkages will be through per-

sonal contacts with the individual faculty members of the respective universities. The US has the Fulbright program and the UK has established the Commonwealth Scholarship. These programs have helped foster exchange of scholars. Sitra, the Finnish Innovation Fund has recently developed a fellowship program that can be a great stimulus for developing such academic linkage with India. In the technical and engineering fields, for example the following universities/ institutions have an excellent reputation:

1. Delhi College of Engineering, New Delhi
2. VJ Technical Institute, Mumbai
3. University Department of Chemical Technology, Mumbai
4. Thapar University, Patiala
5. Jadavpur University, Kolkata
6. University of Pune, Pune
7. Birla Institute of Technology and Science, Pilani.

In the area of fundamental science, the following institutions are eminent:

1. Tata Institute of Fundamental Research, Mumbai
2. Saha Institute of Nuclear Physics, Kolkata
3. Indian Association for Cultivation of Science, Kolkata.
4. Bhabha Atomic Research Centre, Trombay, Mumbai
5. Vikram Sarabhai Space Cetre, Thiruvananthapuram, Keral

Some of the universities have developed areas of competency that may be of interest to Finnish universities. For example, Thapar University in Patiala has specialized in paper technology and associated environmental issues. To identify universities for social sciences, it is suggested that the Finnish institution should work for example with the Indian Council of Social Science Research (ICSSR). ICSSR will be able to help build contacts with appropriate faculty and institutions. Research in social sciences could be politically controversial. The Government of India has guidelines for approving only certain types of research in the social sciences. Therefore, working through ICSSR will be helpful in terms of identifying problems that can meet with approval by the government. In the area of social and economic sciences at least the following institutions have excellent reputation:

1. Delhi School of Economics, New Delhi
2. Jawaharlal Nehru University, New Delhi
3. Tata Institute of Social Sciences, Mumbai
4. Indian Statistical Institute, Kolkata.

In the field of management, there exist several good institutes that offer postgraduate diplomas in business administration, equivalent to an MBA degree. However, very few of them are engaged in any credible research activities. The following institutions have developed good track record of research and publication:

1. Indian Institute of Management, Ahmedabad
2. Indian Institute of Management, Calcutta
3. Management Development Institute, Gurgaon
4. Indian Institute of Management, Lucknow
5. Indian Institute of Foreign Trade, New Delhi.

CONCLUSION

In this report, we have attempted to provide a brief overview of the educational system in India. The intended audience is Finnish policy makers, universities and other agencies. Since India and Finland have few historical ties, it would need some concerted effort by both countries to develop productive collaboration. Although the modern education system in India is based on the Anglo- American tradition, there is a great variety of institutional systems in higher education. Government plays a important role not only in providing funds for education but also in the administration and control of these institutions. It is not uncommon that institutions may be facing dictums from various entities that are at times confusing and contradictory. Any foreign organization trying to build a relationship with these institutions must not be daunted by such ambiguities and must work with them patiently. We have attempted to identify various institutions of repute in India that can be excellent candidates for further consideration by Finnish institutions.

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The Electronic Structure of c-BN

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The electronic, mechanical and elastic properties of zinc blende structured of c-BN has been studied using ab initio pseudopotential scheme, using local density approximation. Due to large band gap between occupied and unoccupied bands and no orbitals are available at fermi energy label, states non-metallic nature of c-BN. In the present study, the mechanical and the elastic properties show excellent agreement with experimental results and well compared with other theoretical results because of the inclusion of partial core correction in our calculation.

Keywords: *Ab initio calculations (atoms & molecules), atoms electronic structural calculation*
PACS Code: 31.15 Ar, 31.15-p

Introduction

During the past decade, interest, in transition metal nitrides has grown considerably. Nitrides of various elements play an important role in industry, science and technology for their interesting and useful resilient properties. Their technological importance has made them attractive for theoretical and experimental investigations. The cubic phase of BN shares number of extraordinary properties with diamond phase of C (carbon): extreme hardness, chemical inertness, high melting temperature, and high thermal conductivity Its electronic properties, dominated by a wide band gap and a relatively small dielectric constant, may have applications in ultra violet optics and high-temperature microelectronics. Because of these fascinating properties c-BN has received a great deal of attention from experimentalists. From theoretical point of view, the local-density approximation (LDA) within the density functional theory (DFT) has been used to calculating electronic and ground state properties of solids, molecules and atoms. This approach works for most systems like for 3d transition metals, where it underestimates the bulk modulus[1,2]. But to remove their drawbacks they proposed approximations Perdew and Wang (PW)[3] have proposed the so-called generalized gradient approximation (GGA) which here after is referred to as PW91[4]. This gives considerable improvement of the ground state properties of many atomic, molecular and solid-states systems. This way Ozolins and Körling perform calculation based on full potential linear muffin-tin orbital (FPLMTO) method using PW91, for structural and cohesive properties of transition metals. We focused attention on the electronic properties using efficient *ab-initio* code known as SIESTA methods.

2. Method of Calculation

We performed the first-principles total energy calculations with in the local density approximations (LDA) to the density functional theory (DFT) using the suit of code SIESTA[5-7]. This *ab-initio* method is based on density functional theory adopting a localized linear combination of numerical atomic orbital basis sets for the description of valance electron and norm conserving non-local pseudopotential for atomic core. The pseudopotential were constructed using the Troullie-Martins scheme[8] to describe the valance electron interaction with the atomic core; the non-local components of the pseudopotential were expressed in the fully separable form of Kleinman and Bylander [9,10]. Ceperley-Alder (CA) [11] form local density approximations (LDA), with relativistic calculation were used for the exchange correlation potential.

3. Results and Discussion

Electronic calculations of the nitrides

We have investigated the electronic properties of c-BN. Electronic properties of c-BN is calculated in zinc blende structure. Table represents the calculated and experimental values of lattice constant and bulk modulus of c-BN obtained, with in the local density approximation (LDA) and the generalized gradient approximation (GGA). For the compound c-BN, we examine the equilibrium lattice constants, the bulk modulus, the electronic band structures, projected density of states (PDOS).

Table shows the calculated, experimental values of c-BN from LDA and GGA theory. The LDA theory presents good results than GGA.

Table Calculated and Experimental values of lattice constant and bulk modulus of c-BN

Input Parameters	**c-BN** LDA	GGA	Exp.
Lattice Constant a_0 (Å)	3.637	3.641	3.615[a]
Bulk Modulus B (GPa)	383.4	375.2	369-400[a]

The electronic band structure is composed of several bands. The electronic band structure of

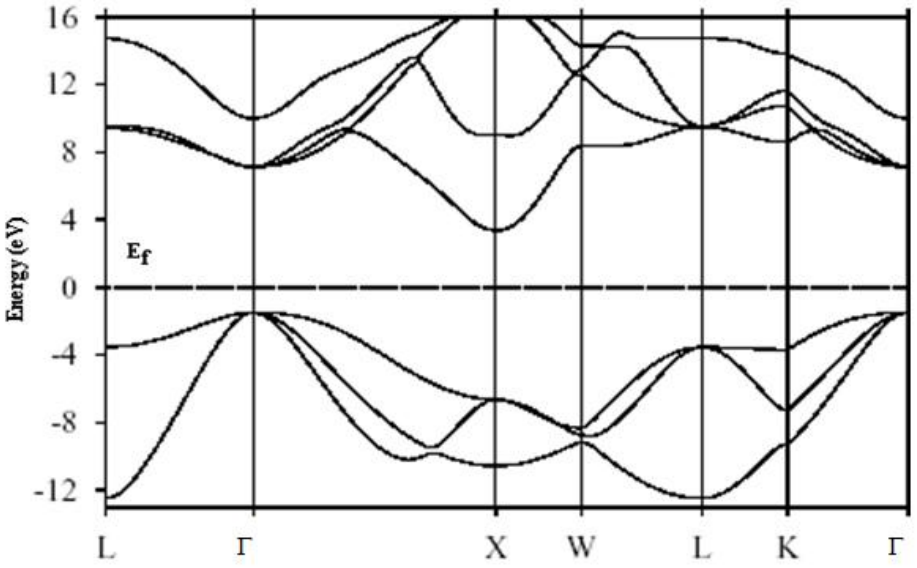

Fig. (a) Electronic Band Structure of c-BN, Fermi level E_f is set to zero.

a solid describes ranges of energy that electron is "forbidden" or "allowed" to have. The band structure of a material determines several characteristics, in particular its electronic and optical properties. The electronic density of energy states in a band is very great, it is uniform. It approaches zero

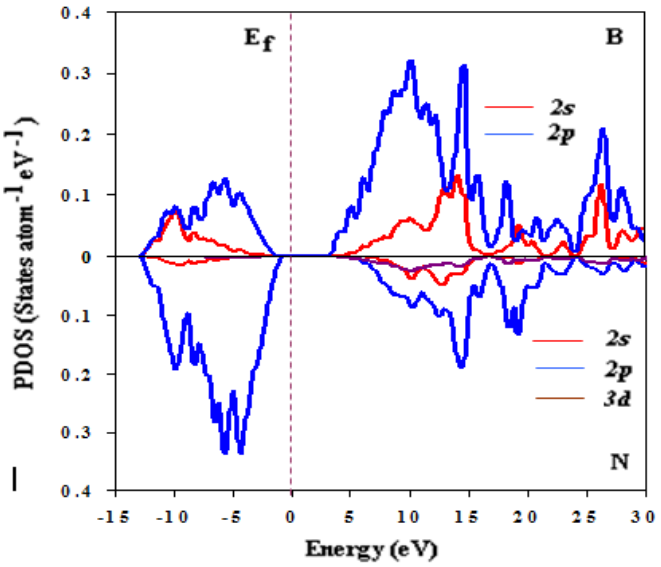

Fig. 4.5.3. (c) Projected density of state of c-BN, Fermi level E_f is set to zero

In projected density of state of c-BN The cutoff radius used for pseudopotential for **B** 1.32 Bohr for *2s* and 1.40 Bohr for *2p* state respectively. In case of **N** cutoff radius used for pseudopotential is 1.00 Bohr for *2s, 2p* and *3d* orbitals. For **B** the atomic orbital basis set employed is double-ζ with polarization of *2s* state and double-ζ for *2p* state.

For nitrogen, basis set with soft confinement is used for the calculation. The total energy, band structures, and PDOS were calculated according to the Monkhorst-Pack approximation [13]. The whole Brillouin-zone is sampled with 600 *k*-points for c-BN. Atoms are allowed to relax until a force tolerance of 0.01eV/Å and stress tolerance of 0.1 GPa is reached for each atom, while retaining the structure to be cubic. The DOS near the fermi level there is no contribution of any orbital of **B** and **N**. The peak at DOS plot from –5 to –10 eV is due to the hybridization of *2p, 2s* orbitals of the **B** and *2p* orbitalof nitrogen. Another peak near from 5 to 15 eV is contributed by *2s, 2p* of **B** and *2s, 2p* orbitals of nitrogen.

Due to large band gap of 2.49 eV between occupied and unoccupied bands and no orbitals are available at fermi energy lable, states that c-BN is non-metallic in nature.

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A STUDY ON THE PERCEPTION AND PRACTICES DURING MENSTRUATION AMONG THE RURAL WOMEN OF TARAPUR VILLAGE

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ABSTRACT

In most developing countries including India menstruation, though a natural process, has been, and still is, dealt with in secret. And it is generally associated with shame, fear, anxiety and depression. Traditional norms and beliefs, socio-economic conditions, and the physical infrastructure influence the practices related to menstruation.

Bastar district is located in Chhattisgarh in the central part of India. Tarapur is a small village in the BakawandTehsil of Bastar District and is merely 27 Km away from the district headquarter Jagdalpur. There are four major tribes in the village – Panaara, Aadiwasi, Maharaa and Dhurva alongwith Dhakad, Pankaara, Mirgaan tribes also residing in the village. Girls and women are subject to restrictions in their daily lives simply because they are menstruating. The underlying basis for this myth is also the cultural beliefs of impurity associated with menstruation. It is further believed that menstruating women are unhygienic and unclean.

Cultural norms and religious taboos on menstruation are often compounded by traditional associations with evil spirits, shame and embarrassment surrounding sexual reproduction including the myths, misconceptions, superstitions and (cultural and/or religious) taboos concerning menstrual blood and menstrual hygiene.

1.1 INTRODUCTION

A woman goes through several development milestones that greatly influence her reproductive health. Menarche, that is the establishment of menstruation, is one of these milestones and a natural phenomenon unique to females. It starts when girls become sexually mature at the time of puberty. Though menstruation is a biological reality, culture-bound values shape its meaning and management.

In most developing countries including India menstruation, though a natural process, has been, and still is, dealt with in secret. And it is generally associated with shame, fear, anxiety and depression. Traditional norms and beliefs, socio-economic conditions, and the physical infrastructure influence the practices related to menstruation.

Many girls and women are subject to restrictions in their daily lives simply because they are menstruating. The underlying basis for this myth is also the cultural beliefs of impurity associated with menstruation. It is further believed that menstruating women are unhygienic and unclean. Cultural norms and religious taboos on menstruation are often compounded by traditional associations with evil spirits, shame and embarrassment surrounding sexual reproduction.

Many cultures have beliefs, myths and taboos relating to menstruation. Almost always, there are social norms or unwritten rules and practices about managing menstruation and interacting with menstruating women. Most striking is the restricted control which many women and girls have over their mobility and behavior due to their 'impurity' during menstruation, including the myths, misconceptions, superstitions and (cultural and/or religious) taboos concerning menstrual blood and menstrual hygiene.

1.2 RATIONALE OF THE STUDY

Bastar District is located in Chhattisgarh in the central parts of India. The district headquarter is at Jagdalpur. It is the land of tribes and about 70% of the total population of Bastar comprises of tribals, which is 26.76% of the total population of Chhattisgarh.

In tribal places like Bastar, as a whole menstruation is a taboo writ with stigma not permitting discussion or even information seeking because of the shame and superistitions associated with this monthly biological occurrence.

This study will identify issues relevant to perception, practices, social and cultural norms, misconception, myths, superistitions and taboo regarding this biological cycle in the women of Tarapur which is a small village of the Bakawand Block of Bastar District.

1.3 OBJECTIVES:

1. To find the awareness about menstruation and the associated concept about it.
2. To know the impact of Rural transformation and the changing patterns.
3. To know the misconceptions, myths or superstitions relating to menstruation.
4. To explore the rigidity of family and conse-

quences faced by the adolescents.

1.4 STUDY DESIGN:

An explorative or formulative as well as diagnostic study design was used to look into the perceptions, practices during menstruation. Explorative study design to gain familiarity with a phenomenon and to achieve new insights into it and Diagnostic research design to determine the frequency with which something occurs and with which it is associated with something else.

1.5 SAMPLING METHOD AND SAMPLE SIZE:

The sampling criterion for this study was purposeful sampling, meaning it was not about numbers, but about informants who could provide in-depth and rich information about the phenomenon of menstruation.

This study follows the approach described by Patton, by using a small sample population to study the perception and practices of menstruation in-depth and in detail.

The sample size was 60 respondents from age group 20 years to 40 years.

1.6 TOOLS AND SOURCES OF DATA COLLECTION:

The data for the study was collected through Personal Interview. Minute details about told and untold facts as it had been taken by interview schedule respectively. The interview schedule was prepared after careful study of the subject matter.

The researcher has made use of both primary and secondary methods of data collection.

The primary data was collected from the field itself through interviews.

Secondary data was collected from books, earlier reports in general and in particular.

1.7 MAJOR FINDINGS AND DISCUSSION

The term menstrual cycle among the women is most commonly known as Mahwari, Mahina, Mahinawaari, MC and Date etc. among the rural woman. In general, this cycle is considered as a sign of attaining the age to start a family. The girl is believed to be physically fit to produce children. Mere mention of the topic is a taboo. People don't discuss it openly. Even the mother don't tell their daughters to be prepared to experience menarche. Suddenly the adolescents come across this phenomenon and usually get scared that what wrong is happening with them. They usually consider it to be a big disease or injury that is making them bleed.

93% of the total women relate menstruation to impurity or pollution.

90% of the total women consider this hormonal phenomenon both Important and Shameful.

93% of the total women use Cotton clothes as it is the oldest practice to soak the bloating. 85% of woman burn their stained clothes. Many woman are of the belief that menstrual blood is very powerful and can be used for black magic and therefore, women should be very careful about destroying this cloth after use.

97% of the total woman follow this unwritten rule and bath after 3 days. And only 3% woman understanding the importance of maintaining hygiene bath daily.

77% of the woman still don't want to quit on the old practices of managing their periods because they are comfortable with the use of cotton cloth and also poverty restricts them to be a part of the shift from old to new practices.

There are different culture norms of the family including sleeping alone, avoiding men, eating separate, no cooking, no touching or making pickles, avoiding sour food etc. which every woman has to follow with strictness until three days when she is considered purely untouchable.

No menstruating woman in the village is allowed to attend any kind of rituals and religious ceremonies. This basically is based on the concept of impurity and pollution. To some extend it's believed to be a curse if a menstruating woman become part of some rituals and it can result in bad consequences.

In this village, the woman are very peculiar about the process of menstruation and the related norms and values which they follow without questioning them and believe them without any authentic justification. It is the ancestral teachings and is passed on from generation to generation. The thought process of every woman is molded to be in favor of the misconceptions, myths and superstitions since adolescents.

97% of the total woman accept that they become untouchable for 3 days and only go back to their normal routine after taking bath. Only

3% of the total woman refuse to be treated like an untouchable and they were mainly either educated or converted Christians.

3% of the total woman do visit the church and they are not prohibited while menstruating. It can be considered an aspect of rural transformation, that people prefer to shift towards rational thinking and they make their own choices even in terms of accepting other religion. Few families have accepted Christianity. Whether for upgrading their caste or for becoming higher in status, what so ever the reason is but people stand out from normal social and cultural practices and decide it to be in a different way than usual.

All the adolescents in this village have gone through the first time rituals after the onset of menarch. The rituals are common in the village among the tribes. Whether they be Panaara, Aadiwasi, Maharaa and Dhurva or Dhakad, Pankaara and Mirgaan; every tribe has the same way of carrying the rituals. They call it doing 'Devi Devta' which means worshipping the Gods and Goddesses. The rituals are performed after 9 days. And before this the girls are secluded from the men in the family as well as outsiders. No bathing, not eating together, taking special diet like 'gurh' (jaggery) and 'chuda' (beaten rice), not entering the kitchen, not touching food items and drinking water, not going out etc. Jaggery is added in the diet as a major food supplement. After completion of 9 days of confinement, in the wee hours of the morning, the girl is taken to the river/lake or pond and is drowned in the water completely. All her clothes, jewelries or whatever she must be wearing is taken off. She is made to bath with 'Turmeric and Oil' what the tribal people call it doing "Haldi-tel" and then the girl is made to wear a white saree and she is brought home and her stained clothes are hidden by her mother.

Every adolescent face the problems of social restrictions, food restrictions, not going to the school, changing cloth / pads is a big trouble and above all this is the changing behavioral pattern of the family towards the girl. Suddenly she is treated like an adult and is expected to act in the respective manner.

100% woman agreed that witchcraft is done on menstrual blood. After the first time rituals the stained clothes are hided only to keep them far away from the reach of any witch, which is commonly known as 'Tohni' in the village. Because it is believed that she uses it for performing rituals and carrying out witchcraft on the blood. A Tohni even treats a sterile woman not able to give birth to a child by burning the cloth/pad consisting of the first menstrual blood stains of any girl and make the barren woman eat. The Tohni uses root of a plant named 'Usri' found near the river for carrying out the witch craft.

Misconception, myth and superstition forms the backbone of menstruation among the women. Associated with it are the social and cultural norms. Not following these norms is a taboo. Breaking the taboo is usually considered objectional in the society.

In the village there are traditional doctors commonly known as – 'Sirha', 'Gunia' and 'Baiga'. Problems let them be minor or major, the first person consulted is the Traditional healer of the village. The WHO defines the Baiga, Sirha and Gunia traditional healers as a person who is recognized by the community in which he lives as competent to provide health care by using vegetable, animal and mineral substances and certain other methods based on the social, cultural and religious background, as well as on the knowledge, attitudes and beliefs that are prevalent in the community regarding physical mental and social wellbeing and the causation of disease and disability.

One of the most practiced unwritten rule is women abstaining from cooking. This is mainly because of the core belief system of menstruation which is accompanied with impurity and pollution.

Every adolescent in the village has to be a part of the first time rituals. The woman have their beliefs and faith on the rituals performed. According to them the rituals are important and necessary to be performed because it will facilitate monthly periods and will help getting the girl a good husband. Not only this, the girl is expected to have a happy married life and no painful periods.The rituals assures that the girl will give birth to a healthy child.

CONCLUSION

Menstruation heralds the onset of physiological maturity in girls. It becomes the part and parcel of their lives until menopause. Menstruation though a natural process, has been, and still is, dealt with in secret. And it is generally associated with shame, fear, anxiety and depression. Mainly this is due to cultural taboos related to sexuality and reproductive health. This demonstrates poor knowledge and information about reproductive functions and reproductive health and associated problems. The cultural and social influence appears to be hurdle for advancement of knowledge of the subject. Though menstruation is a biological reality, culture-bound values shape its meaning and management. In our society (and most western societies), ***menstruation has been given a bad name for hundreds if not thousands of years, often being the subject of strict taboo, shame and revulsion.***

Perhaps, the most common notion of all is that menstrual blood is impure and that it makes women impure. Interestingly, in some Indian cultures, the menstrual blood itself is revered and thought of as having potent power.

For example, ***the tantric Fertility Festival****:*

It is the festival that celebrates strength of the Female and the power of procreation.

It is believed that if you worship at the Kamakhya Temple during this auspicious mela, all your desires are fulfilled and you will be blessed with 'Mokhsa'

In ***Manipur****, when a girl first bleeds, the cloth into which she bleeds is safely kept aside by her mother and gifted back to her when she gets married. This cloth is believed to be so powerful that it will protect the girl and her family from poor health and other ills.*

Few elderly have even tasted a drop of their first menstrual blood, as part of a traditional practice. This blood was considered to be very powerful and believed to keep them in good health when consumed.

But on the other hand there are social norms or unwritten rules and practices about managing menstruation and interacting with menstruating women. Some of these are helpful but others have potentially harmful implications. Cultural norms and religious taboos on menstruation are often compounded by traditional associations with evil spirits, shame and embarrassment surrounding sexual reproduction.

Though menstruation is a biological reality, the core traditional knowledge and values shape its meaning and management. The woman have their own related concepts about this biological process and have their own managing practices. Even though knowing about the importance of this phenomenon, if women themselves are ashamed of it and keeps it a secret which in reality is known to everyone, brings only disgrace, anxiety, fear and depression. And in turn this thought process is then gifted to their daughters and they treasure it to pass it onto their daughters and the cycle goes on.

Myth, misconception and superstition have long enveloped the facts about menstruation. Mere mention of the topic has been a taboo in the past and even to this date the cultural and social influences appear to be a hurdle for advancement of the knowledge of the subject. The reason for the existing myths, misconception, superstitions and taboo regarding menstruation is the fact that the woman still follow them and have made it part of their lives.

Menses play an important role in the way of living of a society. It comes alive socially and makes its presence felt in the cultural realm in the form of rituals at menarche, misconceptions and restrictions throughout one's menstrual life and the gendered meaning that are constructed as a result of the following of such practices. Though being a village close to the city i.e. merely 27 Km away from the district headquarter, it is still dipped in the misconceptions, myths and superstitions related to menstruation. People are upgrading their living standards in terms of outlook and comfort but no advancement in the belief system and on-going practices is witnessed.

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पंचायती राज व्यवस्था

(ग्राम पंचायत कोटपाड़ के संदर्भ में)

दिलीप कुमार शुक्ला , व्याख्याता (शिक्षा विभाग), क्राइस्ट कॉलेज जगदलपुर छ.ग.

संक्षिप्त परिचय

ग्राम पंचायत कोटपाड़ आदिवासी बाहुल्य क्षेत्र है। यह ग्राम पंचायत दो गाँव से मिलकर बना है। कोटपाड़ एवं मड़कड़ा यह दोंनों गाँवों में अनुसूचित जनजाति की बाहुलता हैं। इसके अतिरिक्त भी ग्राम पंचायत कोटपाड़ में अन्य जाति निवास करती है। ये इस प्रकार है– कलार, मरार, यादव, साहू इत्यादि है। ग्राम पंचायत कोटपाड़ की थाना बड़ेडोगर, तहसील फरसगाँव, जिला बस्तर (छ.ग.) है। छत्तीसगढ़ की राजधानी रायपुर है। रायपुर से कोटपाड़ को जोड़ने वाली सड़क राष्टीय राजमार्ग क्रमांक 43 है, जो कि विकास खण्ड फरसगाँव तक की लम्बाई 200 किलोमीटर दक्षिण में स्थित है। रायपुर से जाते समय विकास खण्ड फरसगाँव से दाये ओर 16 किलोमीटर पर थाना बड़ेडोगर है, बड़ेडोगर से कोटपाड़ तक 13 किलोमीटर है, इस तरह 229 किला. `मीटर दक्षिण –पश्चिम में स्थित है, कोटपाड़ से मड़कड़ा 4 किलोमीटर पर स्थित है, दोंनो गाँवों को मिलाकर वर्तमान में ग्राम पंचायत का गठन किया गया है। ये दोंनों गाँवों की संक्षिप्त परिचय इस प्रकार है।

कोटपाड़ :–कोटपाड़ में गोण्ड़ जनजाति की बाहुलता अधिक है, इसके अतिरिक्त भी यह पर अन्य जाति के लोग निवास करते है, ये इस प्रकार है, मरार, साहू, कलार, यादव इत्यादि है। यह की मुख्य बोली हल्बी एवं गोण्ड़ी है। यह की जनता कृषि पर आधारित रहती है, सिंचाई के आभाव होने की वजह से वर्ष में एक ही फसल करते है। कृषि के अलावा आय के द्वितीय साधान वनों से प्राप्त किया जाता है, कोटपाड में मुख्या/प्रमुख पटेल, गायता एवं सियान को मानते है। गाँव प्रमुख देवी गाँव की शीतला माता को मानते है। शीतला माता का पुजारी गायता होता है। वह शीतला माता का पुजा पाठ समय समय पर करते रहता है। कोटपाड़ में वर्ष में एक बार मेला का आयोजन किया जाता है। यह मेला /मढ़ाई मई जून महीने में होता है। मेला के पहले गाँव में बैठक होता है और बैठक के बाद गाँव के लोग मेला के लिए आस–पास के प्रमुख देवीयो को आंमात्रण किया जाता है। आंमात्रण देवी या मेला मे एक दिन पहले मेला स्थाल पर पहँच जाते है। पहुँचने के पहले सभी देवीयो का स्वागत किया जाता है। फिर रात में सभी देवीयों का विधि विधान पूजा पाठ गाँव के गायता द्वारा किया जाता है। फिर कुछ समय बाद गाँव के लोग देवीयों को नचाते है। यह कार्यक्रम रात बर रहता है। फिर सुबह मेला बैठता है। इस मेला में आस पास के व्यपारी लोग होटॉल एवं किराना समान एवं मरार लोग फुल की माला बनाकर लाते है। फिर दिन में 12 बजे से 3 बजे तक देवीयो को नचाया जाता है, एवं ग्रामीण लोग मरार का बनाया गया माला को खरीद कर देवीयों को पहनाया जाता है, इसके बाद फिर शाम 5 बजे से 6 बजे तक सभी देवीयों को सम्मान पूर्वक विदाई दिया जाता है।

ग्राम कोटपाड़ में प्रशासनिक विभाग में तीन आंगनबाडी केन्द्र है। इसमें एक आंगनबाडी केन्द्र का भवन बना है। फिर दो का नहीं बना है। इसे मकान पर चलाया जाता है। इन आंगनबाडी केन्द्र में एक एक कार्यकर्त्ता एवं साहिका होती है। साहिका गाँव में बच्चों को एकात्रित करने गाँव में घर–घर जा कर बच्चों को आंगनबाडी केन्द्र लाती है और पेाषण आहार वितरण करती है। कार्यकर्त्ता जो बच्चों को प्राथमिक शिक्षा देने का कार्य करती है। बच्चों के साथ गर्भवत्ती माताओं को भी पोषण आहार वितरण किया जाता है, दो नवीन ज्ञान ज्योती स्कुल है, यह स्कुल 10–10 बच्चों की जनसंख्या में खोला गया विधालय है। इसमें एक–एक शिक्षाक नियुक्त किया गया है, एक प्राथमिक स्कुल है, इसमें दो शिक्षाक कार्यरत है। ये सभी स्कुलों में 1–5वी तक के बालक–बलिका को शि क्षा प्रदान किया जाता है। एक पूर्व माध्यमिक स्कुल है, इसमें दो शिक्षक कार्यरत है, यह 6–8वी तक के बालक –बालिकाओं को शिक्षा प्रदान किया जाता हैं। यहां ज्ञान ज्योती, प्राथमिक, माध्यमिक स्कुल में यह पर पढ़ने वाले हरेक विधार्थी को निःशुल्क पुस्तक दिया जाता है। पुस्तक के साथ स्कुल में दोपहर मध्यान भोजन भी दिया जाता है। मध्यान भोजन का संच. ालन यह की ग्रामीण स्वा–सहायता समूह की महिलाओं के द्वारा चलाया जाता है, और इन स्कुलों के साथ–साथ एक नवीन हाई स्कुल भी खोला गया है। इसमें कक्षा 9–10वी तक की बालक–बालिकाओं को शिक्षा दिया जाता है। यह पर तीन शिक्षक कार्यरत है, एवं एक भृत्य है। यह पर आस पास के गाँवों से विधर्थी पढ़ने आते है। इसके अतिरिक्त एक उप–स्वास्थ्य केन्द्र है। इसमें एक पुरुष कार्यकर्त्ता एवं महिला कार्यकर्त्ती कार्य करते है। इसमें प्राथमिक बिमारियों का उपचार एवं बिमारियों से बचने सबंधी

जानकारी एवं इलाज किया जाता है। बिमारियों में जैसा सामान्य दस्त, सिरदर्द, उल्टी, टिटनेस जैसे बिमारियों का प्राथमिक इलाज किया जाता है, और यह की गर्भवत्ती महिलाओं एवं 0–5 वर्ष तक के बच्चों को टीकाकरण एवं स्वास्थ्य सम्बंधी जानकारी दिया जाता है, साथ में छोटी–छोटी बिमारियों का उपचार भी करते है। इसके साथ गाँव में मितानीन महिला भी है। यहा महिला अपने स्वेचा से कार्य करती है। इनका कार्य गाँव की गर्भवत्ती महिलाओं को स्वास्थ्य सम्बन्धी छोटी–छोटी जानकारी देती है, और यह तक की म. हलाएं गर्भवत्ती को डिलवरी के लिए अस्पताल जाने के लिए सलाह एवं साथ जाती है मितानिन को जब किसी महिला का प्रसव अस्पताल में ले जाने से प्रत्येक प्रसव के पीछे 500 रु.मितानिन को आर्थिक सहायता देती है और ग्रामीण गर्भवत्ती महिलाओं को संस्थागत प्रसाव होने पर प्रत्येक महिलाओं को 16,00 रु. आर्थिक सहायता के रुप में दिया जाता है यह तक की शासन अस्पताल जाने के लिए मुक्त 108 संजीवनी एबुंलेंस की व्यवस्था करायी है। इससे ग्रामीण महिलाएँ जागरुक हो रही है। उप –स्वास्थ्य केन्द्र में महिलाओं को आयरन, विटामिन, गर्भनिरोधक टेबलेट भी दिया जाता है। यह स्वास्थ्य कार्यकर्त्ता जनसंख्या निवारण के लिए सभी पुरु ा एवं महिलाओं को नसबंधी सम्बंधी जानकारी देकर नसबंदी करवाने उन्हे जिला अस्पताल ले जाने की कार्य करती है यहा की महिलाएं धीरे–धीरे स्वास्थ्य सम्बंधी कार्यो में जागरुक हो रही है। इसका कारण गाँव में उप–स्वास्थ्य केन्द्र का होना एवं जानकारी मिलना है।

कोटपाड़ की जनसंख्या देखा जाय तो वर्तमान 2011 की जनगणनानुसार कुल 785 है, इसमें स्त्रियों की संख्या 400 है, पुरुषो की संख्या 385 है। कोटपाड़ की कुल साक्षारता दर 37.17 प्रतिशत है। इनमें पुरुषों में 52.63 प्रतिशत है, महिलाए 22.05 प्रतिशत है।

<u>मड़कड़ा :–</u> ग्राम मड़कड़ा 4 किलोमीटर की दूरी पर स्थित है। यहां पर गोण्ड़ जनजाति के लोग रहते है। यह की मुख्य बोली गोण्ड़ी है। यह की जनता भी कृषि पर आधारित रहती है। यह भी सिंचाई का आभाव होने की वजह से वर्ष में एक बार फसल उगाई जाती है। यह की जनता का जीविकोपर्जन मुख्यतः कृषि है। इसके अतिरिक्त वनों से प्राप्त करते है। मड़कड़ा गाँव का मुख्या/प्रधान पटेल, गायता एवं सियान होते है। यह की मुख्य देवी शीतला माता है और दूसरी बूढ़ादेव है। बूढ़ादेव गोण्ड़ जनजाति का प्रमुख देवता माने जाते है। यहां प्रतिवर्ष जात्रा का आयोजन किया जाता है। जात्रा पहले पटेल गाँव में बैठक कर जात्रा सम्बंधी चर्चा कर बजट तैयार करते है। फिर जात्रा के आंमात्रण के लिए सप्ताह बर पहले आस पास के देवीयों के पास जा कर आंमात्रण करते है। उसके बाद आंमात्रण देवीयों को जात्रा स्थाल में ले जाते है। तो उसे पहुँचने पर उसका परम्परागत तरीके से स्वागत किया जाता है। फिर उसे स्थान दिया जाता है, वही देवी को बिठाया जाता है। सभी देवीयों के आने के बाद बूढ़ादेव का पुजारी सभी देवीयों का पूजा पाठ करता है। फिर कुछ समय बाद रात में सभी देवीयों को भारी–भारी से नचाया जाता है। इसके अतिरिक्त लड़के डोल बाजा का नृत्य करते है, महिलाएं गाना गा कर देवीयों का उत्साह बढ़ाते है। इससे देवीया प्रसन्न होती है। यह जात्रा अप्रैल मई के माह में किया जाता है।

मड़कड़ा में एक घोटुल है। घोटुल अविवाहित युवकों व युवतियो का संगठन है। वास्तव में घोटुल एक ऐसी सामाजिक व्यवस्था है जिसे अनुश. ासन की प्रमुख महत्वपूर्ण संस्था कहा जा सकता है। गाँव के घोटुल में अविवाहित युवक युवतियों को आपास में मिलकर रहना सिखाया जाता है। घ ोटुल एक प्रकार का 'रात्रिकालीन क्लब' है। घोटुल गाँव के बाहर एक साधारण सा झोपड़ीनुमा होता है। यह सारे गाँव की सम्पत्ति माना जाता है। यहां गाँव के कुंवारे लड़के –लड़कियां शाम होते ही एक –एक चटाई लेकर आ जाते है। फिर आग जलाकर किस्सा–कहानी कहते है और नाच गाकर खशियां मनाते है और रात यहीं सो जाते है। घोटुल के कड़े नियम सभी सदस्य मिलकर बनाते है। इसलिए उन्हें उतनी ही कड़ाई से नियमों का पालन भी करना पड़ता है। घोटुल का मुखिया 'सिरदार ' कहलाता है। कुवांरे सदस्यों को 'चेलिक' और कुंवारियों को 'मोटियारी' कहते है। घोटुल में अकसर इनके जोड़े बन जाते है। आगे जाकर जब वे विवाह करना चाहे तो 'सिरदार' को सूचना दी जाती है। उस अवसर पर एक शानदार समरोह होता है। उसमें दोनो को विदाई दी जाती है। विवाहित जोड़ो को घोटुल में आने की पाबंदी के कारण फिर यहां नहीं आ सकते है।सदस्य शाम मे पहले आकर पहले घोटुल की सफाई कर जाते है। फिर शाम को घर से खाना खा कर घोटुल जाते है। घ ोटुल के सभी सदस्यों को समान अधिकार मिले होते है। सभी सदस्यों को कड़े अनुशासन में रहना होता है। जो सदस्य जरा भी गड़बड़ी करे, उसे दण्ड देने की व्यवस्था होती है। बदलते माहौल में धीरे–धीरे मड़कड़ा में 'घोटुल' कम होते जा रहे है।

सरकार सम्बंधी योजनाओं में दो आंगनबाड़ी केन्द्र है। इसमें दो आंगनबाड़ी कार्यकर्त्ता एवं दो साहिका कार्यरत है। यह सरकारी भवन के अभाव होने के कारण घर पर संचालन किया जाता है। यहां पर एक ज्ञान ज्योती, एक प्राथमिक शाला, नवीन पूर्व माध्यमिक शाला है। ये तीनों स्कुलों का संचालन भवन एवं शिक्षाकों की अभाव होने के कारण एक स्कुल भवन में संचालन किया जाता है। इसमें दो शि क्षाक कार्यरत है। स्वास्थ्य सम्बंधी योजनाओं में गाँव में

तीन मितानिन महिलाएं कार्य करती है। जो स्वास्थ्य सम्बंधी जानकारी प्रदान करती है मड़कड़ा में जनसंख्या वर्तमान जनगणनानुसर 2011 की कुल जनसंख्या 475 है, इसमें महिलाएं 265 है। पुरुष 210 है। मड़कड़ा की कुल साक्षारता दर 27.65 प्रतिशत है। इनमें पुरुष 40 प्रतिशत, महिलाएं 19.23 प्रतिशत है।

इस तरह से दोनो गाँवों की संक्षिप्त परिचय इस प्रकार है–दोंनों गाँवों में कुल पांच आंगनबाड़ी केन्द्र, तीन ज्ञान ज्योती स्कुल, दो प्राथमिक शाला, दो माध्यमिक शाला, एक नवीन हाई स्कुल, एक उप–स्वास्थ्य केन्द्र है। इस तरह से प्रशासनिक व्यवस्था है। यहां की प्रशासनिक कार्य में असुविधा होने के बवजूद भी गाँवों के विकास में निरंतर प्रयासरत है। यह कुल जनसंख्या 2011 की जनगणनानुसार 1260 है। जिसमें महिलाओं की संख्या 665 है, पुरुष 595 है, ग्राम पंचायत कोटपाड़ की साक्षारता दर 33.33 प्रतिशत है। इसमें स्त्रियों में 21.21 प्रतिशत तथा पुरुषों में 50.84 प्रतिशत है। सभी को देखा जाय तो विकास में सुविधा के अभाव के कारण संघर्ष कर रहा हैं। ले. किन कुछ आंकड़ो से यह संकेत मिल रहा है। कि विकास में प्रयासरत है।

तालिका क्रमांक–1
2011 की जनगणना के अनुसार

क्रमांक संख्या	गाँव	महिला	पुरुष
1	मड़कड़ा	256	210
2	कोटपाड़	400	385
3	कुल	665	595

तालिका क्रमांक 2
साक्षारता दर

क्रमांक संख्या	कक्षा	महिलाओं की संख्या		पुरुषों की संख्या	
		अनुसूचित जनजाति	पिछड़ा वर्ग	अनुसूचित जनजाति	पिछड़ा वर्ग
1	पहली–पाँचवी	25	15	100	66
2	छटवी–आठवी	80	14	60	40
3	नवी–बारहवी	3	2	5	5
4	बारहवी–स्नातक	–	–	2	–
5	स्नातक–स्नतकोत्तर	–		2	–
	कुल	108	32	169	111

(1) सन् 1994 की पंचायती राज व्यवस्था गठन के पूर्व की व्यवस्था :– ग्राम पंचायत कोटपाड़ में पंचायत गठन के पहले गाँव का मुख्या पटेल, गायता, सियान होते थे। जो कि गाँव का सम्पूर्ण नेतृत्व इन्ही लोगों के हाथ में था। पटेल गाँव का सबसे प्रमुख व्यक्ति होता था। पटेल की नियुक्ति वंशानुगत होता था। गाँव में जब कभी किसी परिवार में लडाई जगड़ा होता था, तो इसकी सूचना पटेल को दिया जाता था। इस झगड़ा का समाधान पटेल गाँव के गायता एवं सियान लोगो से मिलकर करता था, गाँव में शादी –विवाह में भी गायता पटेल की भूमिका महत्वपूर्ण होता था। शादी विवाह की सूचना भी गाँव के पटेल एवं गायता को दिया जाता था। गायता वह पण्ड़ित का कार्य करता था,और किसी भी त्यौहार को पहले निणर्य कर त्यौहार मनाया जाता था और गाँव वाले सभी उसका साथ देते थे और आस पास के गाँवो से मित्रता कर शान्ति पूर्वक रहते थे। उस समय सरपंच एवं पंचो का काम गाँव के पटेल एवं गायता, सियान लोग करते थे और गाँव के सदस्य इनके निणर्य को अन्तिम समझ कर मनाते थे और उन्हे सम्मान देते थे। गाँव के लोग अपना भूमि कर पटेल के पास जमा करते थे। फिर पटेल जमा कर के पटवरी को देता था। गायता जो कि गुनिया होता था। गुनिया होने के नाते वहा ग्राम की देवी शीतला माता का पूजा पाठ करता था और उसमें देवी शक्ति होने के कारण बिमार लोगो का इलाज करता था। लोग बिमार होने पर गाँव के गायता के पास जाते थे, वह उसका इलाज करता था, और उस समय में इस पंचायत की शिक्षा का केन्द्र घोटुल होता था। घोटुल अविवाहित लड़के एवं लड़किया रात को मनोरंजन के लिए घोटुल में समाज में जीने और रहने का शिक्षा दिया जाता था। घोटुल का मुख्या सिरदार होता था और यही अविवाहित पुरुष गाँव की रक्षा एवं सहायता में कार्य करते थे।

(2) सन् 1994 की पंचायत राज व्यवस्था :– जब भारत में सन् 1993 ई. में पी. के. थुंगन समिति की अनुशंसाओं के आलोक में 73 वें संविधान संशोधन द्व ारा पंचायती राज संस्थाओं को संविधान में स्थान दिया गया और सम्पुर्ण भारत में पंचायती राज व्यवस्था लागू करने के उद्देश्य से किया गया उस समय राज्य सरकार स्थिति में एक हजार की जनसंख्या एक हजार से कम है, तो ग्रामों के एक समूह में सर्वाधिक जनसं ख्या वाले ग्राम के नाम पर ही उस 'पंचायत क्षेत्र' तथा उस ग्राम सभा का नाम रखा जायेगा। तो उसी समय जब अविभाजित मध्यप्रदेश (छ.ग.सहित) शासन द्वारा राज्य के ग्रामीण क्षेत्रों में पंचायती राज व्यवस्था लागू कर भारत का विकास गाँवों से प्रारम्भ किया गया। इस उद्देश्य से मध्यप्रदेश शासन ने प्रत्येक गाँव में पंचायती राज व्यवस्था लागू करने का निर्णय लिया उसी समय में कोटपाड़ को भी ग्राम पंचायत का दर्जा दिया गया इसका गठन सन 1994 में हुआ। इस समय में ग्राम पंचायत में चार गाँवों को जोड़ कर बनाया गया था। जो इस प्रकार है–मांदागाँव, बोथा, तोरण्ड, कोटपाड़, आदि गाँवों को मिलाकर बनाया गया था। इस समय पंचायत में एक सचिव, सरपंच तथा दस वार्डो का चुनाव किया गया इसमें जैयसिंह सलाम सचिव नियुक्त किया गया। और सरपंच में श्रीमति

मनबत्ती बाई सलाम को सरपंच बनाया गया, तथा इसके साथ ही वार्डो में प्रत्येक दस वार्डो के लिए थिरन बाई पटेल, सुकोबाई पोयाम, सहादायी कोरम, सियाराम पटेल, मंगया राम, महारा राम नेताम, हीरा सिंह राणा, खाजाराम पोटाई, सोनय बाई पोयाम, जंगलु राम कावड़े, इत्यादि पंचों की नियुक्ति किया गया इसमें से सियाराम पटेल को उप सरपंच पद पर नियुक्त किया गया। पंचायत गठन के समय कोटपाड़ पंचायत की जनसंख्या सन 1991 की जनगणना के अनुसार 1670 थी । इस समय में भी पंचायती राज व्यवस्था में अनुसूचित जनजाति महिलाओं को आरक्षण 33 प्रतिशत दिया गया था। इसी आरक्षण व्यवस्था की वजह से महिलाएं पंचायत गठन से ही शासन व्यवस्था में हाथ बांटती थी और महिलाएं पंचायती राज व्यवस्था में रुची शुरु से ही रखती थी ।

ग्राम पंचायत के द्वारा चालायी जाने वाली योजनाएं जो इस प्रकार है–

(1) वृद्वा पेंशन योजना।
(2) इंदिरा गाँधी राष्ट्रीय विंकलगता पेंशन योजना।
(3) सामाजिक सुरक्षा योजना ।
(4) सुनिश्चित रोजगार योजना।
(5) जवाहरलाल रोजगार योजना ।
(6) मूलभूत योजना।

(3) वर्तमान कोटपाड़ की पंचायती राज व्यवस्था

ग्राम पंचायत कोटपाड़ में श्री राजु राम शेारी सचिव श्रीमति फुलमति बाई नेताम सरपंच और पंचगण श्री मनहेरसिंह नाग, लखमुराम गावड़े, श्रीमति लच्छनी नाग, श्रीमति कौशल्या बाई बैध, शान्ति बैध, सुकमति पोटाई, रामचन्द्र माली, बुधायरिन पोयाम, साधाऊ राम माली इत्यादि है।

ग्राम पंचायत कोटपाड़ में प्रत्येक माह में एक ग्राम सभा का आयोजन होता है। ग्राम सभ का अध्यक्ष सरपंच होता है। इनकी अनुपस्थिति में उपसरपंच अध्य क्ष करता है। ग्राम सभा में पंचायत के सभी पंचगण एवं ग्राम की जनता ग्राम सभा में आती है। ग्राम सभा का शुरुआत सरपंच करता है। ग्राम सभा में आने वाले नागरिको का स्वागत किया जाता है और सरपंच महोदय का पुष्प माला से स्वागत किया जाता है। प्रत्येक ग्राम सभा में प्रत्येक वार्ड़ की समस्या को ग्राम सभा में अवगत कराया जाता है। इसमें सभी ग्रामीण अपनी – अपनी समस्या एवं मांग करता है। समस्याओं को प्रत्येक व्यक्ति क्रमबद्व तरीके से प्रस्तुत करते है। इसके पश्चात ग्राम सभा फिर प्रत्येक समस्या को क्रमबद्व रुप से समाधान करने का प्रयास करती है। अगर किसी समस्या का समाधान नही हो पाने पर सरपंच आगे जनपद पंचायत के अधिकारी के समक्ष अपनी ग्राम पंचायत की समस्याओं का समाधान करने का प्रयास करती है। कई समस्या इन से भी समाधान नही हो पाती है, तो सम्बंधीत जनपद पंचायत आगे, जिला पंचायत पर अवगत कराती है। जिला पंचायत इस समास्या का समाधान करने का प्रयास करती है। कभी ऐसा होता है कि कुछ समास्या जिला पंचायत के द्वारा समाधान नही हो पाता है,तो वह राज्य सरकार को समास्याओं को अवगत कराती है। इसके द्वारा समाधान करने की प्रयास करती है फिर इससे भी समाधान नही होने की वजह से फिर इसे आगे बढ़ा कर यह केन्द्र सरकार को अवगत कराती है। फिर इसे केन्द्र सरकार समास्याओं को समाधान कराने की प्रयास करती है। इसमें से कई समास्या का निदान होता है। कई समास्या का समाधान नही हो पाता है। ग्राम सभा में प्रस्तुत समास्याएं इस प्रकार है– गाँव में पानी, सड़क, स्कुल भवन, शिक्षाक, स्वास्थ्य सम्बंधी समास्या, साफ–सफाई, आर्थिक समास्या, सांस्कृतिक भवन इत्यादि प्रकार की समास्याओं से सम्बंधी ग्राम पंचायत के ग्राम सभा में प्रस्तुत कर समाधान करने की प्रयास करती है। इस प्रकार से पंचायती राज व्यवस्था से भारत के दूर अंचल ग्राम की समास्याओं की जानकारी केन्द्र सरकार को मिलता है। फिर केन्द्र सरकार समस्याओं को समाधान करने का प्रयास करती है। जो ग्रामीण लोगो के हाथ में शासन व्यवस्था का जिम्मेदारी प्रत्येक ग्राम पंचायत के माध्यम से दिया है। इसी के आधार पर ग्राम पंचायत कोटपाड़ में भी पंचायती राज के माध्यम से शासन की सभी योजनाओं को जनता तक पहुचाने का काम करती है और जनता की समास्याओं को सरकार तक पहुचाने का कार्य भी ग्राम पंचायत करती है।

ग्राम पंचायत कोटपाड़ का आय के स्रोत :–

ग्राम पंचायत कोटपाड़ का आय का मुख्य स्रोत राज्य तथा केन्द्र सरकार द्वारा दिया जाने वाला अनुदान है।

ग्राम पंचायत का विकास :–

ग्राम पंचायत कोटपाड़ सुविधाओं के अभाव होने के बवजूद भी विकास करने का प्रयत्न कर रही है। जो इस प्रकार –

(1) नवीन हाई स्कुल का निर्माण कर इस स्कुल में 9वीं से 10वीं तक शिक्षा दिया जाता है। इससे न केवल पंचायत के बच्चों बल्कि आस–पास के गाँवों के बच्चों के लिए काफी फायदा हो रहा है। क्योकि इस क्षेत्र में हाई स्कुल नहीं होने के कारण बच्चे आठवी के बाद छोड़ते थे। यह पंचायत का सतत् प्रयास से खोला गया हैं।
(2) आंगनबाड़ी केन्द्र खोलकर पोषण आहार दिया जाता है। जिससे कुपोषण दूर करने का प्रयास किया जाता है।
(3) सामाजिक सुरक्षा योजना के अंतर्गत ग्राम पंचायत के वृद्व व्यक्ति एवं कमजोर परिवार

को आर्थिक सहायता दे कर विकास के मार्ग में जोड़ने का प्रयास कर रही है। जिससे पंचायत का विकास एवं राज्य का विकास में सहायता मिले।

ग्राम पंचायत कोटपाड़ की समास्या :–

ग्राम पंचायत कोटपाड़ की समास्या से निरन्तर जूझ रही है। जो इस प्रकार है–

(1) ग्राम पंचायत वह अपना सरकारी भवन नहीं होने से यह काफी परेशानियां झेल रही है।

(2) ग्राम पंचायत कोटपाड़ यह नक्सल प्रभावित क्षेत्र है। इस कारण यह इस पंचायत में हर समय आंतक का भय रहता है। जिससे अपना स्वतंत्र विकास नही कर पाता है।

(3) संचार साधान नही होने के कारण पंचायत की समास्या बढ़ जाती है। क्योकि जनपद पंचायत फरसगाँव तक जाने के लिए कच्ची सड़क है जिससे आसानी से आ जा नही सकते है।

(4) यातायात के साधान नही होने के कारण सरकार सम्बंधी योजनाओं का तत्कालिक जानकारी नही मिल पाता है।

(5) ग्राम पंचायत में सुरक्षा व्यवस्था का अभाव है। इस कारण ग्राम पंचायत अपनी सरकारी योजनाओं को जनता तक आसानी से नही पहुँचा पाती है।

ग्राम पंचायत कोटपाड़ के विकास हेतु सुझाव

(1) पंचायत के स्कुलों में विषय सम्बंधी शिक्षकों को उपलब्ध कर स्कुल में नियमित शिक्षा प्रदान कराना।

(2) ग्राम पंचायत कोटपाड़ में पुलिस चौकी का निर्माण कर ग्राम पंचायत कोटपाड़ को सुरक्षा व्यवस्था करना इससे पंचायत भयमुक्त होकर विकास हो सके ।

(3) ग्राम पंचायत कोटपाड़ को जनपद पंचायत फरसगाँव से जोड़ने के लिए पक्की सड़क का निर्माण कर यातायात का साधान उपलब्ध कर विकास सम्बंधी समास्या को दूर किया जा सकता है।

(4) ग्राम पंचायत कोटपाड़ में पंचायत भवन का निर्माण किया जाय जिससे की नियमित बैठक व्यवस्था किया जा सके एवं पंचायती सम्बंधी सामानो को सुरक्षित रखा जा सके ।

(5) पंचायत में नियमित बिजली, पानी, बाथरुम, भृत्य, कम्प्युटर, टेलीफोन, उपलब्ध किया जाना चाहिए जिससे पंचायत विकास में सहायता हो सके ।

सन्दर्भ ग्रन्थ

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